ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 751

[EPA–HQ–OPPT–2020–0471; FRL–8156–01–OCSPP]

RIN 2070–AK73

1-Bromopropane (1–BP); Regulation Under the Toxic Substances Control Act (TSCA)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA or Agency) is proposing to address the unreasonable risk of injury to human health presented by 1-bromopropane (1–BP) (CASRN 106–94–5), also known as n-propyl bromide, under its conditions of use as documented in EPA's August 2020 Risk Evaluation for 1–BP and the December 2022 Revised Risk Determination for 1–BP prepared under the Toxic Substances Control Act (TSCA). 1–BP is a widely used solvent in a variety of occupational and consumer applications, including vapor degreasing, aerosol degreasing, adhesives and sealants, and in insulation. EPA determined that 1–BP presents an unreasonable risk of injury to health due to the significant adverse health effects associated with exposure to 1–BP, including neurotoxicity, developmental toxicity from acute and chronic inhalation exposures and dermal exposures, and cancer from chronic inhalation exposures. TSCA requires that EPA address by rule any unreasonable risk of injury to health or the environment identified in a TSCA risk evaluation and apply requirements to the extent necessary so the chemical no longer presents unreasonable risk. To address the identified unreasonable risk, EPA is proposing requirements to, among other things, prevent consumer access to the chemical, restrict the industrial and commercial use of the chemical while also allowing for a reasonable transition period where an industrial and commercial use of the chemical is being prohibited, and protect workers from the unreasonable risk of 1–BP while on the job.

DATES: Comments must be received on or before September 23, 2024. Under the Paperwork Reduction Act, comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your comments on or before September 9, 2024.

ADDRESSES: Submit your comments, identified by docket identification (ID) number EPA–HQ–OPPT–2020–0471, through the Federal eRulemaking Portal at *https://www.regulations.gov.* Follow the online instructions for submitting comments. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Additional instructions on commenting or visiting the docket, along with more information about dockets generally, is available at *https://www.epa.gov/dockets.*

FOR FURTHER INFORMATION CONTACT:

For technical information: Bethany Masten, Existing Chemicals Risk Management Division, Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460–0001; telephone number (202) 564–8803; email address: *1BP_TSCA@epa.gov.*

For general information: The TSCA-Hotline, ABVI-Goodwill, 422 South Clinton Ave., Rochester, NY 14620; telephone number: (202) 554–1404; email address: *TSCA-Hotline@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. Executive Summary

A. Does this action apply to me?

1. General Applicability

You may be potentially affected by the proposed action if you manufacture (defined under TSCA to include import), process, distribute in commerce, use, or dispose of 1–BP or products containing 1–BP. The following list of North American Industrial Classification System (NAICS) codes is not intended to be exhaustive, but rather provides a guide to help readers determine whether this document applies to them. Potentially affected entities include:

- Crude Petroleum Extraction (NAICS code 211120).
- All Other Specialty Trade Contractors (NAICS code 238990).
- Broadwoven Fabric Mills (NAICS code 313210).
- Nonwoven Fabric Mills (NAICS code 313230).
- Textile and Fabric Finishing Mills (NAICS code 313310).
- Fabric Coating Mills (NAICS code 313320).
- Prefabricated Wood Building Manufacturing (NAICS code 321992).
- Paper Bag and Coated and Treated Paper Manufacturing (NAICS code 322220).
- Commercial Screen Printing (NAICS code 323113).
- Petroleum Refineries (NAICS code 324110).
- All Other Petroleum and Coal Products Manufacturing (NAICS code 324199).
- Other Basic Inorganic Chemical Manufacturing (NAICS code 325180).
- All Other Basic Organic Chemical Manufacturing (NAICS code 325199).
- Paint and Coating Manufacturing (NAICS code 325510).
- Adhesive Manufacturing (NAICS code 325520).
- Soap and Other Detergent Manufacturing (NAICS code 325611).
- Polish and Other Sanitation Good Manufacturing (NAICS code 325612).
- Photographic Film, Paper, Plate, and Chemical Manufacturing (NAICS code 325992).
- All Other Miscellaneous Chemical Product and Preparation Manufacturing (NAICS code 325998).
- Polystyrene Foam Product Manufacturing (NAICS code 326140).
- Urethane and Other Foam Product (except Polystyrene) Product Manufacturing (NAICS code 326150).
- Tire Manufacturing (except Retreading) (NAICS code 326211).
- Tire Retreading (NAICS code 326221).
- Rubber and Plastics Hoses and Belting Manufacturing (NAICS code 326220).
- All Other Rubber Product Manufacturing (NAICS code 326299).
- Other Concrete Product Manufacturing (NAICS code 327390).
- Gypsum Product Manufacturing (NAICS code 327420).
- Cement Manufacturing (NAICS code 327310).
- Iron and Steel Mills and Ferroalloy Manufacturing (NAICS code 331110).
- Iron and Steel Pipe and Tube Manufacturing from Purchased Steel (NAICS code 331210).
- Rolled Steel Shape Manufacturing (NAICS code 332221).
- Steel Wire Drawing (NAICS code 331222).
- Nonferrous Metal (except Aluminum) Smelting and Refining (NAICS code 331410).
- Copper Rolling, Drawing, Extruding, and Alloying (NAICS code 331420).
- Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding (NAICS code 331491).
- Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum) (NAICS code 331492).
- Nonferrous Metal Die-Casting Foundries (NAICS code 331523).
- Iron and Steel Forging (NAICS code 332111).

- Nonferrous Forging (NAICS code 332112).
- Custom Roll Forming (NAICS code 332114).
- Powder Metallurgy Part Manufacturing (NAICS code 332117).
- Metal Crown, Closure, and Other Metal Stamping (except Automotive) (NAICS code 332119).
- Metal Kitchen Cookware, Utensil, Cutlery, and Flatware (except Precious) Manufacturing (NAICS code 332215).
- Saw Blade and Handtool Manufacturing (NAICS code 332216).
- Other Fabricated Wire Product Manufacturing (NAICS code 332618).
- Metal Window and Door Manufacturing (NAICS code 332321).
- Machine Shops (NAICS code 332710).
- Precision Turned Product Manufacturing (NAICS code 332721).
- Bolt, Nut, Screw, Rivet, and Washer Manufacturing (NAICS code 332722).
- Industrial Valve Manufacturing (NAICS code 332911).
- Metal Heat Treating (NAICS code 332811).
- Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers (NAICS code 332812).
- Electroplating, Plating, Polishing, Anodizing, and Coloring (NAICS code 332813).
- Industrial Valve Manufacturing (NAICS code 332911).
- Fluid Power Valve and Hose Fitting Manufacturing (NAICS code 332912).
- Plumbing Fixture Fitting and Trim Manufacturing (NAICS code 332913).
- Other Metal Valve and Pipe Fitting Manufacturing (NAICS code 332919).
- Ball and Roller Bearing Manufacturing (NAICS code 332991).
- Small Arms Ammunition Manufacturing (NAICS code 332992).
- Ammunition (except Small Arms) Manufacturing (NAICS code 332993).
- Small Arms, Ordnance, and Ordnance Accessories Manufacturing (NAICS code 332994).
- Fabricated Pipe and Pipe Fitting Manufacturing (NAICS code 332996).
- All Other Miscellaneous Fabricated Metal Product Manufacturing (NAICS code 332999).
- Other Industrial Machinery Manufacturing (NAICS code 333249).
- Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing (NAICS code 333415).
- Special Die and Tool, Die Set, Jig, and Fixture Manufacturing (NAICS code 333514).
- Cutting Tool and Machine Tool Accessory Manufacturing (NAICS code 333515).
- Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing (NAICS code 333612).
- Air and Gas Compressor Manufacturing (NAICS code 333912).
- Measuring, Dispensing, and Other Pumping Equipment Manufacturing (NAICS code 333914).
- Elevator and Moving Stairway Manufacturing (NAICS code 333921).
- Conveyor and Conveying Equipment Manufacturing (NAICS code 333922).
- Overhead Traveling Crane, Hoist, and Monorail System Manufacturing (NAICS code 333923).
- Industrial Process Furnace and Oven Manufacturing (NAICS code 333924).
- Power-Driven Handtool Manufacturing (NAICS code 333991).
- Welding and Soldering Equipment Manufacturing (NAICS code 333992).
- Packaging Machinery Manufacturing (NAICS code 333993).
- Industrial Process Furnace and Oven Manufacturing (NAICS code 333994).
- Fluid Power Cylinder and Actuator Manufacturing (NAICS code 333995).
- Fluid Power Pump and Motor Manufacturing (NAICS code 333996).
- All Other Miscellaneous General Purpose Machinery Manufacturing (NAICS code 333998).
- Audio and Video Equipment Manufacturing (NAICS code 334310).
- Capacitor, Resistor, Coil, Transformer, and Other Inductor Manufacturing (NAICS code 334416).
- Electronic Connector Manufacturing (NAICS code 334417).
- Printed Circuit Assembly (Electronic Assembly) Manufacturing (NAICS code 334418).
- Other Electronic Component Manufacturing (NAICS code 334419).
- Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing (NAICS code 334511).
- Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use (NAICS code 334512).
- Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables (NAICS code 334513).
- Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals (NAICS code 334515).
- Residential Electric Lighting Fixture Manufacturing (NAICS code 335131).
- Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing (NAICS code 335132).
- Electric Lamp Bulb and Other Lighting Equipment Manufacturing (NAICS code 335139).
- Power, Distribution, and Specialty Transformer Manufacturing (NAICS code 335311).
- Motor and Generator Manufacturing (NAICS code 335312).
- Switchgear and Switchboard Apparatus Manufacturing (NAICS code 335313).
- Relay and Industrial Control Manufacturing (NAICS code 335314).
- Fiber Optic Cable Manufacturing (NAICS code 335921).
- Current-Carrying Wiring Device Manufacturing (NAICS code 335931).
- Carbon and Graphite Product Manufacturing (NAICS code 335991).
- Automobile and Light Duty Motor Vehicle Manufacturing (NAICS code 336110).
- Heavy Duty Truck Manufacturing (NAICS code 336120).
- Motor Vehicle Body Manufacturing (NAICS code 336211).
- Truck Trailer Manufacturing (NAICS code 336212).
- Motor Home Manufacturing (NAICS code 336213).
- Travel Trailer and Camper Manufacturing (NAICS code 336214).
- Motor Vehicle Gasoline Engine and Engine Parts Manufacturing (NAICS code 336310).
- Motor Vehicle Electrical and Electronic Equipment Manufacturing (NAICS code 336320).
- Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing (NAICS code 336330).
- Motor Vehicle Brake System Manufacturing (NAICS code 336340).
- Motor Vehicle Transmission and Power Train Parts Manufacturing (NAICS code 336350).
- Motor Vehicle Seating and Interior Trim Manufacturing (NAICS code 336360).
- Motor Vehicle Metal Manufacturing (NAICS code 336370).
- Other Motor Vehicle Parts Manufacturing (NAICS code 336390).
- Aircraft Manufacturing (NAICS code 336411).
- Aircraft Engine and Engine Parts Manufacturing (NAICS code 336412).
- Other Aircraft Parts and Auxiliary Equipment Manufacturing (NAICS code 336413).
- Guided Missile and Space Vehicle Manufacturing (NAICS code 336414).
- Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing (NAICS code 336415).
- Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing (NAICS code 336419).
- Railroad Rolling Stock Manufacturing (NAICS code 336510).
- Ship Building and Repairing (NAICS code 336611).

- Wood Kitchen Cabinet and Countertop Manufacturing (NAICS code 337110).
- Upholstered Household Furniture Manufacturing (NAICS code 337121).
- Nonupholstered Wood Household Furniture Manufacturing (NAICS code 337122).
- Institutional Furniture Manufacturing (NAICS code 337127).
- Wood Office Furniture Manufacturing (NAICS code 337211).
- Surgical Appliance and Supplies Manufacturing (NAICS code 339113).
- Dental Equipment and Supplies Manufacturing (NAICS code 339114).
- Jewelry and Silverware Manufacturing (NAICS code 339910).
- Sporting and Athletic Goods Manufacturing (NAICS code 339920).
- Gasket, Packing, and Sealing Device Manufacturing (NAICS code 339991).
- Fastener, Button, Needle, and Pin Manufacturing (NAICS code 339993).
- All Other Miscellaneous Manufacturing (NAICS code 339999).
- Metal Service Centers and Other Metal Merchant Wholesalers (NAICS code 423510).
- Industrial Machinery and Equipment Merchant Wholesalers (NAICS code 423830).
- Drugs and Druggists' Sundries Merchant Wholesalers (NAICS code 424210).
- Other Chemical and Allied Products Merchant Wholesalers (NAICS code 424690).
- New Car Dealers (NAICS code 441110).
- Used Car Dealers (NAICS code 441120).
- Home Centers (NAICS code 444110).
- Paint and Wallpaper Stores (NAICS code 444120).
- Electronics and Appliance Retailers (NAICS code 449210).
- Sporting Goods Stores (NAICS code 459110).
- Scheduled Passenger Air Transportation (NAICS code 481111).
- Other Support Activities for Air Transportation (NAICS code 488190).
- Other Warehousing and Storage (NAICS code 493190).
- Miscellaneous Intermediation (NAICS code 523910).
- Portfolio Management and Investment Advice (NAICS code 523940).
- Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (NAICS code 541715).
- Research and Development in the Social Sciences and Humanities (NAICS code 541720).
- Janitorial Services (NAICS code 561720).
- Carpet and Upholstery Cleaning Services (NAICS code 561740).
- Hazardous Waste Treatment and Disposal (NAICS code 562211).
- Junior Colleges (NAICS code 611210).
- Colleges, Universities, and Professional Schools (NAICS code 611230).
- General Automotive Repair (NAICS code 811111).
- Specialized Automotive Repair (NAICS code 811114).
- Automotive Body, Paint, and Interior Repair and Maintenance (NAICS code 811121).
- Automotive Glass Replacement Shops (NAICS code 811122).
- Automotive Oil Change and Lubrication Shops (NAICS code 811191).
- All Other Automotive Repair and Maintenance (NAICS code 811198).
- Other Electronic and Precision Equipment Repair and Maintenance (NAICS code 811210).
- Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS code 811310).
- Home and Garden Equipment Repair and Maintenance (NAICS code 811411).
- Other Personal and Household Goods Repair and Maintenance (NAICS code 811490).
- Coin-Operated Laundries and Drycleaners (NAICS code 812310).
- Drycleaning and Laundry Services (except Coin-Operated) (NAICS code 812320).

2. Applicability to Importers and Exporters

This action may also affect certain entities through pre-existing import certification and export notification rules under TSCA. Persons who import any chemical substance in bulk form, as part of a mixture, or as part of an article (if required by rule) are subject to TSCA section 13 (15 U.S.C. 2612) import certification requirements and the corresponding regulations at 19 CFR 12.118 through 12.127; see also 19 CFR 127.28. Those persons must certify that the shipment of the chemical substance complies with all applicable rules and orders under TSCA. The EPA policy in support of import certification appears at 40 CFR part 707, subpart B. In addition, any persons who export or intend to export a chemical substance that is the subject of this proposed rule are subject to the export notification provisions of TSCA section 12(b) (15 U.S.C. 2611(b)), and must comply with the export notification requirements in 40 CFR part 707, subpart D.

If you have any questions regarding the applicability of this proposed action to a particular entity, consult the technical information contact listed under **FOR FURTHER INFORMATION CONTACT**.

B. What is the Agency's authority for taking this action?

Under TSCA section 6(a) (15 U.S.C. 2605(a)), if EPA determines through a TSCA section 6(b) risk evaluation that a chemical substance presents an unreasonable risk of injury to health or the environment, EPA must by rule apply one or more requirements listed in TSCA section 6(a) to the extent necessary so that the chemical substance or mixture no longer presents such risk.

C. What action is the Agency taking?

Pursuant to TSCA section 6(b), EPA determined that 1–BP presents an unreasonable risk of injury to health, without consideration of costs or other nonrisk factors, including an unreasonable risk to potentially exposed or susceptible subpopulations (PESS) and susceptible life stages identified as relevant to the 2020 Risk Evaluation for 1–BP by EPA, under the conditions of use (Refs. 1, 2). The term ''conditions of use'' is defined at TSCA section 3(4) (15 U.S.C. 2602(4)) to mean the circumstances under which a chemical substance is intended, known, or reasonably foreseen to be manufactured, processed, distributed in commerce, used, or disposed of. A detailed description of the conditions of use that EPA identified, evaluated and determined to contribute to EPA's determination that 1–BP presents an unreasonable risk is included in Unit III.B.1. EPA notes that all conditions of use of 1–BP (excluding the commercial and consumer use of 1–BP in insulation) are subject to this proposal. Accordingly, to address the unreasonable risk, EPA is proposing, under TSCA section 6(a), to:

(i) Prohibit the manufacture (including import), processing, and distribution in commerce of 1–BP for all consumer uses (excluding insulation for building and construction materials), outlined in Unit IV.A.1.;

(ii) Prohibit the manufacture (including import), processing and distribution in commerce of 1–BP for four industrial and commercial uses, outlined in Unit IV.A.1.;

(iii) Require strict workplace controls, including a 1–BP Workplace Chemical Protection Program (WCPP), which would include requirements to meet an inhalation exposure concentration limit,

for seven occupational conditions of use of 1–BP, outlined in Unit IV.A.2.;

(iv) Require the use of prescriptive controls for six occupational conditions of use of 1–BP, outlined in Unit IV.A.3.;

(v) Require purchasers to provide sellers with a self-certification, which would document the purchaser's commitment to comply with the 1–BP WCPP, for six occupational conditions of use of 1–BP, outlined in Unit IV.A.2.; and

(vi) Establish recordkeeping and downstream notification requirements outlined in Unit IV.A.4.

In addition, in each of the proposed rules under TSCA section 6(a), EPA is proposing to amend the general provisions of 40 CFR 751, subpart A, to define ''ECEL,'' and ''exposure group,'' so that these definitions may be commonly applied to this and other rules under TSCA section 6 that would be codified in 40 CFR part 751. EPA seeks public comment on all aspects of this proposed rule.

D. Why is the Agency taking this action?

Under TSCA section 6(a), ''[i]f the Administrator determines in accordance with subsection (b)(4)(A) that the manufacture, processing, distribution in commerce, use or disposal of a chemical substance or mixture, or that any combination of such activities, presents an unreasonable risk of injury to health or the environment, the Administrator shall by rule . . . apply one or more of the [section 6(a)] requirements to such substance or mixture to the extent necessary so that the chemical substance or mixture no longer presents such risk.'' 1–BP was the subject of a risk evaluation under TSCA section 6(b)(4)(A) that was issued in August 2020 (Ref. 1). In addition, EPA issued a revised unreasonable risk determination in December 2022 (Ref. 2), determining that 1–BP, as a whole chemical substance, presents an unreasonable risk of injury to health under the conditions of use. As a result, EPA is proposing to take action to the extent necessary so that 1–BP no longer presents such risk. The unreasonable risk is described in Unit III.B.2. and the conditions of use that contribute to the unreasonable risk for 1–BP are described in Unit III.B.1.

1–BP's hazards are well established. EPA's 2020 Risk Evaluation for 1–BP considered the hazards associated with exposure to 1–BP and determined that 1–BP presents an unreasonable risk of injury to health due to the significant adverse health effects associated with exposure to 1–BP. While some of the risks of adverse effects from 1–BP exposure may be acute and experienced for only a short duration, other health risks may be chronic and result in long-term impacts that are irreversible (*e.g.,* developmental toxicity, cancer). The most sensitive adverse health effect of 1–BP exposure is developmental toxicity. Other significant adverse health effects include reproductive toxicity, liver toxicity, kidney toxicity, neurotoxicity, other developmental toxicity, and cancer. For this proposed rulemaking, EPA has determined that protecting at the cancer endpoint would also address the risk for other acute or chronic non-cancer endpoints. This proposed rule, once final, would eliminate the unreasonable risk to human health from the TSCA conditions of use of 1–BP, as identified in the 2020 Risk Evaluation for 1–BP and the revised unreasonable risk determination for 1–BP in December 2022. This proposed rule, once final, is part of EPA's efforts to advance the Biden Cancer Moonshot policy, reducing exposure to carcinogens in the environment as part of a national effort to accelerate the rate of progress against cancer, reduce the cancer death rate, and improve the life experience of those living with and surviving cancer and their caregivers.

EPA is not proposing a complete ban on 1–BP. This rule proposes to allow certain uses of 1–BP to continue provided that sufficient worker protections are in place to address the unreasonable risk for certain occupational conditions of use. For the conditions of use for which EPA is proposing strict workplace controls under a WCPP, EPA expects that many workplaces already have stringent controls in place that reduce exposures to 1–BP; for some workplaces, such as those using 1–BP in vapor degreasing, EPA understands that these existing controls may already reduce exposure enough to meet the inhalation exposure concentration limit proposed in this rulemaking (Ref. 1).

Accordingly, EPA is proposing strict workplace controls to address the unreasonable risk and to allow continued use of 1–BP for several conditions of use, including processing for incorporation into formulation, mixture, or reaction products; use in vapor degreasing; use in cold cleaning; use in aerosol spray degreasers/cleaners; use in electronic and electronic products and metal products; use in asphalt extraction and laboratory chemicals; processing as a reactant/intermediate; and use in coatings for temperature indicators, which, in total, comprise an estimated 97% of the current production volume of 1–BP. EPA is proposing to prohibit certain conditions of use of 1–BP, including manufacture (including import), processing, and distribution in commerce of 1–BP for all consumer use, excluding the use of 1–BP in insulation; use in dry cleaning and spot cleaning, adhesives and sealants, liquid cleaners, automotive care products, anti-adhesive agents, functional fluids, and arts, crafts, and hobby materials, comprising an estimated 3% of the current production volume of 1–BP. Unit IV.A. describes EPA's proposed regulatory action and Unit IV.B. describes the alternative regulatory actions considered as required under TSCA section 6(c)(2)(A). The rationale for the proposed regulatory action and alternative regulatory actions, including what is feasible and appropriate for each condition of use, is described in Unit V., and the TSCA section 6 requirements considered in developing the regulatory actions are described in Unit III.B.3.

E. What are the estimated incremental impacts of this action?

EPA has prepared an Economic Analysis (EA) of the potential incremental impacts associated with this rulemaking that can be found in the rulemaking docket and is briefly summarized here (Ref. 3). The cost of the proposed rule is estimated to be $14.8 million annualized over 20 years at a 3% discount rate and $15.5 million annualized over 20 years at a 7% discount rate. These costs take compliance with implementation of a WCPP into consideration, which would include an existing chemical exposure limit (ECEL) of 0.05 ppm (0.25 mg/m3) for inhalation exposures as an 8-hour time-weighted average (TWA), applicable personal protective equipment (PPE) requirements, and reformulation costs of numerous products. The estimates discussed in the preamble reflect the central estimates for the number of sites and workers affected rather than the low- or high-end estimates. The sensitivity analysis in Chapter 11 presents the estimated costs, benefits, and net benefits for low, central, and high estimates of affected sites, workers, and occupational non-users (ONUs). The economic impact on users of 1–BP for vapor degreasing is unclear because some users may not be able to continue using their current equipment (open-top vapor degreasers). Based on engagement with industry, including public comments received on the draft risk evaluation and draft revised unreasonable risk determination for 1–BP, EPA expects workplaces engaged in vapor degreasing to have the ability to implement a WCPP that would include an ECEL, PPE requirements, and ancillary requirements. EPA estimates

that complying with the WCPP would cost vapor degreasing users $13.8 million while prohibition would cost vapor degreasing users $174.8 million (3% discount rate annualized over 20 years). Vapor degreasing is used in several advanced manufacturing industries, including aerospace, automotive, energy, medical devices, and others (Ref. 3).

The actions proposed in this rulemaking are expected to achieve health benefits for the American public, some of which can be monetized and others that, while tangible and significant, cannot be monetized. The monetized benefits of this rulemaking are approximately $27.2 million annualized over 20 years at a 3% discount rate and $12.9 million annualized over 20 years at a 7% discount rate. The monetized benefits include potential reductions in risk of colon and lung cancers. Non-monetized benefits include risk reduction of liver toxicity, kidney toxicity, reproductive toxicity, developmental toxicity, and neurotoxicity (peripheral neuropathy) (Ref. 3).

As described in more detail in the Economic Analysis, the Agency analyzed the demographic characteristics of several populations that would be impacted by this rulemaking (Ref. 3). In general, workers in affected industries and regions, as well as residents of nearby communities, are similar to workers and residents nationwide. Data limitations prevent EPA from conducting a more comprehensive environmental justice (EJ) analysis that would identify the incremental impacts of the regulatory options and assess the extent to which they mitigate or exacerbate any disproportionate impacts in communities with EJ concerns.

F. What should I consider as I prepare my comments for EPA?

1. Submitting CBI

Do not submit CBI to EPA through *https://www.regulations.gov* or email. If you wish to include CBI in your comment, please follow the applicable instructions at *https://www.epa.gov/dockets/commenting-epa-dockets#rules* and clearly mark the part or all of the information that you claim to be CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2 and/or 40 CFR part 703, as appliable.

2. Tips for Preparing Your Comments

When preparing and submitting your comments, see the commenting tips at *https://www.epa.gov/dockets/commenting-epa-dockets.*

II. Background

A. Overview of 1–BP

This proposed rule applies to 1–BP (CASRN 106–94–5) and is specifically intended to address the unreasonable risk of injury to health EPA has identified in the 2020 Risk Evaluation for 1–BP and the 2022 revised unreasonable risk determination, as described in Unit III.B.2. 1–BP is a colorless, volatile liquid with a mildly sweet odor that is produced in and imported into the United States. 1–BP is manufactured, processed, distributed, used, and disposed of as part of many industrial, commercial, and consumer conditions of use.

As outlined in further detail in Unit III.B.1., 1–BP is used as a solvent in cleaning and degreasing operations (including vapor degreasing, cold cleaning, and aerosol degreasing), spray adhesives, and dry cleaning. 1–BP is also used as a reactant in the manufacturing of other chemical substances. Consumer uses of 1–BP include aerosol degreasers, spot cleaners, and stain removers. 1–BP is also used in insulation for building and construction materials. According to data submitted for the 2016 submission period under EPA's Chemical Data Reporting (CDR) rule, the total aggregate annual production volume of 1–BP in the U.S. increased from 15.4 million pounds to 25.8 million pounds between 2012 and 2015 (Ref. 4). The total aggregate annual production volume ranged from 1 to 50 million pounds between 2016 and 2019 according to CDR (Ref. 5).

B. Regulatory Actions Pertaining to 1–BP

Because of its adverse health effects, 1–BP is subject to several Federal laws and regulations in the United States and is also subject to regulation by some States and other countries. A summary of EPA regulations pertaining to 1–BP, as well as other Federal, state, and international regulations, is in the docket and in Appendix A of the 2020 Risk Evaluation for 1–BP (Refs. 6, 1). EPA acknowledges that additional 1–BP regulatory steps occurred after 2020, including the addition of 1–BP as a Hazardous Air Pollutant (HAP) to the Clean Air Act list in January 2022, as discussed in Unit X.C.5.

C. Consideration of Occupational Safety and Health Administration (OSHA) Occupational Health Standards in TSCA Risk Evaluations and TSCA Risk Management Actions

Although EPA must consider and factor in, to the extent practicable, certain non-risk factors as part of TSCA section 6(a) rulemaking (see TSCA section 6(c)(2)), EPA must nonetheless still ensure that the selected regulatory requirements apply ''to the extent necessary so that the chemical substance or mixture no longer presents [unreasonable] risk.'' 15 U.S.C. 2605(a). This requirement to eliminate unreasonable risk is distinguishable from approaches mandated by some other laws, including the Occupational Safety and Health Act (OSH Act), which includes both significant risk and feasibility (technical and economic) considerations in the setting of standards.

Congress intended for EPA to consider occupational risks from chemicals it evaluates under TSCA, among other potential exposures, as relevant and appropriate. As noted previously, section 6(b) of TSCA requires EPA to evaluate risks to PESS identified as relevant by the Administrator. TSCA section 3(12) defines the term ''potentially exposed or susceptible subpopulation'' as ''a group of individuals within the general population identified by the Administrator who, due to either greater susceptibility or greater exposure, may be at greater risk than the general population of adverse health effects from exposure to a chemical substance or mixture, such as infants, children, pregnant women, workers, or the elderly.''

The OSH Act similarly requires OSHA to evaluate risk specific to workers prior to promulgating new or revised standards and requires OSHA standards to substantially reduce significant risk to the extent feasible, even if workers are exposed over a full working lifetime. *See* 29 U.S.C. 655(b)(5); *Indus. Union Dep't, AFL–CIO* v. *Am. Petroleum Inst.,* 448 U.S. 607, 642 (1980) (plurality opinion).

Thus, the standards for chemical hazards that OSHA promulgates under the OSH Act share a broadly similar purpose with the standards that EPA promulgates under TSCA section 6(a). The control measures OSHA and EPA require to satisfy the objectives of their respective statutes may also, in many circumstances, overlap or coincide. However, as this section outlines, there

are important differences between EPA's and OSHA's regulatory approaches and jurisdiction, and EPA considers these differences when deciding whether and how to account for OSHA requirements (Ref. 6) when evaluating and addressing potential unreasonable risk to workers so that compliance requirements are clearly explained to the regulated community.

1. OSHA Requirements

OSHA's mission is to ensure that employees work in safe and healthful conditions. The OSH Act establishes requirements that each employer comply with the General Duty Clause of the Act (29 U.S.C. 654(a)), as well as with occupational safety and health standards issued under the Act.

a. General Duty Clause of the OSH Act

The General Duty Clause of the OSH Act requires employers to keep their workplaces free from recognized hazards that are causing or are likely to cause death or serious physical harm to employees. The General Duty Clause is cast in general terms, and does not establish specific requirements like exposure limits, PPE, or other specific protective measures that EPA could potentially consider when developing its risk evaluations or risk management requirements. OSHA, under limited circumstances, has cited the General Duty Clause for regulating exposure to chemicals. To prove a violation of the General Duty Clause, OSHA must prove employer or industry recognition of the hazard, the hazard was causing or likely to cause death or serious physical harm, and a feasible method to eliminate or materially reduce the hazard was available. In rare situations, OSHA has cited employers for violation of the General Duty Clause where exposures were below a chemical-specific permissible exposure limit (PEL), a TWA based on an employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded (Ref. 7). In such situations, OSHA must demonstrate that the employer had actual knowledge that the PEL was inadequate to protect its employees from death or serious physical harm. Because of the heavy evidentiary burden on OSHA to establish violations of the General Duty Clause, it is not frequently used to cite employers for employee exposure to chemical hazards.

b. OSHA Standards

OSHA standards are issued pursuant to the OSH Act and are found in title 29 of the CFR. There are separate standards for general industry, laboratories, construction, maritime and agriculture sectors, and general standards applicable to a number of sectors (*e.g.,* OSHA's Respiratory Protection standard). OSHA has numerous standards that apply to employers who operate chemical manufacturing and processing facilities, as well as to downstream employers whose employees may be occupationally exposed to hazardous chemicals.

OSHA sets legally enforceable limits on the airborne concentrations of hazardous chemicals, referred to as PELs, established for employers to protect their workers against the health effects of exposure to hazardous substances (29 CFR part 1910, subpart Z, part 1915, subpart Z, and part 1926, subparts D and Z). Under section 6(a) of the OSH Act, OSHA was permitted an initial 2-year window after the passage of the Act to adopt ''any national consensus standard and any established Federal standard.'' 29 U.S.C. 655(a). OSHA used this authority in 1971 to establish PELs that were adopted from Federal health standards originally set by the Department of Labor through the Walsh-Healy Act, in which approximately 400 occupational exposure limits (OELs) were selected based on the American Conference of Governmental Industrial Hygienists (ACGIH) 1968 list of Threshold Limit Values (TLVs). In addition, about 25 exposure limits recommended by the American Standards Association (now called the American National Standards Institute (ANSI) were adopted as PELs.

Following the 2-year window provided under section 6(a) of the OSH Act for adoption of national consensus and existing Federal standards, OSHA has issued health standards following the requirements in section 6(b) of the Act. OSHA has established approximately 30 PELs under section 6(b)(5) as part of comprehensive substance-specific standards that include additional requirements for protective measures such as use of PPE, establishment of regulated areas, exposure assessment, hygiene facilities, medical surveillance, and training. These ancillary provisions in substance-specific OSHA standards further mitigate residual risk that could be present due to exposure at the PEL.

OSHA has not established a PEL for 1–BP and for those it has, in many instances, scientific evidence has accumulated suggesting that the current limits of many PELs are not sufficiently protective. Unlike EPA's requirements under TSCA to address unreasonable risk, health standards issued under section 6(b)(5) of the OSH Act must reduce significant risk only to the extent that it is technologically and economically feasible. OSHA's legal requirement to demonstrate that its section 6(b)(5) standards are technologically and economically feasible at the time they are promulgated often precludes OSHA from imposing exposure control requirements sufficient to ensure that the chemical substance no longer presents a significant risk to workers.

TSCA section 6(b) unreasonable risk determinations may account for unreasonable risk to more sensitive endpoints and working populations than OSHA's risk evaluations typically contemplate, and EPA is obligated to apply TSCA section 6(a) risk management requirements to the extent necessary so that the unreasonable risk is no longer presented.

Because the requirements and application of TSCA and OSHA regulatory analyses differ, it is necessary for EPA to conduct risk evaluations and, where it finds unreasonable risk to workers, develop risk management requirements for chemical substances that OSHA also regulates, and it is expected that EPA's findings and requirements may sometimes diverge from OSHA's. However, it is also appropriate that EPA consider the chemical standards that OSHA has already developed to limit the compliance burden to employers by aligning management approaches required by the agencies, where alignment will adequately address unreasonable risk to workers. The following section discusses EPA's consideration of OSHA standards in its risk evaluation and management strategies under TSCA.

2. Consideration of OSHA Standards in TSCA Risk Evaluations

When characterizing the risk during risk evaluation under TSCA, EPA believes it is appropriate to evaluate the levels of risk present in scenarios where no mitigation measures are assumed to be in place for the purpose of determining unreasonable risk (see Unit II.C.2.a.). (It should be noted that there are some cases where scenarios may reflect certain mitigation measures, such as in instances where exposure estimates are based on monitoring data at facilities that have existing engineering controls in place.)

In addition, EPA believes it may be appropriate to also evaluate the levels of risk present in scenarios considering applicable OSHA requirements as well as scenarios considering industry or sector best practices for industrial hygiene that are clearly articulated to the Agency. EPA may evaluate risk

under scenarios that consider industry or sector best practices for industrial hygiene that are clearly articulated to the Agency, when doing so serves to inform its risk management efforts. Characterizing risks using scenarios that reflect different levels of mitigation can help inform potential risk management actions by providing information that could be used during risk management to tailor risk mitigation appropriately to address any unreasonable risk identified (see Unit II.C.2.b. and Unit II.C.3.).

a. Risk Characterization for Unreasonable Risk Determination

When making unreasonable risk determinations as part of TSCA risk evaluations, EPA cannot assume as a general matter that all workers are always equipped with and appropriately using sufficient PPE, although it does not question the veracity of public comments received on the 2020 Risk Evaluation for 1–BP regarding the occupational safety practices often followed by industry respondents. When characterizing the risk to human health from occupational exposures during risk evaluation under TSCA, EPA believes it is appropriate to evaluate the levels of risk present in scenarios where PPE is not assumed to be used by workers. This approach of not assuming PPE use by workers considers the risk to PESS (workers and occupational non-users (ONUs)) who may not be covered by OSHA standards, such as self-employed individuals and public sector workers who are not covered by a State Plan. Mitigation scenarios included in the EPA risk evaluation in order to inform its risk management efforts (*e.g.,* scenarios considering use of PPE) likely represent current practice in many facilities where companies effectively address worker and bystander safety requirements. However, the Agency cannot assume that all facilities across all uses of the chemical substances will have adopted these practices for the purposes of making the TSCA risk determination.

Therefore, EPA makes its determinations of unreasonable risk based on scenarios that do not assume compliance with OSHA standards, including any applicable exposure limits or requirements for use of respiratory protection or other PPE. Making unreasonable risk determinations based on such scenarios should not be viewed as an indication that EPA believes there are no occupational safety protections in place at any location, or that there is widespread noncompliance with applicable OSHA standards. Rather, it reflects EPA's recognition that unreasonable risk may exist: (1) for subpopulations of workers that may be highly exposed because they are not covered by OSHA standards, such as self-employed individuals and public sector workers who are not covered by an OSHA State Plan; (2) because EPA finds unreasonable risk for purposes of TSCA notwithstanding existing OSHA requirements.

b. Risk Evaluation To Inform Risk Management Requirements

In addition to the scenarios described previously, EPA risk evaluations may characterize the levels of risk present in scenarios considering applicable OSHA requirements (*e.g.,* chemical-specific PELs and/or chemical-specific health standards with PELs and additional ancillary provisions) as well as scenarios considering industry or sector best practices for industrial hygiene that are clearly articulated to the Agency to help inform risk management decisions.

3. Consideration of OSHA Standards in TSCA Risk Management Actions

When undertaking risk management actions, EPA: (1) Develops occupational risk mitigation measures to address any unreasonable risk identified by EPA, striving for consistency with applicable OSHA requirements and industry best practices, including appropriate application of the hierarchy of controls (Ref. 8), when those measures would address an unreasonable risk; and (2) Ensures that EPA requirements apply to all potentially exposed workers in accordance with TSCA requirements. Consistent with TSCA section 9(d), EPA consults and coordinates TSCA activities with OSHA and other relevant Federal agencies for the purpose of achieving the maximum applicability of TSCA while avoiding the imposition of duplicative requirements.

Informed by the mitigation scenarios and information gathered during the risk evaluation and risk management process, the Agency might propose rules that require risk management practices that may be already common practice in many or most facilities. Adopting clear, broadly applicable regulatory standards will foster compliance across all facilities (ensuring a level playing field) and assure protections for all affected workers, especially in cases where current OSHA standards may not apply to them or not be sufficient to address the unreasonable risk.

4. 1–BP and OSHA Requirements

EPA incorporated the considerations described earlier in this unit in the 2020 Risk Evaluation for 1–BP, the December 2022 revised unreasonable risk determination for 1–BP, and this proposed risk management rulemaking. Specifically, in the TSCA 2020 Risk Evaluation for 1–BP, EPA presented risk estimates based on workers' exposures with and without respiratory protection. EPA determined that even when respirators with APF 50 are used by workers, most of the conditions of use evaluated presented an unreasonable risk. Additional consideration of OSHA standards in the revised unreasonable risk determination is discussed further in the **Federal Register** notice announcing that document (Ref. 9). In Units III.B.3. and V., EPA outlines the importance of considering the hierarchy of controls utilized by the industrial hygiene community (hereafter referred to as ''hierarchy of controls'') when developing risk management actions in general, and specifically when determining if and how regulated entities may meet a risk-based exposure limit for 1–BP. The hierarchy of controls is a prioritization of exposure control strategies from most preferred to least preferred techniques. In order of precedence, they are: elimination of the hazard, substitution with a less hazardous substance, engineering controls, administrative controls such as training or exclusion zones with warning signs, and, finally, use of PPE (Ref. 8). Under the hierarchy of controls, the use of respirators (and all PPE) should only be considered after all other measures have been taken to reduce exposures. As discussed in Units IV.A. and V.A.1., EPA's risk management approach would not rely solely or primarily on the use of respirators to address unreasonable risk to workers; instead, EPA is proposing prohibitions for or affecting certain conditions of use, a WCPP for most occupational conditions of use, self-certification for certain occupational conditions of use, and prescriptive controls for certain occupational conditions of use. The WCPP would require consideration of the hierarchy of controls before use of respirators and other PPE. The WCPP is discussed in full in Units IV.A.2. and V.A.1.b.

In accordance with the approach described earlier in Unit II.C.3., EPA intends for this regulation to be as consistent as possible with the existing OSHA standards, with additional requirements as necessary to address the unreasonable risk. One notable difference between the WCPP and the OSHA standards are the exposure limits. The WCPP would include an ECEL of 0.05 ppm as an 8-hour TWA to address unreasonable risks for chronic cancer and non-cancer and acute non-

cancer inhalation endpoints. EPA recognizes that there is no OSHA PEL for 1–BP; however, OSHA and the National Institute for Occupational Safety and Health (NIOSH) issued a Hazard Alert in 2013, which indicates a recommended time-weighted average threshold limit value (TWA–TLV) of 10 ppm by the American Conference of Governmental Industrial Hygienists (Ref. 10). However, in 2011, ACGIH recommended 0.10 ppm as the TWA–TLV value for 1–BP and adopted this value in 2014. (Ref. 10). OSHA also released an Enforcement Policy for Respiratory Hazards Not Covered by OSHA Permissible Exposure Limits that explains OSHA requirements and the applicability of this policy pertaining to 1–BP exposure limits under certain conditions (Ref. 11).

The TSCA ECEL value for 1–BP is a lower value than other existing OELs, discussed in Unit II.C.5., because many of those OELs are outdated, and they may not fully capture either the complete database of studies considered in the 2020 Risk Evaluation for 1–BP or more recent advances in modeling and scientific interpretation of toxicological data applied in the calculation of the 1–BP ECEL. EPA considers the 1–BP ECEL to represent the best available science under TSCA section 26(h) because it was derived from information in the 2020 Risk Evaluation for 1–BP, which was subject to peer review, and which is the result of a systematic review approach that investigated the reasonably available information in order to identify relevant adverse health effects. Additionally, by using the information from the 2020 Risk Evaluation for 1–BP, the ECEL incorporates advanced modeling and peer-reviewed methodologies, and accounts for exposures to potentially exposed or susceptible subpopulations, as required by TSCA.

For 1–BP, the TSCA ECEL is an 8-hour occupational inhalation exposure limit based on cancer inhalation risks and takes into consideration the uncertainties identified in the 2020 Risk Evaluation for 1–BP (Ref. 12). The ECEL represents the concentration at which an adult human, including a member of a PESS, would be unlikely to suffer adverse effects if exposed for a working lifetime. EPA has determined as a matter of risk management policy that ensuring exposures remain at or below the ECEL will eliminate any unreasonable risk of injury to health from occupational inhalation exposures. In addition to the ECEL, as part of this rulemaking, EPA is proposing an ECEL action level. An ECEL action level, similar to other OEL frameworks, is typically a value lower than the ECEL value, that would trigger additional monitoring to ensure that workers are not exposed to concentrations above the ECEL.

For 1–BP, the ECEL of 0.05 ppm is based on the cancer endpoints. As demonstrated in the ECEL memo, cancer from chronic inhalation exposures is the basis of the 1–BP ECEL (Ref. 12). As discussed in Units II.D., III.B., and VII.D., the TSCA ECEL represents the best available science at time of publication of the 2020 Risk Evaluation for 1–BP.

5. 1–BP and Other Occupational Exposure Limits

EPA is aware of other OELs for 1–BP, including the California Division of Occupational Safety and Health (Cal/OSHA) PEL and the ACGIH TLV. The 2014 8-hour TWA TLV recommended by the ACGIH is 0.10 ppm. This TLV is based on the potential for neurotoxicity, liver toxicity, and reproductive/developmental toxicity. While a variety of studies covering numerous health effects are discussed in the report, the most relevant study cited (Ref. 13) reported ''diminished vibration sensation and lower scores in memory and mood tests'' in workers at measured occupational exposures as low as 0.34 ppm. The TLV appears to be semi-quantitative and not directly extrapolated from any individual point of departure. The August 2020 TSCA Risk Evaluation for 1–BP discussed the Ichihara results (Ref. 1, 13), however they were considered ambiguous due to 1–BP co-exposures that may have significantly contributed to the observed neurotoxicity. The TLV report also discusses the NTP 2011 cancer results that were the basis of the TSCA ECEL, however linear low-dose extrapolation was not performed in order to derive a lower TLV.

The 2014 Cal/OSHA PEL is 5 ppm, higher than the ACGIH TLV, and has a skin notation, meaning that a worker's skin, eyes and mouth should be protected from any contact with 1–BP (Ref. 14). The Cal/OSHA PEL is based on reproductive and developmental toxicity (observed in animal studies) and technological feasibility assessments from industry (Ref. 14).

D. Summary of EPA's Risk Evaluation Activities on 1-Bromopropane

In December 2016, EPA selected 1–BP as one of the first 10 chemicals for risk evaluation under TSCA section 6 (Ref. 15). EPA published the scope of the 1–BP risk evaluation in June 2017 (82 FR 31592, July 7, 2017), and, after receiving public comments, published the problem formulation in June 2018 (83 FR 26998, June 11, 2018). In August 2019, EPA published a draft risk evaluation (84 FR 39830, August 12, 2019), and, after public comment and peer review by the Science Advisory Committee on Chemicals (SACC), EPA issued the 2020 Risk Evaluation for 1–BP in August 2020 in accordance with TSCA section 6(b) (85 FR 48687, August 12, 2020). EPA subsequently issued a draft revised TSCA unreasonable risk determination for 1–BP (87 FR 43265, July 20, 2022), and after public notice and receipt of comments, published a revised Unreasonable Risk Determination for 1–BP (87 FR 77603, December 2022). The 2020 Risk Evaluation for 1–BP and supplemental materials are in docket EPA–HQ–OPPT–2019–0235, with the December 2022 revised unreasonable risk determination and additional materials supporting the risk evaluation process are in docket EPA–HQ–OPPT–2016–0741, on *https://www.regulations.gov*.

1. 2020 Risk Evaluation

In the 2020 Risk Evaluation for 1–BP, EPA evaluated risks associated with 25 conditions of use within the following categories: manufacture (including import), processing, distribution in commerce, industrial and commercial use, consumer use, and disposal. Descriptions of these conditions of use are in Unit III.B.1. The 2020 Risk Evaluation for 1–BP identified significant adverse health effects associated with exposure to 1–BP, including developmental toxicity from acute and chronic inhalation exposures and dermal exposures, and cancer from chronic inhalation exposures to 1–BP. A further discussion of the hazards of 1–BP is included in Unit III.B.2.

2. Revised Unreasonable Risk Determination

EPA has been revisiting specific aspects of its first ten TSCA existing chemical risk evaluations, including the 2020 Risk Evaluation for 1–BP, to ensure that the risk evaluations upon which risk management decisions are made better align with TSCA's objective of protecting human health and the environment. For 1–BP, EPA revised the original unreasonable risk determination based on the 2020 Risk Evaluation for 1–BP and issued a final revised unreasonable risk determination on December 2022 (Ref. 2). EPA revised the risk determination for the 2020 Risk Evaluation for 1–BP pursuant to TSCA section 6(b) and consistent with Executive Order 13990, (''Protecting Public Health and the Environment and Restoring Science to Tackle the Climate

Crisis'') and other Administration priorities (Refs. 16, 17, and 18). The revisions consisted of making the risk determination based on the whole-chemical substance instead of by individual conditions of use (which resulted in the revised risk determination superseding the prior ''no unreasonable risk'' determinations and withdrawing the associated TSCA section 6(i)(1) ''no unreasonable risk'' order); and clarifying that the risk determination does not reflect an assumption that all workers are always provided and appropriately wear PPE (Ref. 2).

In determining whether 1–BP presents unreasonable risk under the conditions of use, EPA considered relevant risk-related factors, including, but not limited to: the effects of the chemical substance on health (including cancer and non-cancer risks) and human exposure to the substance under the conditions of use (including duration, magnitude, and frequency of exposure); the effects of the chemical substance on the environment and environmental exposure under the conditions of use; the population exposed (including any PESS); susceptible life stages; the severity of hazard (including the nature of the hazard, the irreversibility of the hazard); and uncertainties.

EPA determined that 1–BP presents an unreasonable risk of injury to health. The contributions to the unreasonable risk determination are risks to workers and ONUs (workers who do not directly handle the chemical but perform work in an area where the chemical is present) due to occupational exposures to 1–BP (*i.e.,* during manufacture, processing, industrial and commercial uses, disposal); and to consumers and bystanders associated with consumer uses of 1–BP due to exposures from consumer use of 1–BP and products containing 1–BP. EPA did not identify risks of injury to the environment that contribute to the unreasonable risk determination for 1–BP. The 1–BP conditions of use that contribute to EPA's determination that the chemical substance poses unreasonable risk to health are listed in the unreasonable risk determination (Ref. 2) and also in Unit III.B.1., with descriptions to aid chemical manufacturers, processors, and users in determining how their particular use or activity would be addressed under the proposed regulatory provisions.

While the 2020 Risk Evaluation for 1–BP estimated different risks for occupational non-users and workers, the benchmark (and thus the ECEL value) is the same for both populations. That is, while workers and occupational non-users may have different exposure patterns, the level of exposure such that risks are no longer unreasonable is the same for both workers and occupational non-users. Thus, for the purposes of risk management, the distinction between worker and occupational non-user is no longer relevant, and both are encompassed by the proposed definition of a potentially exposed person, as outlined in Unit IV.A.2.a. EPA notes that this proposed definition is intended to apply to occupational workplaces as part of implementation of the WCPP, and recognizes that other individuals or communities may be exposed to 1–BP as consumers, members of fenceline communities, or members of the general population.

3. Fenceline Screening Analysis

The 2020 TSCA Risk Evaluation for 1–BP excluded the assessment of certain exposure pathways that were or could be regulated under another EPA-administered statute (see section 1.4.2 of the August 2020 Risk Evaluation for 1–BP (Refs. 1, 2). This resulted in the ambient air pathway for 1–BP exposure not being fully assessed for human health risk to the general population. The August 2020 Risk Evaluation for 1–BP did assess the water pathway based on fate and monitoring and modeling data, which determined there was no presence of 1–BP (Ref. 1). In June 2021, EPA made a policy announcement on the path forward for TSCA chemical risk evaluations, indicating that EPA would, among other things, examine whether the exclusion of certain exposure pathways from the risk evaluations could lead to a failure to identify and protect fenceline communities (Refs. 9; 15). EPA then conducted a screening analysis to identify whether there may be potential risks to people living near the fenceline of facilities releasing 1–BP.

In order to determine whether there may be potential risk to the general population in proximity to a facility releasing 1–BP, EPA developed the TSCA Screening Level Approach for Assessing Ambient Air and Water Exposures to Fenceline Communities Version 1.0, which was presented to the SACC in March 2022, with a report issued by the SACC on May 18, 2022 (Ref. 19). This analysis is discussed in Unit VI.A.

III. Regulatory Approach

A. Background

Under TSCA section 6(a), if the Administrator determines, through a TSCA section 6(b) risk evaluation that the manufacture (including import), processing, distribution in commerce, use, or disposal of a chemical substance or mixture, or any combination of such activities, presents an unreasonable risk of injury to health or the environment, EPA must by rule apply one or more of the following requirements to the extent necessary so that the chemical substance or mixture no longer presents such risk.

- Prohibit or otherwise restrict the manufacturing, processing, or distribution in commerce of the substance or mixture, or limit the amount of such substance or mixture which may be manufactured, processed, or distributed in commerce (section 6(a)(1)).
- Prohibit or otherwise restrict the manufacturing, processing, or distribution in commerce of the substance or mixture for a particular use or above a specific concentration for a particular use (section 6(a)(2)).
- Limit the amount of the substance or mixture which may be manufactured, processed, or distributed in commerce for a particular use or above a specific concentration for a particular use specified (section 6(a)(2)).
- Require clear and adequate minimum warning and instructions with respect to the substance or mixture's use, distribution in commerce, or disposal, or any combination of those activities, to be marked on or accompanying the substance or mixture (section 6(a)(3)).
- Require manufacturers and processors of the substance or mixture to make and retain certain records or conduct certain monitoring or testing (section 6(a)(4)).
- Prohibit or otherwise regulate any manner or method of commercial use of the substance or mixture (section 6(a)(5)).
- Prohibit or otherwise regulate any manner or method of disposal of the substance or mixture, or any article containing such substance or mixture, by its manufacturer or processor or by any person who uses or disposes of it for commercial purposes (section 6(a)(6)).
- Direct manufacturers or processors of the substance or mixture to give notice of the unreasonable risk determination to distributors, certain other persons, and the public, and to replace or repurchase the substance or mixture (section 6(a)(7)).

As described in Unit III.B.3., EPA analyzed how the TSCA section 6(a) requirements could be applied to address the unreasonable risk found to be present in the 2020 Risk Evaluation for 1–BP and the final revised unreasonable risk determination, so that 1–BP no longer presents such

unreasonable risk. EPA's proposed regulatory action and two alternative regulatory actions are described in Unit IV. EPA is requesting public comment on all elements of the proposed regulatory action and the alternative regulatory actions and is providing notice that based on consideration of comments and any new information submitted to EPA during the comment period on this proposed rule, EPA may in the final rule modify elements of the proposed regulatory action. The public should understand that public comments could result in changes to elements of the proposed and alternative regulatory actions when this rulemaking is finalized. For example, elements such as timelines for phase out could be lengthened or shortened, ECELs could be modified, or the WCPP could have conditions added or eliminated, or uses proposed to be prohibited could be allowed with a WCPP or uses proposed to be allowed with a WCPP could be prohibited.

Under the authority of TSCA section 6(g), EPA may consider granting a time-limited exemption from a requirement of a TSCA section 6(a) rule for a specific condition of use if EPA finds that: (1) The specific condition of use is a critical or essential use for which no technically and economically feasible safer alternative is available, taking into consideration hazard and exposure; (2) Compliance with the requirement, as applied with respect to the specific condition of use would significantly disrupt the national economy, national security, or critical infrastructure; or (3) The specific condition of use, as compared to reasonably available alternatives, provides a substantial benefit to health, the environment, or public safety. At this time, EPA is not proposing to grant TSCA section 6(g) exemptions in this proposed rulemaking.

TSCA section 6(c)(2)(A) requires EPA, in proposing and promulgating TSCA section 6(a) rules, to consider and include a statement addressing certain factors, including the costs and benefits and the cost effectiveness of the regulatory action and of the one or more primary alternative regulatory actions considered by the Administrator. A description of all TSCA section 6 requirements considered in developing this proposed regulatory action is in Unit III.B.3., and Unit V.B. includes more information regarding EPA's consideration of exemptions and alternatives. TSCA section 6(c)(2)(C) requires that in deciding whether to prohibit or restrict in a manner that substantially prevents a specific condition of use and in setting an appropriate transition period for such action, EPA consider, to the extent practicable, whether technically and economically feasible alternatives that benefit health or the environment will be reasonably available as substitutes when the proposed prohibition or restriction takes effect. Unit IV.B. includes more information regarding EPA's consideration of alternatives, and Unit VI. provides more information on EPA's considerations more broadly under TSCA section 6(c)(2).

EPA carried out required consultations as described in this unit and also considered impacts on children's environmental health as part of its approach to developing this TSCA section 6 regulatory action.

1. Consultations

EPA conducted consultations and outreach in developing this proposed regulatory action. The Agency held a federalism consultation from October 22, 2020, until January 23, 2021, as part of this rulemaking process and pursuant to Executive Order 13132 (64 FR 43255, August 10, 1999). This included a background presentation on September 9, 2020, and a consultation meeting on October 22, 2020. During the consultation, EPA met with State and local officials early in the process of developing the proposed action in order to receive meaningful and timely input into its development (Ref. 20). During the consultation, participants and EPA discussed preemption, EPA's authority under TSCA section 6 to regulate identified unreasonable risks, what activities would be potentially regulated in the proposed rule; and the relationship between TSCA and existing statutes—particularly the Clean Air Act (CAA) (Ref. 20).

1–BP is not manufactured (including imported), processed, distributed in commerce, or regulated by Tribal governments. However, EPA consulted with Tribal officials during the development of this proposed action (Ref. 21). The Agency held a Tribal consultation from October 7, 2020, to January 8, 2021, with meetings on November 12 and 17, 2020. Tribal officials were given the opportunity to meaningfully interact with EPA risk managers concerning the current status of risk management. During the consultation, EPA discussed risk management under TSCA section 6(a), findings from the 2020 Risk Evaluation for 1–BP, types of information that would be helpful to inform risk management, principles for transparency during the risk management process, and types of information EPA is seeking from tribes (Ref. 21). EPA received no written comments as part of this consultation.

In addition to the formal consultations, EPA also conducted outreach to advocates of communities that might be subject to disproportionate risk from the exposures to 1–BP, such as low-income populations, and indigenous peoples. EPA's Environmental Justice (EJ) consultation occurred from November 4, 2020, through January 18, 2021. On November 16 and 19, 2020, EPA held public meetings as part of this consultation. These meetings were held pursuant to EPA policy to advance meaningful community engagement as part of the goal of environmental justice. During the consultations, participants and EPA discussed risk management under TSCA section 6(a), types of information that would be helpful to inform risk management, principles for transparency during the risk management process, and the relationship between TSCA and existing statutes, particularly the Clean Air Act. In general, commenters supported strong regulation of 1–BP to protect lower-income communities and workers. Commenters also supported strong outreach to affected communities, encouraged EPA to follow the NIOSH hierarchy of controls in regulating 1–BP, favored prohibitions, and noted the uncertainties associated with use of personal protective equipment (*e.g.,* in some cases, use of PPE did not provide adequate protection given the exposure scenario). (Ref. 22)

As required by section 609(b) of the Regulatory Flexibility Act (RFA), 5 U.S.C. 601 *et seq.,* EPA convened a Small Business Advocacy Review (SBAR) Panel to obtain advice and recommendations from small entity representatives (SERs) that potentially would be subject to this proposed rule's requirements (Ref. 23). EPA met with SERs before and during Panel proceedings, on November 5, 2020, and May 11, 2021. Panel recommendations are in Unit X.C. and in the Initial Regulatory Flexibility Analysis (IRFA) (Ref. 24); the Panel report is in the docket (Ref. 23). EPA requests comment on all elements of the IRFA, and, in particular, the flexibilities that EPA has identified following input from the SERs during the SBAR process. Additional requests for comment based on Panel recommendations are in Unit VIII.

Units X.C., X.E., X.F., and X.J. provide more information regarding the consultations.

2. Other Stakeholder Engagement

In addition to the formal consultations described in Unit X., EPA held a webinar on September 30, 2020, providing an overview of the TSCA risk management process and the risk evaluation findings for 1–BP. EPA also presented on the risk evaluation and risk management under TSCA for 1–BP at a Small Business Administration (SBA) Office of Advocacy Environmental roundtable on September 11, 2020. At both events EPA staff provided an overview of the TSCA risk management process and the findings in the 2020 Risk Evaluation for 1–BP (Ref. 25). Attendees of these meetings were given an opportunity to voice their concerns regarding the risk evaluation and risk management.

Furthermore, EPA engaged in discussions with representatives from different industries, non-governmental organizations, technical experts and users of 1–BP. A list of external meetings held during the development of this proposed rule is in the docket (Ref. 26); meeting materials and summaries are also in the docket. The purpose of these discussions was to create awareness and educate stakeholders and regulated entities on the provisions for risk management required under TSCA section 6(a); explain the risk evaluation findings; obtain input from manufacturers, processors, distributors, users, academics, advisory councils, and members of the public health community about uses of 1–BP; identify workplace practices, engineering controls, administrative controls, PPE, and industrial hygiene plans currently in use or feasibly adoptable to reduce exposure to 1–BP under the conditions of use; understand the importance of 1–BP in the various uses subject to this proposed rule; compile knowledge about critical uses, substitute chemicals or alternative methods; identify various standards and performance specifications; and generate potential risk reduction strategies. EPA has met with, or otherwise communicated with, a variety of companies, trade associations and non-governmental organizations to discuss the topics outlined in this paragraph; a list of external meetings held during the development of this proposed rule is in the docket. (Ref. 26).

3. Children's Environmental Health

EPA's *Policy on Children's Health* (Ref. 27) requires EPA to protect children from environmental exposures by consistently and explicitly considering early life exposures (from conception, infancy, early childhood and through adolescence until 21 years of age) and lifelong health in all human health decisions through identifying and integrating children's health data and information when conducting risk assessments. TSCA section 6(b)(4)(A) also requires EPA to conduct risk evaluations ''to determine whether a chemical substance presents an unreasonable risk of injury to health or the environment . . . including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant to the risk evaluation by the Administrator, under the conditions of use.'' Infants, children, and pregnant women are life stages that are listed as examples of subpopulations that may be considered relevant ''potentially exposed or susceptible subpopulations'' in the TSCA section 3(12) definition of that term. In addition, TSCA section 6(a) requires EPA to apply one or more risk management requirements under TSCA section 6(a) so that 1–BP no longer presents an unreasonable risk (including unreasonable risk to PESS).

The 2020 Risk Evaluation for 1–BP considered impacts on both children and adults from occupational and consumer use from inhalation and dermal exposures, as applicable. For occupational use, the risk evaluation considered males (≤16 years of age) and females of reproductive age (≤16 years of age to less than 54 years of age) for both dermal and inhalation exposures. For consumer use, EPA evaluated dermal and inhalation exposures for children ages 11–15 and 16–20 years of age, and the evaluation of inhalation exposures to bystanders includes infants, toddlers, and older children. Several health effects of 1–BP exposure are relevant to early life stages, including developmental toxicity (*i.e.* increases in post-implantation loss), and other adverse effects including reproductive toxicity and cancer.

B. Regulatory Assessment of 1–BP

1. Description of Conditions of Use

This unit describes the TSCA conditions of use that contribute to EPA's unreasonable risk determination for the chemical substance 1–BP. Condition of use descriptions were obtained from EPA sources such as CDR use codes, the 2020 Risk Evaluation for 1–BP and related documents, as well as the Organisation for Economic Co-operation and Development harmonized use codes and stakeholder engagements. For additional descriptions of the conditions of use, including process descriptions and worker activities considered in the risk evaluation, see the Problem Formulation of the 2020 Risk Evaluation for 1–BP, the 2020 Risk Evaluation for 1–BP, and supplemental files (Refs. 28, 1, 29). EPA acknowledges that some of the terms in this unit may be defined under other statutes, however the descriptions here are intended to provide clarity to the regulated entities who will implement the provisions of this rulemaking under TSCA section 6(a).

a. Manufacturing (Including Import)

i. Domestic Manufacture

This condition of use refers to the making or producing of a chemical substance within the United States (including manufacturing for export), or the extraction of a component chemical substance from a previously existing chemical substance or a complex combination of substances.

ii. Import

This condition of use refers to the act of causing a chemical substance or mixture to arrive within the customs territory of the United States.

b. Processing

i. Processing as a Reactant/Intermediate

This condition of use refers to processing 1–BP in chemical reactions for the manufacturing of another chemical substance or product. Through processing as a reactant or intermediate, 1–BP serves as a feedstock in the production of another chemical product via a chemical reaction in which 1–BP is completely consumed. For example, 1–BP is used as a reactant in the production of other organic and inorganic chemicals, pesticides, fertilizers, and other agricultural chemicals.

ii. Processing: Incorporation Into a Formulation, Mixture, or Reaction Products

This condition of use refers to when 1–BP is added to a product (or product mixture) prior to further distribution of the product.

iii. Processing: Incorporation Into Articles

This condition of use refers to when 1–BP becomes an integral component of an article distributed for industrial, commercial, or consumer use. An article refers to a manufactured item which: (1) Is formed to a specific shape or design during manufacture; (2) has end use function(s) dependent in whole or in part upon its shape or design during end use; and (3) has either no change of chemical composition during its end

use or only those changes of composition which have no commercial purpose separate from that of the article, and that result from a chemical reaction that occurs upon end use of other chemical substances, mixtures, or articles, except that fluids are particles that are not considered articles regardless of shape or design. 40 CFR 704.3

iv. Processing by Repackaging

This condition of use refers to the preparation of a chemical substance or mixture for distribution in commerce in a different form, state, or quantity. This includes transferring of 1–BP from a bulk container into smaller containers.

v. Recycling

This condition of use refers to processing waste streams of 1–BP at a third-party site for the purpose of recovering materials or otherwise preparing the waste for reuse instead of disposal. Waste solvents can be restored via solvent reclamation/recycling. The recovery process may involve an initial vapor recovery or mechanical separation step followed by distillation, purification, and final packaging.

c. Industrial and Commercial Use

i. Industrial and Commercial Use as Solvent for Open-Top Batch and In-Line Conveyorized Vapor Degreasing

This condition of use refers to the industrial and commercial use of 1–BP as a solvent for cleaning and degreasing through the process of heating 1–BP to its volatilization point and using its vapors to remove dirt, oils, greases, and other surface contaminants from metal and other parts using batch open-top and in-line conveyorized vapor degreaser machines.

ii. Industrial and Commercial Use as Solvent for Closed-Loop Batch Vapor Degreasing

This condition of use refers to the industrial and commercial use of 1–BP as a solvent for cleaning and degreasing through the process of heating 1–BP to its volatilization point and using its vapors to remove dirt, oils, greases, and other surface contaminants from metal and other parts using batch closed-loop degreaser machines.

iii. Industrial and Commercial Use as Solvent for Cold Cleaning

This condition of use refers to the industrial and commercial use of 1–BP as a non-boiling solvent in cold cleaning machines, including simple spray sinks and dip tanks, to remove dirt, oils, greases, and other surface contaminants from metal and other parts.

iv. Industrial and Commercial Use as Solvent for Aerosol Spray Degreaser/Cleaner

This condition of use refers to the industrial and commercial use of 1–BP as a solvent in degreasing and cleaning products to remove dirt, grease, stains, spots, and foreign matter through a process that uses an aerosolized solvent spray, typically applied from a pressurized can, to remove residual contaminants from electronics, metals, and other fabricated materials. This description does not apply to use of 1–BP in products intended for automotive care, anti-adhesive agents for mold cleaning and release products, adhesive accelerants for arts, crafts, and hobby materials, or functional fluids, which are described in ''Other industrial and commercial uses'' in this unit, or dry cleaning solvents and stain removers, which are described in ''Industrial and commercial use in dry cleaning solvents, spot cleaners and stain removers'' in this unit.

v. Industrial and Commercial Use in Adhesives and Sealants

This condition of use refers to the industrial and commercial use of 1–BP as a solvent in spray adhesives and sealants for foam cushion manufacturing and fabrication (*e.g.,* the furniture industry).

vi. Industrial and Commercial Use in Dry Cleaning Solvents, Spot Cleaners and Stain Removers

This condition of use refers to the industrial and commercial use of 1–BP in products for spot cleaning and as a solvent in degreasing and cleaning applications to remove dirt, grease, stains, spots, and foreign matter from garments at dry cleaning facilities. This includes dry cleaning facilities using third generation (dry-to-dry, non-vented machines with refrigerated condensers), fourth generation (dry-to-dry, non-vented machines with both refrigerated condensers and carbon adsorbers as secondary vapor controls), or fifth generation (dry-to-dry, non-vented machines with secondary vapor controls, a monitor inside the machine drum, and an interlocking system to ensure the concentration is below approximately 300 ppm before the loading door can be opened) 1–BP dry cleaning machines. In addition to use as a solvent in dry cleaning equipment, 1–BP is found in products to spot clean garments to remove stains or spots before and after dry cleaning treatment.

vii. Industrial and Commercial Use in Coin and Scissor Cleaner (Liquid, Spray, or Aerosol Cleaners)

This condition of use refers to the industrial and commercial use of 1–BP in aerosol and non-aerosol product formulations, designed to clean collectible coins and scissors.

viii. Commercial Use in Insulation

This condition of use refers to the commercial use of 1–BP in insulation material in the form of rigid board insulation, which can be used for interior and exterior applications including walls, ceilings, roofs, foundations, basements, and crawl spaces in commercial and residential buildings.

ix. Other Industrial and Commercial Uses

This condition of use refers to the industrial and commercial uses of 1–BP in a variety of other aerosol and non-aerosol uses not already described previously in this unit.

- *Aerosol mold cleaning and release:* This refers to the industrial and commercial use of 1–BP in aerosol mold cleaning and release products used to coat the molds for injection moldings, compression molding, blow molding, and extrusion applications.
- *Asphalt extraction:* This refers to the industrial and commercial use of 1–BP for asphalt extraction in centrifuge extractors, vacuum extractors, and reflux extractors to separate asphalt from the aggregate and filler material to allow for determination of asphalt content.
- *Automotive care products:* This condition of use also refers to the industrial and commercial use of 1–BP in aerosolized products, particularly engine degreasers and brake cleaners, to remove residual contaminants from fabricated parts.
- *General purpose degreaser:* This refers to the industrial and commercial use of 1–BP in aerosolized and non-aerosolized products used in industrial settings, with usage varying widely by facility to clean and maintain equipment (primarily during plant shutdowns) and also used for heavy duty transportation maintenance (*e.g.,* maintaining buses, trains, trucks, etc.).
- *High voltage cable cleaner:* This refers to the industrial and commercial use of 1–BP in both aerosolized and non-aerosolized cleaning products to clean the semi-conductive cores of high voltage cables when splicing and terminating cables.
- *Refrigerant flush:* This refers to the industrial and commercial use of 1–BP

in products used to clean refrigeration lines in various industries, and flush oxygen lines in hospitals and in the aerospace industry.

- *Temperature indicators:* This refers to the industrial and commercial use of 1–BP in temperature-indicating fluids and coatings, which can be applied to fabrics, rubber, plastics, glass, and/or polished metals.
- *Other uses:* This refers to the industrial and commercial use of 1–BP in a variety of other products such as an adhesive accelerant, a coating component for pipes and fixtures, functional fluids (closed/open systems), cutting oils, and as a laboratory chemical for research and development.

d. Consumer Use

i. Consumer Use as a Solvent in Aerosol Spray Degreasers/Cleaners

This condition of use refers to the consumer use of 1–BP in aerosolized products to dissolve oils, greases, and similar materials from textiles, glassware, metal surfaces, and other articles. This includes the use of 1–BP in aerosolized products for cleaning or degreasing in electronic degreasers.

ii. Consumer Use in Spot Cleaners or Stain Removers

This condition of use refers to the consumer use of 1–BP for cleaning and furniture care in the form of spot cleaners or stain removers to remove dirt, grease, stains, and foreign matter from furniture or furnishings, or to cleanse, sanitize, or improve the appearance of surfaces.

iii. Consumer Use in Liquid Cleaners (e.g., Coin and Scissor Cleaners)

This condition of use refers to the consumer use of 1–BP in liquid cleaning products to dissolve oils, greases, and stains, or to cleanse, sanitize, or improve the appearance of surfaces.

iv. Consumer Use in Liquid Spray/Aerosol Cleaners

This condition of use refers to the consumer use of 1–BP in liquid and aerosolized products for cleaning and furniture care to remove dirt, grease, and stains, or to cleanse, scour, polish, protect, or improve the appearance of surfaces.

v. Consumer Use in Arts, Crafts and Hobby Materials (Adhesive Accelerant)

This condition of use refers to the consumer use of 1–BP in aerosolized products for arts, crafts, and hobby activities to accelerate the time it takes for the adhesive to dry.

vi. Consumer Use in Automotive Care Products (Refrigerant Flush)

This condition of use refers to the consumer use of 1–BP in liquid cleaning products to dissolve and flush out foreign materials from coils of an automobile AC coil.

vii. Consumer Use in Anti-Adhesive Agents (Mold Cleaning and Release Products)

This condition of use refers to the consumer use of 1–BP in products for mold cleaning and release. These products are used as anti-adhesive agents to prevent bonding between other substances by discouraging surface attachments.

e. Disposal

This condition of use refers to the process of disposing generated waste streams of 1–BP that are collected and transported to a third-party site for their final disposition, such as waste incineration or landfilling.

f. Terminology in This Proposed Rule

For purposes of this proposed rulemaking, ''occupational conditions of use'' refers to the TSCA conditions of use described in Units III.B.1.a., b., c., and e. Although EPA identified both industrial and commercial uses in the 2020 Risk Evaluation for 1–BP for purposes of distinguishing scenarios, the Agency clarified then and clarifies now that EPA interprets the authority Congress gave to the Agency to ''regulat[e] any manner or method of commercial use'' under TSCA section 6(a)(5) to reach both industrial and commercial uses.

Additionally, in the 2020 Risk Evaluation for the chemical substance 1–BP, EPA identified and assessed all known, intended, and reasonably foreseen industrial, commercial, and consumer uses of 1–BP, and determined in the December 2022 final revised unreasonable risk determination that 1–BP as a whole chemical substance presents unreasonable risks to health and the environment. EPA determined that all industrial, commercial, and consumer uses of 1–BP evaluated in the 2020 Risk Evaluation for 1–BP contribute to the EPA determination that 1–BP presents unreasonable risk of injury to health, except for the use of 1–BP in insulation. As such, for purposes of this risk management rulemaking, ''consumer use'' refers to all known, intended, and reasonably foreseen consumer uses of 1–BP, except for the use of 1–BP in insulation. Likewise, for the purpose of this risk management rulemaking, ''industrial and commercial use'' refers to all industrial and commercial uses, including known, intended, or reasonably foreseen 1–BP industrial and commercial use, except for the use of 1–BP in insulation.

EPA is not proposing to incorporate the descriptions of known, intended or reasonably foreseen uses in Unit III.B.1.a. through e. into the regulatory text as definitions because these uses represent the specific uses evaluated in the 2020 Risk Evaluation for 1–BP. This risk evaluation was used to inform EPA's determination that 1–BP presents unreasonable risk. EPA requests comment on whether EPA should promulgate definitions for those conditions of use evaluated in the 2020 Risk Evaluation for 1–BP that would not be prohibited, and, if so, whether the descriptions in this unit are consistent with the conditions of use evaluated in the 2020 Risk Evaluation for 1–BP and whether they provide a sufficient level of detail to improve the clarity and readability of the regulation if EPA were to promulgate a regulation that contains a list of the industrial and commercial conditions of use evaluated in the 2020 Risk Evaluation for 1–BP.

EPA also requests comment on whether, rather than just excluding the consumer and commercial uses of 1–BP in insulation from the prohibitions and other requirements in this risk management rulemaking, EPA should more broadly exclude the use of articles under TSCA section 6(c)(2)(E), which would also exclude the use of 1–BP in articles that were not specifically evaluated in the 2020 Risk Evaluation for 1–BP, and if so, whether and how to define ''article'' for the purposes of this rulemaking.

EPA further notes that this proposed rule does not apply to any substance excluded from the definition of ''chemical substance'' under TSCA 3(2)(B)(ii) through (vi). Those exclusions include, but are not limited to, any pesticide (as defined by the Federal Insecticide, Fungicide, and Rodenticide Act) when manufactured, processed, or distributed in commerce for use as a pesticide; and any food, food additive, drug, cosmetic, or device, as defined in section 201 of the Federal Food, Drug, and Cosmetic Act (FFDCA), when manufactured, processed, or distributed in commerce for use as a food, food additive, drug, cosmetic or device.

2. Description of Unreasonable Risk Under the Conditions of Use

EPA has determined that 1–BP presents an unreasonable risk of injury to human health under the conditions of use based on acute and chronic non-cancer risks and chronic cancer risks (Ref. 2). As described in the TSCA

section 6(b) 2020 Risk Evaluation for 1–BP, EPA identified non-cancer adverse effects from acute and chronic inhalation and dermal exposures to 1–BP, and cancer from chronic inhalation and dermal exposures to 1–BP (Ref. 1). For this proposed rulemaking, EPA has determined that protecting people from 1–BP-related cancer would also protect people from unreasonable risks for other 1–BP-related acute or chronic adverse health effects. EPA identified non-cancer adverse effects from acute inhalation and dermal exposures and non-cancer adverse effects from chronic inhalation and dermal exposures for all conditions of use (Ref. 1). Additional risks associated with other adverse effects (*e.g.,* developmental toxicity, reproductive toxicity, liver toxicity, kidney toxicity, neurotoxicity) were identified for acute and chronic exposures. EPA also concluded, based on EPA's Guidelines for Carcinogen Risk Assessment (Ref. 30), that 1–BP is considered to be carcinogenic to workers and ONUs by all routes of exposure and calculated cancer risks from chronic inhalation and dermal exposures. Unit VI.A. summarizes the health effects and the magnitude of the exposures (Ref. 1).

To make the unreasonable risk determination for 1–BP, EPA evaluated exposures to workers, ONUs, consumer users, and bystanders to consumer use, using reasonably available monitoring and modeling data for inhalation and dermal exposures (Ref. 2). The August 2020 Risk Evaluation for 1–BP did assess the water pathway based on environmental fate characteristics and monitoring and modeling data. Based on this analysis, EPA determined that 1–BP would be unlikely to be present in surface water (Ref. 1). EPA conducted a screening level analysis to determine whether there may be potential risks from the ambient air pathway to fenceline communities. A discussion of EPA's analysis and the expected effects of this rulemaking on fenceline communities and the ongoing revisions of National Emission Standards for Hazardous Air Pollutants (NESHAPs) under the CAA is in Unit VI.A.

For the 2020 Risk Evaluation for 1–BP, EPA considered PESS. EPA identified the following groups as PESS: workers, ONUs, consumers, bystanders, and those with certain pre-existing health conditions, higher body fat content, or particular genetic polymorphisms (Ref. 1). Furthermore, the developing fetus and (by extension) women of childbearing age were identified as susceptible life stages (Ref. 1). All PESS and susceptible life stages are included in the quantitative and qualitative analyses described in the risk evaluation and were considered in the determination of unreasonable risk for 1–BP. As discussed in Units II.D. and VI.A., the 2020 Risk Evaluation for 1–BP did not fully assess the ambient air exposure pathways to the general population in the published risk evaluation; this may have caused some risks to be unaccounted for in the risk evaluation and in EPA's risk determination. EPA considers people in communities in proximity to facilities using 1–BP who are exposed to 1–BP through the ambient air pathway to constitute a subset of the general population and categorizes them as fenceline communities; they may also be considered PESS. See Unit VI.A. for further discussion on assessing and protecting against risk to fenceline communities.

3. Description of TSCA Section 6 Requirements for Risk Management

EPA examined the TSCA section 6(a) requirements (listed in Unit III.A.) to identify which ones have the potential to eliminate the unreasonable risk for 1–BP. This unit summarizes the TSCA section 6 considerations for issuing regulations under TSCA section 6(a). Unit V. outlines how EPA applied these considerations specifically to managing the unreasonable risk from 1–BP.

As required, EPA developed a proposed regulatory action and one or more primary alternative regulatory actions, which are described in Units IV.A. and IV.B., respectively. To identify and select a regulatory action, EPA considered the two routes of exposure driving the unreasonable risk, inhalation and dermal, and the exposed populations. For occupational conditions of use (see Unit III.B.1.f.), EPA considered how it could directly regulate manufacturing (including import), processing, distribution in commerce, industrial and commercial use, or disposal to address the unreasonable risk. EPA does not have direct authority to regulate consumer use. Therefore, EPA considered how it could exercise its authority under TSCA to regulate the manufacturing (including import), processing, and/or distribution in commerce of 1–BP at different points in the supply chain to eliminate exposures or restrict the availability of 1–BP and 1–BP-containing products for consumer use in order to address the unreasonable risk.

As required by TSCA Section 6(c)(2), EPA considered several factors, in addition to identified unreasonable risk, when selecting among possible TSCA section 6(a) requirements. To the extent practicable, EPA factored into its decisions: (1) the effects of 1–BP on health and the environment, (2) the magnitude of exposure to 1–BP of human beings and the environment, (3) the benefits of 1–BP for various uses, and (4) the reasonably ascertainable economic consequences of the rule. In evaluating the reasonably ascertainable economic consequences of the proposed rule, EPA considered (1) the likely effect of the proposed rule on the national economy, small business, technological innovation, the environment, and public health, (2) the costs and benefits of the proposed regulatory action and one or more primary alternative regulatory actions considered, and (3) the cost effectiveness of the proposed regulatory action and of the one or more primary alternative regulatory actions considered. See Unit VI. for further discussion related to TSCA section 6(c)(2)(A) considerations, including the statement of effects of the proposed rule with respect to these considerations.

EPA also considered the regulatory authority under TSCA and other statutes such as the OSH Act, the Consumer Product Safety Act (CPSA), and other EPA-administered statutes to examine (1) whether there are opportunities for all or part of risk management action on 1–BP to be addressed under other statutes, such that a referral may be warranted under TSCA sections 9(a) or 9(b); or (2) whether TSCA section 6(a) regulation could include alignment of requirements and definitions in and under existing statutes to minimize confusion to the regulated entities and the general public.

In addition, EPA followed other TSCA requirements such as considering the availability of alternatives when contemplating prohibition or a substantial restriction (TSCA section 6(c)(2)(C), as outlined in Unit V.B.), and setting proposed compliance dates in accordance with the requirements in TSCA section 6(d)(1) (described in the proposed and alternative regulatory actions in Unit IV.).

To the extent information was reasonably available, when selecting regulatory actions, EPA considered pollution prevention and the hierarchy of controls adopted by OSHA and NIOSH, with the goal of identifying risk management control methods that are permanent, feasible, and effective. EPA also considered how to address the unreasonable risk while providing flexibility to the regulated entities where appropriate. EPA considered the information presented in the 2020 Risk Evaluation for 1–BP, as well as additional input from stakeholders (as described in Unit III.A.), and anticipated

compliance strategies from regulated entities.

Taken together, these considerations led EPA to the proposed regulatory action and primary alternative regulatory actions described in Unit IV. Additional details related to how the requirements in this unit were incorporated into development of those actions are in Unit V.

As demonstrated by the number of distinct programs addressed in this rulemaking and the structure of this proposed rule in addressing them independently, EPA generally intends the rule's provisions to be severable from each other. EPA expects to provide additional detail on severability in the final rule once the Agency has considered public comments and finalized the regulatory language.

IV. Proposed and Alternative Regulatory Actions

This unit describes the proposed regulatory action by EPA so that 1–BP will no longer present an unreasonable risk of injury to health. In addition, as indicated by TSCA section 6(c)(2)(A), EPA must consider the costs and benefits and the cost-effectiveness of the proposed regulatory action and one or more primary alternative regulatory actions. In the case of 1–BP, the proposed regulatory action is described in Unit IV.A. and the two alternative regulatory actions considered are described in Unit IV.B. An overview of the proposed regulatory action and two alternative regulatory actions for each condition of use is in Unit IV.C. The rationale for the proposed and alternative regulatory actions and associated compliance timeframes are discussed in this unit and in more detail in Unit V.A.

A. Proposed Regulatory Action

EPA is proposing under TSCA section 6(a) to: (1) prohibit the manufacture (including import), processing, and distribution in commerce of 1–BP for all consumer uses, excluding the use of 1–BP in insulation, outlined in Unit IV.A.1.b.; (2) prohibit the industrial and commercial use of 1–BP for four occupational uses, and the manufacture (including import), processing, and distribution in commerce of 1–BP for those uses, outlined in Unit IV.A.1.a.; (3) require strict workplace controls, including a 1–BP WCPP, which would include requirements to meet an inhalation exposure concentration limit and use of gloves for seven occupational conditions of use, outlined in Unit IV.A.2.; (4) require self-certification, which would document the purchaser's commitment to comply with the 1–BP WCPP, for six occupational conditions of use, outlined in Unit IV.A.1.4.; (5) require the use of prescriptive controls for six occupational conditions of use, outlined in Unit IV.A.1.3.; and (6) establish recordkeeping and downstream notification requirements, outlined in Unit IV.A.5. Pursuant to TSCA section 12(a)(2), this proposed rule would apply to 1–BP even if being manufactured, processed, or distributed in commerce solely for export from the United States because EPA has determined that 1–BP presents an unreasonable risk to health within the United States or to the environment of the United States.

EPA notes that some uses identified for prohibitions, the WCPP, or self-certification were identified within larger conditions of use in the 2020 Risk Evaluation for 1–BP. The regulatory action proposed for each use is described in this unit, and the rationale is provided in Unit V.

1. Prohibitions of Manufacturing, Processing, Distribution in Commerce, and Use

a. Prohibition of Certain Industrial and Commercial Uses and Manufacturing, Processing, and Distribution of 1–BP for Those Uses

EPA is proposing to prohibit the manufacturing, processing, distribution in commerce, and use of 1–BP for industrial and commercial uses of 1–BP except for those uses which would continue under the WCPP, self-certification, and/or prescriptive controls. The proposed prohibitions under TSCA would not apply to any use of 1–BP that is excluded from TSCA's definition of ''chemical substance'' under TSCA section 3(2)(B)(ii)(vi). This proposed prohibition would include a prohibition on the manufacturing (including import), processing, distribution in commerce, and use of 1–BP for the following industrial and commercial uses:

- In adhesives and sealants;
- In dry cleaning solvents, spot cleaners and stain removers;
- In coin and scissor cleaner (liquid, spray, or aerosol cleaners); and
- In other uses in arts, crafts, hobby materials (adhesive accelerant); automotive care products (engine degreaser, brake cleaner, refrigerant flush); anti-adhesive agents (mold cleaning and release product); functional fluids (closed/open-systems)—refrigerant/cutting oils.

As discussed in Units III.B.3. and V.A., based on consideration of alternatives under TSCA section 6(c)(2)(C), uncertainty relative to the feasibility of exposure reduction to sufficiently address the unreasonable risk across the broad ranges of work environments and activities, and the irreversible health effects associated with 1–BP exposures, EPA has determined that prohibition is the best way to address the unreasonable risks from 1–BP contributed by the conditions of use identified in this unit. As noted in Unit III.B.1.f., this proposal does not apply to any substance excluded from the definition of ''chemical substance'' under TSCA section 3(2)(B)(ii) through (vi).

EPA is proposing to stagger the compliance dates for the proposed prohibitions described in this unit, such that the requirements would come into effect in 6 months for manufacturers, 9 months for processors, 12 months for distributing to retailers, 15 months for all distributors (including retailers), and 18 months for industrial and commercial users after the publication date of the final rule. When proposing these compliance dates as required under TSCA section 6(d), EPA considered the irreversible health effects and risks associated with 1–BP exposure. EPA has no reasonably available information indicating that the proposed compliance dates are not practicable for the activities that would be prohibited, or that additional time would be needed for products to clear the channels of trade. For 1–BP, for the conditions of use EPA is proposing to prohibit, the Agency believes either 1–BP may no longer be used, or regulated entities would be able to meet the proposed regulatory compliance timeframes, due to availability of alternatives. EPA recognizes that for other proposed regulations under TSCA section 6, including methylene chloride (88 FR 28284, May 3, 2023 (FRL–8155–02–OCSPP), perchloroethylene (88 FR 39652, June 16, 2023) (FRL–8329–02–OCSPP), and carbon tetrachloride (88 FR 49180, July 28, 2023) (FRL–8206–01–OCSPP), public comments have provided information in support of longer compliance timeframes. Similarly, for 1–BP, EPA requests comment on whether additional time is needed, for example, for products to clear the channels of trade, or for implementing the use of substitutes; comments should include documentation such as the specific use of the chemical throughout the supply chain; concrete steps taken to identify, test, and qualify substitutes for those uses (including details on the substitutes tested and the specific certifications that would require updating); and estimates of the time

required to identify, test, and qualify substitutes with supporting documentation. EPA also requests comment on whether there are other considerations that should apply. EPA may finalize shorter or significantly longer compliance timeframes based on consideration of public comments. EPA would also like comment on whether it should consider a *de minimis* level of 1–BP in formulations for certain continuing industrial and commercial uses to account for impurities (*e.g.,* 0.1% or 0.5%) when finalizing these prohibitions, and, if so, what level should be considered *de minimis*.

b. Prohibition of Manufacturing, Processing and Distribution in Commerce of 1–BP for Consumer Use

In the 2020 Risk Evaluation for 1–BP, EPA evaluated consumer uses of 1–BP:

- As a solvent in aerosol spray degreasers/cleaners;
- In spot cleaners and stain removers;
- In liquid coin cleaners (*e.g.,* coin and scissor cleaners);
- In liquid spray/aerosol cleaners;
- In arts, crafts, hobby materials (adhesive accelerant);
- In automotive care products (refrigerant flush);
- In anti-adhesive agents (mold cleaning and release products); and
- In building/construction materials in insulation.

The consumer uses evaluated in the 2020 Risk Evaluation for 1–BP constitute all known, intended, and reasonably foreseen consumer uses of 1–BP. EPA determined that all of these consumer uses, except for the use of 1–BP in insulation, contribute to unreasonable risk of injury to health. As such, for purposes of this risk management rulemaking, ''consumer use'' refers to all consumer uses including known, intended, and reasonably foreseen consumer uses for 1–BP. EPA is proposing to prohibit the manufacturing, processing, and distribution in commerce of 1–BP for consumer use, except for the consumer use of 1–BP in insulation.

As discussed in Units III.B.3. and V.A., based on consideration of the severity of the hazards of 1–BP in conjunction with the limited options available to adequately address the identified unreasonable risk to consumers and bystanders under TSCA section 6(a), EPA is proposing to address the unreasonable risk from consumer use by prohibiting the manufacturing (including import), processing, and distribution in commerce of 1–BP for consumer use, in order to remove 1–BP and products containing 1–BP from the market, thereby effectively eliminating instances of consumer use that contribute to the unreasonable risk of injury to health.

Additionally, EPA is proposing to prohibit retailers from distributing in commerce 1–BP, including any 1–BP-containing products except insulation products, in order to prevent products intended for industrial and commercial use from being purchased by consumers. A retailer is any person or business entity that distributes or makes available chemical substances or products containing chemical substances to consumers, including through e-commerce internet sales or distribution. If a person or business entity distributes or makes available any product to at least one consumer, then it is considered a retailer (as EPA proposes to define that term in 40 CFR 751.5). For a distributor not to be considered a retailer, the distributor must distribute or make available chemical substances solely to commercial or industrial end-users or businesses. Prohibiting manufacturers (including importers), processors, and distributors from distributing 1–BP, or any products except insulation containing 1–BP, to retailers would prevent retailers from making these products available to consumers, which would help address that part of the unreasonable risk associated with consumer use of 1–BP. EPA is requesting comment on commercial distribution channels or systems that would allow for distribution to commercial users while preventing retailers from making these products available to consumers, or feasible distribution channels for commercial users that have been developed in analogous situations, including information on whether there are market barriers to such systems.

EPA is proposing that the prohibitions of manufacturing, processing, and distribution in commerce of 1–BP for consumer use described in this unit would become effective in 6 months for manufacturers, 9 months for processers, 12 months for distributing to retailers, and 15 months for all other distributors (including retailers) after the publication date of the final rule in the **Federal Register**. EPA considered the irreversible health effects and risks associated with 1–BP when proposing compliance dates. EPA has no reasonably available information indicating these proposed compliance dates are not practicable for the activities that would be prohibited, or that additional time is needed for products to clear the channels of trade. However, EPA requests comment on whether additional time is needed, for example, for products to clear the channels of trade. EPA may finalize shorter or significantly longer compliance timeframes based on public comment.

2. Workplace Chemical Protection Program (WCPP)

a. Overview

As described in Unit III.B.3., under TSCA section 6(a), EPA is required to issue a regulation applying one or more of the TSCA section 6(a) requirements to the extent necessary so that the unreasonable risk of injury to health or the environment from a chemical substance is no longer presented. The TSCA section 6(a) requirements provide EPA the authority to limit or restrict a number of activities, alone or in combination, including the manufacture, processing, distribution in commerce, commercial use, and disposal of the chemical substance. Given this authority, EPA may find it appropriate in certain circumstances to propose requirements under a WCPP for certain occupational (*i.e.,* manufacturing, processing, industrial and commercial use, and disposal) conditions of use. A WCPP for 1–BP would encompass the inhalation exposure limit and action level, the associated implementation requirements, and may include other components, such as respiratory protection or dermal protection, as described in this unit to ensure that the chemical substance no longer presents unreasonable risk. Under a WCPP, owners or operators would have some flexibility, within the parameters outlined in this unit, regarding how they prevent exceedances of the identified EPA exposure limit thresholds. In the case of 1–BP, meeting the EPA exposure limits, in tandem with other requirements as listed in this proposed rule, for certain occupational conditions of use would address unreasonable risk to potentially exposed persons from inhalation and dermal exposure.

EPA uses the term ''potentially exposed person'' in this unit and in the regulatory text to include workers, occupational non-users, employees, independent contractors, employers, and all other persons in the work area where 1–BP is present and who may be exposed to 1–BP under the conditions of use for which a WCPP would apply. One important reason to define a potentially exposed person for the purposes of a WCPP as any person who may be exposed in the workplace is to emphasize the broad scope of exposures which must be categorized when

implementing a WCPP. EPA notes that this definition is intended to apply only in the context of risk management, and specifically in the context of a WCPP (*e.g.,* workers directly using the chemical, workers in the vicinity of the use, students in a laboratory setting). The term is not intended as a replacement for the term Potentially Exposed or Susceptible Subpopulation as defined by TSCA section 3(12). EPA additionally recognizes that other individuals or communities may be exposed to 1–BP as consumers, members of fenceline communities, or members of the general population, which is separate and apart from those potentially exposed for the purposes of the regulatory requirements of the WCPP. In those instances, where regulatory requirements address exposures unrelated to a WCPP EPA would use distinct terminology to refer to those other populations. EPA's intention is to require a comprehensive WCPP that would address the unreasonable risk from 1–BP to potentially exposed persons directly handling the chemical or in the area where the chemical is being used.

Similarly, the 2020 risk evaluation for 1–BP did not distinguish between employers, contractors, or other legal entities or businesses that manufacture, process, distribute in commerce, use, or dispose of 1–BP. EPA uses the term ''owner or operator'' to describe the entity responsible for implementing the WCPP for workplaces where an applicable condition of use of 1–BP is occurring. The term includes any person who owns, leases, operates, controls, or supervises such a workplace.

An ECEL is a risk-based inhalation exposure threshold. The ECEL would be accompanied by monitoring, training, recordkeeping and other requirements to help ensure that the threshold is not exceeded. With an ECEL, regulated entities have some flexibility, within certain parameters outlined in this unit, for preventing exceedances of the identified exposure threshold. Therefore, EPA generally refers to the ECEL and ancillary requirements as a non-prescriptive approach. In the case of 1–BP, the exposure threshold identified by EPA for certain occupational conditions of use would mitigate unreasonable risks from inhalation exposure contributed by those conditions of use for potentially exposed persons.

This unit includes a summary of the proposed 1–BP WCPP, including a description of the ECEL; proposed implementation requirements and a TSCA ECEL action level; proposed monitoring requirements; a description of potential exposure controls, which consider the hierarchy of controls; information that may be used to inform PPE selection; and additional requirements proposed for recordkeeping, and worker training, participation, and notification. This unit also describes compliance timeframes for these proposed requirements.

b. Existing Chemical Exposure Limit (ECEL)

i. ECEL and ECEL Action Level

To reduce exposures in the workplace and address the unreasonable risk of injury to health resulting from inhalation exposures to 1–BP identified under the occupational conditions of use in the TSCA 2020 Risk Evaluation for 1–BP, EPA is proposing an ECEL of 0.05 parts per million (ppm) (0.25 mg/m3) for inhalation exposures to 1–BP as an 8-hour TWA. This ECEL is based on the cancer inhalation unit risk (IUR) at a risk level of 1×10^{-4}, which is the most sensitive hazard value across acute, chronic non-cancer, and cancer endpoints, (Refs. 12, 1). As described in the ECEL memo documenting EPA's approach for determining the exposure limit, EPA expects that, at the ECEL value of 0.05 ppm based on the cancer endpoint, a worker or ONU is protected against other endpoints, including developmental effects.

EPA has determined, as a matter of risk management policy, that ensuring exposures remain at or below the ECEL would eliminate the contribution to the unreasonable risk of injury to health for 1–BP resulting from inhalation exposures in an occupational setting. EPA is proposing to establish requirements to meet an ECEL as part of the WCPP for:

- Manufacturing (domestic manufacturing);
- Processing as incorporation into a formulation, mixture, or reaction products;
- Industrial and commercial use as a solvent in open-top and in-line batch vapor degreasing;
- Industrial and commercial use as a solvent in closed-loop vapor degreasing;
- Industrial and commercial use as a solvent for cleaning and degreasing in cold cleaners;
- Industrial and commercial use as a solvent in aerosol spray degreaser/cleaner; and
- Industrial and commercial use in other uses in electronic and electronic products and metal products; laboratory chemicals; asphalt extraction; and coatings for temperature indicators.

Each owner or operator of a workplace where these conditions of use occur would be responsible for compliance with the ECEL and the associated requirements. EPA's description for how the requirements related to an ECEL would address the unreasonable risk resulting from inhalation exposures and the rationale for this regulatory approach are outlined in Units III.B.3. and V.A.

If ambient exposures are kept at or below the 8-hour ECEL of 0.05 ppm, EPA expects that a potentially exposed person in the workplace would be protected against non-cancer effects resulting from occupational exposures, as well as excess risk of cancer (Ref. 12).

EPA is also proposing to establish an ECEL action level of 0.03 ppm as an 8-hour TWA for 1–BP. Air concentrations at or above the action level would trigger more frequent periodic monitoring of exposures to 1–BP, as described in this unit. EPA is proposing to adopt the action level approach in implementing the TSCA ECEL, consistent with the action level approach utilized by OSHA in the implementation of OSHA standards. As explained by OSHA, due to the variable nature of employee exposures, compliance with an action level provides employers with greater assurance that their employees will not be exposed to concentrations above the PELs (Ref. 31). EPA agrees with this reasoning and, like OSHA, expects the inclusion of an ECEL action level will stimulate innovation within industry to reduce exposures to levels below the action level. Therefore, EPA has identified a need for an action level for 1–BP and is proposing a level that is lower than the 8-hour ECEL, which is in alignment with the precedented approach established under most OSHA standards. EPA is soliciting comment regarding an ECEL action level that is lower than the ECEL.

In summary, EPA is proposing that each owner or operator of a workplace subject to the ECEL must ensure that no person is exposed to airborne concentration of 1–BP in excess of 0.05 ppm as an 8-hr TWA, with an action level identified as 0.03 ppm as an 8-hr TWA. For conditions of use for which requirements to meet an ECEL are being proposed, EPA believes that the regulated community has the ability to detect the values for the ECEL and ECEL action level as they are above the threshold of 1–BP monitoring devices, which can detect concentration levels as low as ≤0.0005 ppm (Ref. 12). The Agency has also identified personal breathing zone air sampling devices with a minimum limit of quantitation and level of detection at the ECEL level. (Ref. 12) EPA is requesting comment on

issues around the viability of current analytical methods and detection limits for occupational 1–BP sampling and/or monitoring methods, including information on the availability of laboratory capacity needed to meet the proposed standard, and the costs associated with such testing. EPA's methodology and inputs for the ECEL value are directly derived from the peer reviewed analysis in the August 2020 Risk Evaluation, which was also subject to public comment. See Ref 2 for additional information on the ECEL value and cancer risk. As with all aspects of this rulemaking, the public is welcome to comment on the methodology for the ECEL value and ECEL action level.

EPA expects that many workplaces already have stringent controls in place that reduce exposures to 1–BP; for some workplaces, including those engaged in vapor degreasing, cold cleaning, and use of 1–BP in electronics and electronic products, EPA understands that these existing controls may already reduce 1–BP air concentration levels to near or below the ECEL (Ref. 32). As discussed further in Unit V.A.1., for some conditions of use for which EPA is proposing the ECEL, data were submitted during the risk evaluation that indicate inhalation exposures may already be near or below the ECEL for some facilities, indicating that such facilities may already be in compliance with the proposed ECEL. As noted previously in this unit, EPA expects that, if inhalation exposures for affected occupational conditions of use are kept at or below the ECEL, potentially exposed persons reasonably likely to be exposed in the workplace would be protected from the unreasonable risk.

EPA is also proposing to require owners or operators to comply with additional requirements under the WCPP that would be needed to ensure successful implementation of the ECEL.

ii. Monitoring Results

Overview. Monitoring requirements are a key component of implementing EPA's proposed WCPP. Initial monitoring for 1–BP is critical for establishing a baseline of exposure for potentially exposed persons; similarly, periodic exposure monitoring assures continued compliance so that potentially exposed persons in the workplace are not exposed to levels that would result in an unreasonable risk of injury. Periodic exposure monitoring frequency could change if certain conditions are met, which are described in this unit. Additionally, in some cases, a change in workplace conditions with potential to impact exposure levels would warrant additional monitoring, which is also described. To ensure compliance with monitoring activities, EPA proposes exposure monitoring recordkeeping requirements outlined in this unit.

Initial Exposure Monitoring. Under the proposed regulation, each owner or operator of a workplace where any conditions of use listed earlier in this unit is occurring would be required to perform initial exposure monitoring to determine the extent of exposure of potentially exposed persons to 1–BP. Initial monitoring would notify owner or operators of the magnitude of possible exposures to their potentially exposed persons with respect to their unique work conditions and environments. The results of the initial exposure monitoring would determine the frequency of future periodic monitoring, whether additional exposure controls are necessary (such as engineering controls, administrative controls, and/or respiratory protection), and whether the owner or operator would need to demarcate a regulated area as described in this unit.

EPA is proposing to require each owner or operator to establish an initial baseline monitoring sample to determine the magnitude of exposure for all persons who may be exposed to 1–BP within 33 months for Federal agencies and Federal contractors acting for or on behalf of the Federal Government and within 6 months after the date of publication of the final rule in the **Federal Register** for non-Federal owners and operators, or within 30 days of introduction of 1–BP into the workplace, whichever is later. Where 1–BP is present in the workplace, each owner or operator would be required to determine each potentially exposed person's exposure by either taking a personal breathing zone air sample of each potentially exposed person or taking personal breathing zone air samples that are representative of each potentially exposed person's exposure performing the same or substantially similar operations in each work shift, in each job classification, and in each work area (hereinafter identified as an ''exposure group''). Personal breathing zone air samples are representative of the 8-hour TWA of all potentially exposed persons in an exposure group if the samples are of at least one person's full-shift exposure who represents the highest potential 1–BP exposures in that exposure group. Monitoring samples must be taken when and where the operating conditions are best representative of each potentially exposed person's full-shift exposures. EPA expects that owners and operators would attempt to monitor a baseline for all of the tasks during the same timeframe; however, EPA understands that certain tasks occur less frequently, and EPA is soliciting comments regarding the timing of the initial exposure monitoring so that it would be representative of all tasks involving 1–BP where exposures may approach the ECEL action level. If the owner or operator chooses a representative sample, such sampling must include persons that are the closest to the source of 1–BP, so that the monitoring results are representative of the most highly exposed persons in the workplace.

EPA also recognizes that some entities may already have exposure monitoring data. If the owner or operator has monitoring data conducted within five years prior to the effective date of the final rule and the monitoring satisfies all other requirements of this section, including the requirement that the data represent the highest 1–BP exposures likely to occur under reasonably foreseeable conditions of use, the owner or operator may rely on such earlier monitoring results for the initial baseline monitoring sample.

Periodic exposure monitoring. EPA is proposing to require each owner or operator to conduct, for those exposure groups that exceed the following airborne concentration levels, the following periodic monitoring:

- If samples taken during the initial exposure monitoring reveal a concentration below the ECEL action level (<0.03 ppm 8-hr TWA), the owner or operator must repeat the periodic exposure monitoring at least once every 5 years.
- If the most recent exposure monitoring indicates that airborne exposure is above the ECEL (>0.05 ppm 8-hour TWA), the owner or operator must repeat the periodic exposure monitoring within 3 months of the most recent exposure monitoring.
- If the most recent exposure monitoring indicates that airborne exposure is at or above the ECEL action level (≥ 0.03 ppm 8-hour TWA) but at or below the ECEL (≤ 0.05 ppb 8-hour TWA), the owner or operator must repeat the periodic exposure monitoring within 6 months of the most recent exposure monitoring.
- If the most recent (non-initial) exposure monitoring indicates that airborne exposure is below the ECEL action level, the owner or operator must repeat such monitoring within 6 months of the most recent monitoring until two consecutive monitoring measurements, taken at least seven days apart, are below the ECEL action level (<0.03 ppb 8-hour TWA), at which time the owner

or operator must repeat the periodic exposure monitoring at least once every 5 years.

Additionally, in instances where an owner or operator does not manufacture, process, use, or dispose of 1–BP for a condition of use for which the WCPP is proposed over the entirety of time since the last required periodic monitoring event, EPA is proposing that the owner or operator would be permitted to forgo the next periodic monitoring event. However, documentation of cessation of use of 1–BP would be required and periodic monitoring would be required to resume should the owner or operator restart any of the conditions of use listed in Unit IV.A.2. for which the WCPP is proposed. The timeframe for periodic monitoring after an owner or operator restarts a condition of use would be based on the most recent monitoring measurements and the timeframe would begin from the date of restart.

The proposed periodic monitoring requirements are also outlined in Table 1. EPA requests comment on the proposed timeframes for periodic monitoring outlined in this unit. EPA may finalize significantly shorter or longer compliance timeframes based on public comment.

TABLE 1—PERIODIC MONITORING REQUIREMENTS

Air concentration condition	Periodic monitoring requirement
If initial exposure monitoring is below the ECEL action level (<0.03 ppm 8-hour TWA).	Periodic exposure monitoring is required at least once every five years.
If the most recent exposure monitoring indicates that airborne exposure is above the ECEL (>0.05 ppm 8-hr TWA).	Periodic exposure monitoring is required within 3 months of the most recent exposure monitoring.
If the most recent exposure monitoring indicates that airborne exposure is at or above the ECEL action level, but at or below the ECEL (≥ 0.03 ppm 8-hr TWA, ≤ 0.05 ppm 8-hr TWA).	Periodic exposure monitoring is required within 6 months of the most recent exposure monitoring.
If the two most recent (non-initial) exposure monitoring measurements, taken at least seven days apart within a 6 month period, indicate exposure is below the ECEL action level (<0.03 ppm 8-hr TWA).	Periodic exposure monitoring is required within 5 years of the most recent exposure monitoring.
If the owner or operator engages in a condition of use for which the ECEL would be required but does not manufacture, process, use, or dispose of 1–BP in that condition of use over the entirety of time since the last required monitoring event.	The owner or operator may forgo the next periodic monitoring event. However, documentation of cessation of use of 1–BP is required and periodic monitoring would be required immediately when the owner or operator resumes any condition of use.

Additional exposure monitoring. In addition to the initial and periodic exposure monitoring, EPA is proposing that each owner or operator conduct additional exposure monitoring within 30 days after there has been a change in the production, process, control equipment, personnel or work practices that may reasonably be expected to result in new or additional exposures at or above the ECEL action level, or when the owner or operator has any reason to believe that new or additional exposures at or above the ECEL action level have occurred, for example if an owner or operator receives information from potentially exposed person(s) suggesting that such new or additional exposures may have occurred. In the event of start-up, shutdown, spills, leaks, ruptures or other breakdowns or unexpected releases that may lead to employee exposure, EPA is proposing that each owner or operator must conduct exposure monitoring of potentially exposed persons (using personal breathing zone sampling) within 30 days after the conclusion of the start-up or shutdown and/or the cleanup of the spill or repair of the leak, rupture or other breakdown. An additional exposure monitoring event may result in an increased frequency of periodic monitoring. For example, if the initial monitoring results from a workplace are above the ECEL action level, but below the ECEL, periodic monitoring is required every 6 months. If additional monitoring is performed because increased exposures are suspected, and the results are above the ECEL, subsequent periodic monitoring would have to be performed every 3 months. The required additional exposure monitoring should not delay implementation of any necessary cleanup or other remedial action to reduce the exposures to persons in the workplace.

EPA is requesting comment on the proposed timeframe of within 30 days to conduct additional exposure monitoring after there has been a change in the production, process, control equipment, personnel or work practices may reasonably be expected to result in new or additional exposures at or above the ECEL action level, or when the owner or operator has any reason to believe that new or additional exposures at or above the ECEL action level have occurred. EPA is also requesting comment on the proposed timeframe of within 30 days to conduct additional exposure monitoring after the cleanup of the spill or repair of the leak, rupture or other breakdown.

Other monitoring requirements. For each monitoring event, EPA is proposing to require owners or operators to ensure that their methods are accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for airborne concentrations of 1–BP. Also, EPA is proposing to require use of appropriate sampling and analytical methods used to determine 1–BP exposure such as use of an analytical method already approved by EPA, OSHA or NIOSH, or another analytical method that has been demonstrated to meet the proposed accuracy requirement at an appropriate level of detection for the ECEL and ECEL action level by a laboratory in compliance with the Good Laboratory Practice Standards at 40 CFR part 792, or use of a laboratory accredited by the AIHA or another industry-recognized program, as required by proposed 751.807(b)(2)(i)(C). Additionally, EPA is proposing to require owners and operators to re-monitor within 15 working days after receipt of the results of any exposure monitoring when results indicate non-detect or air monitoring equipment malfunction, unless an Environmental Professional as defined at 40 CFR 312.10 or a Certified Industrial Hygienist reviews the monitoring results and determines re-monitoring is not necessary.

EPA is also proposing to require that each owner or operator maintain exposure monitoring records that include the following information for each monitoring event:

(A) Dates, duration, and results of each sample taken.

(B) All measurements that may be necessary to determine the conditions (*e.g.,* work site temperatures, humidity, ventilation rates, monitoring equipment type and calibration dates) that may affect the monitoring results.

(C) Name, workplace address, work shift, job classification, and work area of the person monitored; documentation of all potentially exposed persons whose exposures the monitoring is intended to represent if using a representative sample; and type of respiratory protective device worn by the monitored person, if any.

(D) Use of appropriate sampling and analytical methods, such as analytical methods already approved by EPA, OSHA or NIOSH, or compliance with an analytical method verification procedure.

(E) Compliance with the Good Laboratory Practice Standards at 40 CFR part 792.

(F) Information regarding air monitoring equipment, including: type, maintenance, calibrations, performance tests, limits of detection, and any malfunctions.

iii. Incorporation of the Hierarchy of Controls

EPA is proposing to require owners or operators to implement the WCPP in accordance with the hierarchy of controls and encourages the use of pollution prevention to control exposures whenever practicable. Pollution prevention, also known as source reduction, is any practice that reduces, eliminates, or prevents pollution at its source (*e.g.,* elimination and substitution). Similarly, the hierarchy of controls includes, in order of preference, elimination, substitution, engineering controls, and administrative controls, prior to relying on PPE as a means of controlling exposures (Ref. 8). EPA is proposing to require owners or operators to reduce inhalation exposures to or below the ECEL in accordance with the hierarchy of controls. EPA expects that, for conditions of use for which EPA is proposing a WCPP, compliance at most workplaces would be part of an existing industrial hygiene program. Workplaces that cannot feasibly eliminate the source of 1–BP emissions or replace 1–BP with a substitute would have to use engineering and/or administrative controls to implement process changes to reduce exposures to the extent feasible, following the hierarchy of controls (Ref. 8). If an owner or operator chooses to replace 1–BP with a substitute, EPA recommends that they carefully review the available hazard and exposure information on the potential substitutes to avoid a substitute chemical that might later be found to present unreasonable risks or be subject to regulation (sometimes referred to as a ''regrettable substitute'').

If an effort to identify and implement feasible exposure controls such as elimination, substitution, engineering controls, and administrative controls is not sufficient to reduce exposures to or below the ECEL for all persons in the workplace, EPA proposes to require each owner or operator to use such controls to reduce 1–BP concentrations in the workplace to the lowest levels achievable and, only after levels cannot be further reduced, supplement these controls using respiratory protection before persons are permitted to enter a regulated area, as described in this unit. In such cases, EPA would require that the owner or operator provide those persons exposed or who may be exposed to 1–BP by inhalation above the ECEL with respirators sufficient to ensure that their exposures do not exceed the ECEL, as described in this unit. EPA also proposes to require that each owner or operator document their evaluation of elimination, substitution, engineering and administrative exposure control strategies, and if applicable the reasons why they found these strategies infeasible to control exposures to or below the ECEL, in an exposure control plan as described in this unit. In addition, a regulated entity would be prohibited from rotating work schedules of potentially exposed persons to comply with the ECEL 8-hour TWA. EPA may require more, less, or different documentation regarding exposure control strategies in the final rule based on consideration of public comments.

The Agency understands that certain engineering controls can reduce exposures to people inside the workplace but may lead to increased ventilation of 1–BP outside of the workplace, thereby increasing risks to people in fenceline communities of adverse health effects from exposures to 1–BP in ambient air. Therefore, EPA is proposing to prohibit increased releases of 1–BP to outdoor air associated with the implementation of the WCPP. This proposed requirement is intended to avoid unintended increases in exposures to people from 1–BP emissions to ambient air. The proposed rule would require owners and operators to attest in their WCPP exposure control plan that engineering controls selected do not increase emissions of 1–BP to ambient air outside of the workplace and document in their exposure control plan whether additional equipment was installed to capture emissions of 1–BP to ambient air. EPA requests comment on how this proposed requirement may impact the availability, feasibility, or cost of engineering controls as a means to reduce workplace exposures to or below the proposed ECEL.

iv. Regulated Area

Based on the exposure monitoring, EPA is proposing to require that owners or operators of workplaces subject to a WCPP demarcate any area where airborne concentrations of 1–BP exceed or are reasonably expected to exceed the ECEL. Regulated areas would be demarcated using administrative controls, such as warning signs or highly visible signifiers, in multiple languages as appropriate (*e.g.,* based on languages spoken by potentially exposed persons), placed in conspicuous areas, and documented through training and recordkeeping. The owner or operator would be required to restrict access to the regulated area from any potentially exposed person who lacks proper training, is not wearing required PPE as described in this unit or is otherwise unauthorized to enter. EPA is proposing to require owners and operators to demarcate and establish a regulated area beginning 36 months for Federal agencies and Federal contractors acting for or on behalf of the Federal Government and beginning 9 months for non-Federal owners and operators after the date of publication of the final rule, or within 4 after introduction of 1–BP into the workplace if 1–BP use commences 9 months after the date of publication of the final rule in the **Federal Register**. EPA is soliciting comment on requiring warning signs to demarcate regulated areas, such as the requirements found in OSHA's General Industry Standard for Beryllium (29 CFR 1910.1024(m)(2)).

v. Notification of Monitoring Results

EPA proposes that the owner or operator must, within 15 working days after receipt of the results of any exposure monitoring, notify each person whose exposure is represented by that monitoring in writing, either individually to each potentially exposed person or by posting the information in an appropriate location accessible to all persons whose exposure is represented by the monitoring, such as public spaces or common areas, outside the regulated area. This notice must include the exposure monitoring results, identification and explanation of the ECEL and ECEL action level in plain language, any corresponding required respiratory protection, if applicable, the quantity, location, manner of 1–BP use and identified releases of 1–BP that could result in exposure to 1–BP at the time of monitoring. The notice must also include a description of actions

taken by the owner or operator to reduce inhalation exposures to or below the ECEL, if applicable, or refer to a document available to the potentially exposed persons which states the actions to be taken to reduce exposures, and must be posted in multiple languages if necessary (*e.g.,* notice must be in a language that the potentially exposed person understands, including a non-English language version representing the language of the largest group of workers who cannot readily comprehend or read English).

c. Personal Protective Equipment (PPE) Program

Where elimination, substitution, engineering controls, and administrative controls are not feasible to reduce the air concentration to or below the ECEL for all potentially exposed persons, EPA is proposing to require implementation of a respiratory PPE program in alignment with OSHA's Respiratory Protection Standard at 29 CFR 1910.134. EPA is also proposing to require implementation of a dermal PPE program. Owners and operators would be required to provide PPE, including respiratory protection and dermal protection selected in accordance with the guidelines described in this unit, that is of safe design and construction for the work to be performed. EPA is proposing to require owners and operators to ensure each potentially exposed person who is required by this unit to wear PPE to use and maintain PPE in a sanitary, reliable, and undamaged condition. Owners and operators would be required to select and provide PPE that properly fits each potentially exposed person who is required by this unit to use PPE and communicate PPE selections to each affected person.

As part of the PPE program, EPA is also proposing that owners and operators must comply with OSHA's PPE training requirements at 29 CFR 1910.132(f) or 29 CFR 1910.134(k) for application of a PPE training program, including providing training on proper use of PPE (*e.g.,* when and where PPE is necessary, proper application, wear, and removal of PPE, maintenance, useful life, and disposal of PPE). EPA is proposing that owners and operators would provide PPE training to each potentially exposed person who is required by this unit to wear PPE prior to or at the time of initial assignment to a job involving potential exposure to 1–BP. Owners and operators would also have to re-train each affected person at least once annually or whenever the owner or operator has reason to believe that a previously trained person does not have the required understanding and skill to properly use PPE, or when changes in the workplace or in the PPE to be used render the previous training obsolete.

This unit includes a description of the PPE Program, including proposed PPE as it relates to respiratory protection, proposed PPE as it relates to dermal protection, and other proposed requirements such as additional training for respirators and recordkeeping to support implementation of a PPE program.

i. Respiratory Protection

Where elimination, substitution, engineering controls, and administrative controls are not feasible to reduce the air concentration to or below the ECEL, EPA proposes to set minimum respiratory PPE requirements based on an entity's most recent measured air concentration and the level of PPE that EPA determined would be needed to reduce exposure to the ECEL. In those circumstances, EPA is proposing to require a respiratory protection PPE program with worksite-specific procedures and elements for required respirator use. The respiratory protection PPE program proposed by EPA would be based on the most recent exposure monitoring concentration measured as an 8-hour TWA and would be administered by a suitably trained program administrator. EPA is also proposing to require each owner or operator select respiratory protection in accordance with the guidelines described in this unit and 29 CFR 1910.134(a) through (l), except (d)(1)(iii) for proper respirator use, maintenance, fit-testing, medical evaluation, and training. EPA is not proposing to cross reference 29 CFR 1910.134(d)(1)(iii) because the proposed WCPP contains requirements for identifying 1–BP respiratory hazards in the workplace, including monitoring requirements.

Required Respiratory Protection. EPA is proposing to require that each owner or operator supply a respirator, selected in accordance with this unit, to each person who enters a regulated area within 3 months after the receipt of any exposure monitoring that indicates exposures exceeding the ECEL, or receipt of any exposure monitoring that indicates non-detect or air monitoring equipment malfunction resulting in an unknown concentration, and thereafter must ensure that all persons within the regulated area are using the provided respirators whenever 1–BP exposures exceed or can reasonably be expected to exceed the ECEL, or receipt that indicate non-detect or air monitoring equipment malfunction resulting in an unknown concentration. Given the risks associated with 1–BP exposure above the ECEL, prompt compliance with the respiratory protection requirements is important, but EPA expects that most owners or operators will need some time after the exposure monitoring results are received to acquire the correct respirators and establish a respiratory protection program, including training, fit-testing, and medical evaluations. EPA believes that 3 months should be sufficient for this purpose. EPA is also proposing that owners or operators who are required to administer a respiratory protection PPE program must supply a respirator selected in accordance with 29 CFR 1910.134(d)(1) (except (d)(1)(iii)). Additionally, EPA is proposing that the owner or operator must ensure that all filters, cartridges and canisters used in the workplace are labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible. 29 CFR 1910.134(d)(3)(iii), which EPA is proposing to cross-reference, requires either the use of respirators with an end-of-life service indicator certified by NIOSH for the contaminant, in this case 1–BP, or implementation of a change schedule for canisters and cartridges that ensures that they are changed before the end of their service life. EPA is also requesting comment on whether there should be a requirement to replace cartridges or canisters after a certain number of hours, such as the requirements found in OSHA's General Industry Standard for 1,3-Butadiene (29 CFR 1910.1051), or a requirement for a minimum service life of non-powered air-purifying respirators such as the requirements found in OSHA's General Industry Standard for Benzene (29 CFR 1910.1028(g)(3)(D)).

EPA is proposing to establish minimum respiratory protection requirements, such that any respirator affording a higher degree of protection than the following proposed requirements may be used. While this unit includes respirator selection requirements for respirators of assigned protection factors (APF) of 1,000 or greater, EPA does not anticipate that respirators beyond APF 50 would be widely or regularly used to address unreasonable risk, particularly when other controls are put in place. EPA is proposing the following requirements for respiratory protection, based on the exposure monitoring concentrations measured as an 8-hour TWA that exceed the ECEL (0.05 ppm):

- *If the measured exposure concentration is at or below 0.05 ppm:* no respiratory protection is required.

• *If the measured exposure concentration is above 0.05 ppm and less than or equal to 0.5 ppm (10 times ECEL):* Any NIOSH Approved® air-purifying half mask respirator equipped with organic vapor cartridges or canisters; or any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator operated in demand mode equipped with a half mask; or any NIOSH Approved® Self-Contained Breathing Apparatus (SCBA) in a demand mode equipped with a half mask [APF 10].

• *If the measured exposure concentration is above 0.50 ppm and less than or equal to 1.25 ppm (25 times ECEL):* Any NIOSH Approved® Powered Air-Purifying Respirator (PAPR) equipped with a loose-fitting facepiece or hood/helmet equipped with organic vapor cartridges or canisters; or any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a continuous-flow mode equipped with a loose-fitting facepiece or helmet/hood [APF 25].

• *If the measured exposure concentration is above 1.25 ppm and less than or equal to 2.5 ppm (50 times ECEL):* Any NIOSH Approved® air-purifying full facepiece respirator equipped with organic vapor cartridges or canisters; any NIOSH Approved® Powered Air-Purifying Respirator (PAPR) with a half mask equipped with organic vapor cartridges or canisters; any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a continuous flow mode equipped with a half mask; any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator operated in a pressure-demand or other positive-pressure mode with a half mask; or any NIOSH Approved® SCBA in demand-mode equipped with a full facepiece or helmet/hood [APF 50].

• *If the measured exposure concentration is above 2.5 ppm and less than or equal to 50 ppm (1,000 times ECEL):* Any NIOSH Approved® Powered Air-Purifying Respirator (PAPR) equipped with a full facepiece equipped with organic vapor cartridges or canisters; any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a continuous-flow mode equipped with full facepiece; any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in pressure-demand or other positive-pressure mode equipped with a full facepiece and an auxiliary self-contained air supply; or any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a continuous-flow mode equipped with a helmet or hood and has been tested to demonstrate performance at a level of a protection of APF 1,000 or greater. [APF 1,000].

• *If the measured exposure concentration is greater than 50 ppm (10,000 times ECEL) or the concentration is unknown:* Any NIOSH Approved® Self-Contained Breathing Apparatus (SCBA) in a pressure-demand or other positive-pressure mode equipped with a full facepiece or helmet/hood [APF 10,000].

EPA proposes to require that owners and operators document respiratory protection used and PPE program implementation. EPA proposes to require that owners and operators document in the exposure control plan or other documentation of the facility's safety and health program information relevant to the respiratory program, including records on the name, workplace address, work shift, job classification, work area, and type of respirator worn (if any) by each potentially exposed person, maintenance, and fit-testing, as described in 29 CFR 1910.134(f), and training in accordance with 29 CFR 1910.132(f) and 29 CFR 1910.134(k).

ii. Dermal Protection

EPA is proposing to require owners or operators to provide and ensure potential exposed persons use chemically resistant gloves made of supported polyvinyl alcohol or a multiple-layer laminated material, in accordance with the OSHA/NIOSH Hazard Alert (Ref. 14), in combination with specific activity training (*e.g.,* procedure for glove removal and disposal) for tasks where dermal exposure can be expected to occur. EPA is proposing that owners and operators must also consider other glove factors, such as whether gloves are tested using American Society for Testing Material (ASTM) F73 ''Standard Test Method for Permeation of Liquids and Gases through Protective Clothing Materials under Conditions of Continuous Contact, compatibility of multiple chemicals used simultaneously while wearing 1–BP-resistant gloves, glove liners, permeation, degree of dexterity required to perform a task, and temperature, as identified in the Hand Protection section of OSHA's Personal Protection Equipment Guidance (Ref. 33), when selecting appropriate dermal PPE. EPA requests comment on the degree to which additional guidance or requirements related to use of gloves might be necessary. Additionally, EPA requests comment on whether EPA should incorporate additional dermal protection requirements into the exposure control plan for dermal exposures.

d. General WCPP Requirements

i. Exposure Control Plan

EPA proposes to require that owners and operators document their exposure control strategy and implementation in an exposure control plan. This may be accomplished by adding EPA-required information to any existing documentation of a facility's safety and health program developed as part of meeting OSHA requirements or other safety and health standards. EPA proposes to require that each owner or operator document in the exposure control plan the following:

(A) Identification and rationale of hierarchy of controls used or not used in the following sequence: elimination of 1–BP, substitution of 1–BP, engineering controls, and administrative controls to reduce 1–BP exposures in the workplace to either at or below the ECEL or to the lowest level achievable;

(B) The exposure controls selected based on feasibility, effectiveness, and other relevant considerations;

(C) If exposure controls were not selected, document the efforts identifying why these are not feasible, not effective, or otherwise not implemented;

(D) Actions that must be taken to implement exposure controls selected, including proper installation, regular inspections, maintenance, training or other actions;

(E) Description of any regulated area and how it is demarcated, and identification of authorized persons;

(F) Attestation that exposure controls selected do not increase emissions of 1–BP to ambient air outside of the workplace and whether additional equipment was installed to capture or otherwise prevent increased emissions of 1–BP to ambient air;

(G) Description of activities conducted by the owner or operator to review and update the exposure control plan as necessary, but at least every 5 years, to ensure effectiveness of the exposure controls, identify any necessary updates to the exposure controls, and confirm that all persons are properly implementing the exposure controls;

EPA is proposing that non-Federal owners or operators implement an exposure control plan within 12 months after date of publication of the final rule in the **Federal Register**. EPA requests comment on any advantages or drawbacks for this timeline.

ii. Workplace Information and Training

EPA is also proposing to require implementation of a training program in alignment with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the OSHA General Industry Standard for Methylene Chloride (29 CFR 1910.1052). To ensure that potentially exposed persons in the workplace are informed of the hazards associated with 1–BP exposure, EPA is proposing to require that owners or operators of workplaces subject to the WCPP institute a training and information program for potentially exposed persons and assure their participation in the training and information program.

As part of the training and information program, the owner or operator would be required to provide information and comprehensive training in an understandable manner (*i.e.,* plain language), considering factors such as the skills required to perform the work activity and the existing skill level of the staff performing the work, and in multiple languages as appropriate (*e.g.,* based on languages spoken by potentially exposed persons). This information and training would have to be provided to potentially exposed persons prior to or at the time of initial assignment to a job involving potential exposure to 1–BP. Owners and operators would be required to provide information and training, as referenced in the OSHA Hazard Communication Standard, to all potentially exposed persons that includes: (A) The requirements of the 1–BP WCPP and how to access or obtain a copy of the requirements of the WCPP, including but not limited to the exposure control plan, monitoring requirements, and PPE program; (B) the quantity, location, manner of use, release, and storage of 1–BP and the specific operations in the workplace that could results in 1–BP exposure; (C) principles of safe use and handling of 1–BP in the workplace, including specific measures the owner or operator has implemented to reduce inhalation exposure at or below the ECEL or prevent dermal contact with 1–BP, such as work practices and PPE used; (D) the methods and observations that may be used to detect the presence or release of 1–BP in the workplace (such as monitoring conducted by the owner or operator, continuous monitoring devices, visual appearance or odor of 1–BP when being released, etc.); and (E) the acute and chronic health hazards of 1–BP as detailed on relevant SDSs.

In addition to providing training at the time of initial assignment to a job involving potential exposure to 1–BP, and in alignment with the OSHA General Industry Standard for Beryllium (20 CFR 1910.1024), owners and operators subject to the 1–BP WCPP would be required to re-train each potentially exposed person annually to ensure they understand the principles of safe use and handling of 1–BP in the workplace. Owners and operators would also need to update the training as necessary whenever there are changes in the workplace, such as new tasks or modifications of tasks, in particular, whenever there are changes in the workplace that increase exposure to 1–BP or where potentially exposed persons' exposure to 1–BP can reasonably be expected to exceed the action level. To support compliance, EPA is proposing that each owner or operator of a workplace subject to the WCPP would be required to provide to the EPA, upon request, all available materials related to workplace information and training.

iii. Workplace Participation

EPA encourages owners and operators to consult with persons that have potential for exposure on the development and implementation of exposure control plans and PPE (including respirators) programs. EPA is proposing to require owners or operators to provide potentially exposed persons regular access to the exposure control plans, exposure monitoring records, and PPE program implementation and documentation. To ensure compliance in workplace participation, EPA is proposing that the owner or operator document the notice to and ability of any potentially exposed person to readily access the exposure control plans, facility exposure monitoring records, PPE program implementation, or any other information relevant to 1–BP exposure in the workplace. EPA is also proposing that potentially exposed persons be permitted to observe exposure monitoring. EPA is requesting comment on how owners and operators can engage with potentially exposed persons on the development and implementation of an exposure control plan and PPE program. EPA is also requesting comment on whether EPA should include provisions allowing potentially exposed persons to designate a representative who would then be permitted to observe exposure monitoring and have regular access to exposure-related information at the request of the potentially exposed person.

iv. Recordkeeping

To support and demonstrate compliance, EPA is proposing that each owner or operator of a workplace subject to a WCPP retain compliance records for five years. EPA is proposing to require records to include: (A) The exposure control plan; (B) PPE program implementation and documentation, including as necessary, respiratory protection and dermal protection used and related PPE training; and (C) information and training provided to each person prior to or at the time of initial assignment and any re-training.

In addition, EPA is proposing that owners and operators subject to the WCPP ECEL requirements maintain records to include: (D) the exposure monitoring records; (E) notification of exposure monitoring results; (F) to the extent that the owner or operator relies on prior exposure monitoring data, records that demonstrates that it meets all of the requirements of this section; and (G) the occurrence and duration of any start-up, shutdown, or malfunction of the facility that causes air concentrations to be above the ECEL, and subsequent corrective actions taken during start-up, shutdown, or malfunctions to mitigate exposures to 1–BP.

The owners and operators, upon request by EPA, would be required to make all records that are maintained as described in this unit available to EPA. All records required to be maintained by this unit could be kept in the most administratively convenient form (electronic or paper).

v. Compliance Timeframes

EPA is proposing to require each non-Federal owner and operator of a workplace, other than Federal agencies and Federal contractors acting for or on behalf of the Federal Government, subject to an ECEL conduct initial baseline monitoring according to the process outlined in this unit by 6 months after date of publication of the final rule in the **Federal Register** or within 30 days of introduction of 1–BP into the workplace if 1–BP use commences at least 6 months after the date of publication. EPA is proposing to require each non-Federal owner or operator ensure the airborne concentration of 1–BP does not exceed the ECEL for all persons within 9 months after date of publication of the final rule in the **Federal Register**, or beginning 4 months after introduction of 1–BP into the workplace if 1–BP use commences at least 6 months after the date of publication. EPA is also proposing to require non-Federal

owners and operators to establish and maintain a regulated area within 9 months after the date of publication of the final rule in the **Federal Register**, or beginning 4 months after introduction of 1–BP into the workplace if 1–BP use commences at least 9 months after the date of publication. If applicable, each non-Federal owner or operator must provide respiratory protection sufficient to reduce inhalation exposure to or below the ECEL to all potentially exposed persons in the regulated area within 3 months after receipt of the results of any exposure monitoring that indicates exposures exceeding the ECEL or, if using monitoring data conducted within 5 years prior to the effective date of the final rule that satisfies all other requirements of this section, within 6 months after the date of publication of the final rule in the **Federal Register**. Non-Federal regulated entities must then proceed accordingly to implement an exposure control plan within 12 months after date of publication of the final rule in the **Federal Register**. EPA requests comment relative to the ability of owners or operators to conduct initial monitoring within the timeframes identified in this unit, and anticipated timelines for any procedural adjustments needed to comply with the requirements outlined in this unit, including establishment of a PPE program and development of an exposure control plan.

With regard to the compliance timeframe for those occupational conditions of use which are subject to dermal requirements under the WCPP, EPA is proposing to require each non-Federal owner or operator of a workplace subject to dermal requirements to provide dermal protection as outlined in this unit by 9 months after publication of the final rule in the **Federal Register**.

However, EPA is concerned about the ability of certain departments and agencies of the Federal Government, as well as Federal contractors acting for or on behalf of the Federal Government, to comply with these timeframes. For example, complying with these timeframes could impact the ability of the Department of Defense to continue to engage in vapor degreasing. While, for example, 29 CFR 1960 sets forth procedures and guidelines for ensuring that Federal workers are protected in comparable ways to their non-Federal counterparts, EPA believes that compliance with this proposed rulemaking would require increased and different preparations on the part of Federal agencies. For example, Federal agencies must follow procurement requirements which will likely result in increased compliance timelines. In addition, these requirements would require support in the Federal budget, which, for some agencies, is a multi-year process. Therefore, EPA is generally providing three years for agencies of the Federal Government and their contractors, when acting for or on behalf of the Federal government, to comply with the WCPP. Further, because military construction must follow a lengthy Congressional approval process prior to contracting for and beginning any actual construction work, which takes a minimum of 5 years, EPA is also proposing 5 years after the date of the publication of the final rule for the Department of Defense and Federal contractors acting for or on behalf of the Department of Defense if ongoing or planned construction is necessary to implement the feasible controls required by the WCPP to reduce exposure to or below the ECEL.

When proposing these compliance dates as required under TSCA section 6(d), EPA considered irreversible health effects and risks associated with 1–BP exposure. EPA has no reasonably available information indicating that the proposed compliance dates are not practicable for the activities that would be impacted, or that additional time is needed to implement all aspects of the WCPP. However, EPA requests comment on whether additional time is needed or if there are available substitutes for these applications. As discussed in Unit IV.A.1., EPA recognizes that recent proposed rulemakings under TSCA section 6(a) have received public comments requesting longer compliance timeframes. For 1–BP, EPA believes that the proposed compliance timeframes for the WCPP described in this unit may present fewer compliance challenges for non-Federal owners and operators. than those described by commenters on other rules; for example, under the WCPP, owners or operators would have some flexibility, within the parameters outlined in this unit, regarding how they prevent exceedances of the ECEL. EPA may finalize shorter or longer compliance timeframes based on consideration of public comments.

3. Prescriptive Controls

a. Overview

In contrast to the proposed non-prescriptive requirements of the ECEL where regulated entities would have flexibility to select controls in accordance with the hierarchy of controls to comply with the parameters outlined in this unit, EPA may also find it appropriate in certain circumstances to require specific prescriptive controls for certain occupational conditions of use. In the 2020 Risk Evaluation for 1–BP, EPA identified that the use of gloves would reduce dermal exposures from 1–BP adequate to address the unreasonable risk driven by dermal exposures. Therefore, EPA is proposing to require the use of use of chemically-resistant gloves made of supported polyvinyl alcohol or multiple-layer laminated materials for certain occupational conditions of use, as described in this unit. This unit describes proposed requirements for the gloves, including additional requirements proposed for recordkeeping. This unit also describes compliance timeframes for these proposed requirements.

b. Glove Requirements

For the conditions of use that would not otherwise be prohibited under this proposed regulation or subject to the WCPP, EPA is proposing the owner or operator apply prescriptive controls to reduce dermal exposures in the workplace and address the unreasonable risk of injury to health resulting from dermal exposures to 1–BP. Specifically, EPA is proposing that the owner or operator supply and ensure the use of chemically-resistant gloves made of supported polyvinyl alcohol or multiple-layer laminated materials, by all persons likely to be dermally exposed to 1–BP (including industrial and commercial products containing 1–BP). EPA is proposing to establish glove requirements for:

- Manufacturing (import);
- Processing as a reactant;
- Processing as incorporation into articles;
- Processing by repackaging;
- Recycling; and
- Disposal.

EPA is proposing to require owners or operators of a facility engaged in one or more uses of 1–BP as listed in this unit, to supply and ensure proper use of gloves, as described in this unit and in accordance with the 2020 Risk Evaluation for 1–BP and the OSHA/NIOSH Hazard Alert (Ref. 14). In the 2020 Risk Evaluation for 1–BP, EPA identified the use of gloves with a protection factor (PF) of 5 as adequate to address the unreasonable risk presented by dermal exposures to 1–BP. As described in the 2020 Risk Evaluation for 1–BP, a glove with a protection factor of 5 is a glove ''with available permeation data indicating that the material of construction offers good protection for the substance.''

To further ensure correct glove usage, owners or operators must provide

training in accordance with 29 CFR 1910.132(f) to all persons required to use gloves prior to or at the time of initial assignment to a job involving exposure to 1–BP. EPA is proposing such training be conducted at least annually or whenever the owner or operator has reason to believe that a previously trained person does not have the required understanding and skill to properly use gloves, or when changes in the workplace or in gloves to be used render the previous training obsolete.

To further ensure compliance, EPA proposes to require that owners and operators document the following information, as applicable: (A) The name, workplace address, work shift, job classification, and work area of each person reasonably likely to directly handle 1–BP or handle equipment or materials on which 1–BP may present; (B) the type of glove being used at the facility, either supported polyvinyl alcohol or multiple-layer laminates; and (C) appropriately sized gloves and training on proper application, wear, and removal of gloves, and proper care/disposal of gloves.

EPA is soliciting comments on the requirements proposed in this unit for glove requirements. In addition, EPA understands that some workplaces rinse and reuse gloves after minimal use and is therefore soliciting comments on the impact on effectiveness of rinsing and reusing gloves. EPA also requests comment on the degree to which additional guidance related to use of gloves might be appropriate. EPA notes that disposal of gloves would be addressed by hazardous wastes requirements under 40 CFR 261.33.

EPA is proposing to require each non-Federal owner or operator supply chemically-resistant gloves made of supported polyvinyl alcohol or multiple-layer laminate, in accordance with this unit, to each potentially exposed person within 6 months after publication of the final rule.

As described in Unit IV.A.2.d.v, EPA is concerned about the ability of certain departments and agencies of the Federal Government, as well as Federal contractors acting for or on behalf of the Federal Government, to comply with the proposed timeframes for non-Federal owners and operators. For example, procurement requirements and the need for Federal budget support to implement these requirements will likely result in increased compliance timelines. Therefore, EPA is proposing 36 months for agencies of the Federal Government and their contractors, when acting for or on behalf of the Federal government, to provide and ensure the use of gloves that are chemically-resistant to 1-bromopropane, made of supported polyvinyl alcohol or a multiple-layer laminated materials, by all persons likely to be dermally exposed to 1-bromopropane (including products containing 1-bromopropane).

4. Self-Certification

To ensure the safe and appropriate use of 1–BP, EPA is proposing to require most owners or operators who implement the WCPP to also self-certify as to their implementation of and compliance with the WCPP as a condition of the ability to purchase and use 1–BP in accordance with this regulation. EPA is proposing to establish requirements to self-certify for:

- Processing as incorporation into a formulation, mixture, or reaction product;
- Industrial and commercial use as a solvent in open-top and in-line batch vapor degreasing;
- Industrial and commercial use as a solvent in closed-loop vapor degreasing;
- Industrial and commercial use as a solvent for cleaning and degreasing in cold cleaners;
- Industrial and commercial use as a solvent in aerosol spray degreaser/cleaner; and
- Industrial and commercial use in other uses in electronic and electronic products and metal products; laboratory chemicals; asphalt extraction; and coatings for temperature indicators.

EPA is proposing a point-of-sale self-certification requirement in order to purchase and subsequently use 1–BP for those facilities that have the ability to implement and comply with a WCPP. As discussed further in Unit V.A.1.d., this self-certification would further ensure that only facilities able to implement and comply with a WCPP are able to purchase and use 1–BP. Under a self-certification requirement, entities would submit a self-certification to the distributor each time 1–BP is purchased. The self-certification would consist of a statement indicating that the facility is implementing a WCPP that would include an ECEL, PPE requirements, and ancillary requirements, the self-certification would be signed and presented by the facility owner or operator or person authorized to do so.

Self-Certification Statement. Owners or operators who wish to continue or begin purchasing 1–BP for one or more conditions of use as outlined in this unit must self-certify that each facility engaged in one or more such conditions of use is implementing and complying with all aspects of the WCPP, as outlined in Unit IV.A.2. EPA is proposing the following self-certification statement:

> I certify each of the following statements under penalty of law. This document was prepared under my direction and supervision. This facility's implementation of the WCPP for 1-bromopropane was evaluated by qualified personnel with industrial hygiene qualifications or similar experience and that this facility has implemented and complies with the WCPP for 1-bromopropane. Based on my inquiry of the individual or individuals who manage the facility and/or those individuals directly responsible for implementing the 1-bromopropane WCPP, and to the best of my knowledge and belief, the facility is in compliance with the 1-bromopropane WCPP, including the exposure control plan. I am aware that there are significant penalties, including the possibility of civil penalties for failing to comply with these requirements and criminal fines and imprisonment, for knowingly failing to comply with these requirements. If this is the first purchase of 1-bromopropane for this facility, I understand that this certification will serve as a certification that this facility will properly implement and comply with the WCPP for 1-bromopropane consistent with the applicable regulatory timelines.

The self-certification statement must be signed and dated by the owner or operator of the facility, including a name, title, email address, and phone number for the owner or operator who is self-certifying. The self-certification statement must also list the name and address of the facility that is being certified; the condition of use, (*e.g.,* solvent for aerosol spray degreaser/cleaner) and examples of the type of equipment the owner/operator plans to use to meet the WCPP (*e.g.,* closed loop vapor degreaser); and indicate if this is the facility's first purchase of 1–BP, after publication of the final rule. The self-certification statement would be valid for one year, unless the facility has changed processes or there is an indication that exposures to 1–BP have changed.

To ensure distributors are only selling 1–BP to owners or operators of facilities able to implement and comply with the workplace requirements of the WCPP, EPA is proposing to require owners or operators who self-certify to provide a copy of the facility's current self-certification statement to the distributor from whom 1–BP is being purchased, for every purchase of 1–BP. EPA is also proposing for the distributors to collect, maintain, and retain a copy of the self-certification statement. EPA is also proposing to require distributors to keep records, such as invoices, that indicate the name of the purchaser and facility, date of sale, and quantity of 1–BP purchased. Distributors of 1–BP for the uses described in this unit may only

distribute to those facilities that provide the correct self-certification statement for purchasing. EPA realizes that some facilities may not engage in the 1–BP uses listed in this unit at the time this proposed rule is finalized. Owners or operators that may wish to purchase 1–BP after the publication of the final rule would still be required to submit the self-certification statement to the distributor from whom 1–BP was initially purchased in order to purchase 1–BP, certifying that the facility for which 1–BP is being purchased will implement and comply with the WCPP. EPA is also proposing that distributors review the self-certification statement to ensure it is appropriately completed to include the owner or operator's and the facility's information, as outlined in this unit. As proposed, distributors would have to have a completed and valid self-certification statement for each sale of 1-bromopropane for the uses subject to the self-certification requirements. EPA is proposing that the distributors and owners or operators maintain and retain the self-certification statement and related invoices in the most administratively convenient form (electronic or paper) and retain the statement and supporting documentation for five years. EPA is requesting comment on the self-certification requirement for ensuring that only those facilities able to implement and comply with the WCPP are able to purchase 1–BP. Additionally, EPA is interested in hearing if there are other requirements such as a tax identification number, commercial account, or other verification EPA should consider including to ensure that those workplaces that can implement and comply with the WCPP are able to purchase 1–BP while other facilities with the same use who cannot implement the WCPP are unable to do so.

5. Other Requirements

a. Recordkeeping

In addition to the recordkeeping requirements for the WCPP, self-certification, and prescriptive controls outlined in this unit, for conditions of use that are not otherwise prohibited under this proposed regulation, EPA is also proposing that manufacturers, processors, distributors, and industrial and commercial users (except for the commercial use of 1–BP in insulation and insulation products) maintain ordinary business records, such as invoices and bills-of-lading, that demonstrate compliance with the prohibitions, restrictions, and other provisions of this proposed regulation; and to maintain such records for a period of 5 years from the date the record is generated. EPA is proposing that this requirement begin on the effective date of the final rule (60 days following publication of the final rule in the **Federal Register**). Recordkeeping requirements would ensure that owners or operators can demonstrate compliance with the regulations if necessary. EPA may require more, less, or different documentation in the final rule based on consideration of public comments.

b. Downstream Notification

For conditions of use that are not otherwise prohibited under this proposed regulation, EPA is proposing that manufacturers (including importers), processors, and distributors, excluding retailers, of 1–BP and 1–BP-containing products, except for the manufacture, processing, distribution in commerce, use, or disposal of 1–BP in building/construction materials (insulation), provide downstream notification of the prohibitions through the Safety Data Sheets (SDSs) required by OSHA under 29 CFR 191.1200(g) by adding to sections 1(c) and 15 of the SDS the following language:

After [DATE 18 MONTHS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] this chemical/product can only be distributed in commerce to or by retailers for the commercial and consumer use of 1-bromopropane in building/construction materials (insulation). After [DATE 21 MONTHS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], this chemical/product is and can only be distributed in commerce or processed for the following occupational uses: Processing as a reactant/intermediate; Processing into formulation, mixture, or reaction products; Processing for incorporation into articles; Processing by repackaging; Recycling; Industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—open-top, in-line vapor degreaser); Industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—closed-loop); Industrial and commercial use as solvent for cleaning and degreasing in cold cleaners; Industrial and commercial use as solvent in aerosol spray degreaser/cleaner; Industrial and commercial use in other uses in electronic and electronic products and metal products, asphalt extraction, laboratory chemicals, and temperature indicator—coatings; and Disposal.

The intention of downstream notification is to spread awareness throughout the supply chain of the restrictions on the use of 1–BP under TSCA as well as provide information to commercial end users about allowable uses of 1–BP.

To provide adequate time to update the SDS and ensure that all affected products in the supply chain include the revised SDS, EPA is proposing a 2-month period for manufacturers and a 6-month period for processors and distributors to implement the proposed SDS changes following publication of the final rule.

EPA requests comments on the appropriateness of identified compliance timeframes for recordkeeping and downstream notification requirements described in this unit.

6. Federal Uses

EPA acknowledges that after the issuance of this rule, once finalized, Federal agencies, their contractors, and other related entities may become aware of important information which indicates a particular use, that would otherwise be prohibited, could meet the criteria of section 6(g) or the requirements of a WCPP. EPA also notes that there are multiple avenues to ask EPA to revisit issues in this TSCA section 6(a) rulemaking, both before and after the mandatory compliance dates that are set consistent with TSCA section 6(d). EPA has the authority under TSCA section 6(g) to consider whether a time limited exemption is appropriate and, consistent with TSCA section 6(g)(1), could expeditiously promulgate such exemptions independently from this rulemaking, including consideration of emergency or interim rulemaking. EPA will initiate a notice of proposed rulemaking for public comment on this topic and will add this to the Spring 2024 Regulatory Agenda. Additionally, any person could petition EPA to request that EPA issue or amend a rule under TSCA section 6.

B. Alternative Regulatory Actions

As indicated by TSCA section 6(c)(2)(A)(iv)(II) through (III), EPA must consider and publish a statement based on reasonably available information with respect to the reasonably ascertainable economic consequences of the rulemaking, including consideration of the costs and benefits and the cost effectiveness of the proposed regulatory action and one or more primary alternative regulatory actions considered by the Agency. This unit includes a description of the primary alternative regulatory action and the second alternative regulatory action considered by the Agency. An overview of the proposed regulatory action and two alternative regulatory actions for each condition of use is in Unit IV.C.

1. Primary Alternative Regulatory Action Considered

The primary alternative regulatory action described in this document and considered by EPA combines prohibitions, requirements for a WCPP, self-certification, and prescriptive controls to address the unreasonable risk from 1–BP contributed by the various conditions of use. The primary alternative regulatory action described in this document differs from the proposed regulatory action by considering prescriptive workplace controls and implementation of a PPE program for some conditions of use that would be subject to a WCPP under the proposed regulatory action. The primary alternative regulatory action additionally considers alternative compliance timeframes for prohibitions and implementation of a WCPP and prescriptive controls, as described in this unit. EPA is putting forth only alternative regulatory options that would eliminate the unreasonable risk from 1–BP and notes that TSCA section 6(a) requires that EPA impose regulatory requirements to the extent necessary to address unreasonable risk. Thus, EPA has concluded that it would be most advantageous to put forth and receive public input on alternative regulatory options that the Agency could adopt in a final rule consistent with the requirements of TSCA section 6(a). Where EPA has identified different types of regulatory requirements that would address the unreasonable risk (*e.g.,* a WCPP and prescriptive controls), EPA is seeking public input on each type of regulatory requirement. However, where EPA has identified only one type of regulatory requirement that would address the unreasonable risk (*e.g.,* a prohibition), EPA is seeking public input on the timing for compliance with such a requirement. EPA requests comment on this primary alternative regulatory action and whether any elements of the primary alternative regulatory action described in this unit should be considered as EPA develops the final regulatory action. EPA also requests comment on any advantages or drawbacks for the timelines outlined in this unit compared to the timelines identified for the proposed regulatory action in Unit IV.A.

a. Prohibitions

The primary alternative regulatory action considered by EPA would prohibit the manufacturing, processing, distribution in commerce, and use for the following industrial and commercial uses, which EPA is also proposing to prohibit as part of the proposed regulatory action: industrial and commercial use in adhesives and sealants; industrial and commercial use in dry cleaning solvents, spot cleaners and stain removers; industrial and commercial use in liquid cleaners (*e.g.,* coin and scissor cleaner); and industrial and commercial use in arts, crafts, hobby materials (adhesive accelerant); automotive care products (engine degreaser, brake cleaner, refrigerant flush); anti-adhesive agents (mold cleaning and release product); and functional fluids (close/open-systems)—refrigerant/cutting oils. Additionally, the primary alternative regulatory action would prohibit the manufacture, processing, and distribution of 1–BP for all consumer use, except in insulation. As shown in Unit IV.C., which presents an overview of the proposed regulatory action and two alternative regulatory actions for each condition of use, the primary alternative action described in this document would prohibit the same occupational and consumer conditions of use as the proposed regulatory action.

Regarding compliance timeframes, the primary alternative regulatory action would include longer timeframes for implementation of the prohibitions than the proposed regulatory action. Under the primary alternative action, the prohibitions would generally take effect 6 months later than in the proposed regulatory action. Under a compliance timeframe that is 6 months longer than the proposed regulatory action, the prohibitions for the manufacturing, processing, distribution in commerce, and use of 1–BP for certain occupational conditions of use described in this unit would take effect 12 months for manufacturers, 15 months for processers, 18 months for distributing to retailers, 21 months for all other distributors (including retailers), and 24 months for industrial and commercial users after the publication date of the final rule. With regard to the compliance timeframe for the manufacturing, processing, and distribution in commerce for consumer use (except consumer use in building/construction materials in insulation), under the primary alternative regulatory action, prohibitions described in this unit would take effect in 12 months for manufacturers, 15 months for processors, 18 months for distributing to retailers, and 21 months for all other distributors (including retailers) after the publication date of the final rule.

b. Workplace Chemical Protection Program (WCPP)

The primary alternative regulatory action described in this document would require a WCPP, including requirements to meet an ECEL, for the following occupational conditions of use: manufacturing (domestic); processing into formulation, mixture, or reaction products; industrial and commercial use as solvent for cleaning and degreasing in cold cleaners; industrial and commercial use as solvent in aerosol spray degreaser/cleaner; and industrial and commercial use in other uses in electronic and electronic products and metal products; laboratory chemicals for asphalt extraction; coatings for temperature indicator. EPA requests comment on the ways in which 1–BP may be used in these conditions of use, including whether activities may take place in a closed system and the degree to which users of 1–BP in these sectors could successfully implement an ECEL and ancillary requirements described in Unit IV.A.

As with the compliance timeframes considered as part of the primary alternative action for prohibition, the primary alternative regulatory action also includes longer compliance timeframes for implementation of a 1–BP WCPP by non-Federal owners and operators. The primary alternative regulatory action does not include longer compliance timeframes for implementation of a 1–BP WCPP for Federal agencies and Federal contractors acting for or on behalf of the Federal Government. Under the primary alternative action, the requirements for the WCPP would take effect 6 months later than the proposed regulatory action for non-Federal owners and operators. Under a compliance timeframe that is 6 months longer than the proposed regulatory action, the requirements for non-Federal owners and operators to conduct initial baseline monitoring would take effect 12 months after the date of publication of the final rule in the **Federal Register**. Also under the primary alternative action, the requirements for each non-Federal owner or operator to provide respiratory protection to all potentially exposed persons in the regulated area would be within 3 months after receipt of the results of any exposure monitoring or within 15 months after date of publication of the final rule in the **Federal Register**. Non-Federal owners and operators would be required to implement an exposure control plan within 18 months after date of publication of the final rule in the **Federal Register**. EPA requests comment on any advantages or drawbacks for the timelines outlined in this unit compared to the timelines

identified for the proposed regulatory action in Unit IV.A.

c. Prescriptive Controls

i. Prescriptive Controls—PPE

In contrast to the proposed non-prescriptive requirements of the WCPP, outlined in Unit IV.A.2., including requirements to meet an ECEL, where regulated entities would have the ability to select appropriate controls in accordance with the hierarchy of controls to comply with the performance-based parameters, EPA may also find it appropriate in certain circumstances to require specific prescriptive controls for certain occupational conditions of use. In the 2020 Risk Evaluation for 1–BP, EPA explained how engineering and administrative controls and use of PPE could reduce 1–BP exposures in occupational settings; therefore, EPA considered a combination of required engineering, administrative and PPE controls as the prescriptive approach in the primary alternative regulatory action for the following conditions of use: industrial and commercial use of solvent for cleaning and degreasing in vapor degreasers (batch vapor degreaser—open-top and, in-line vapor degreaser); and industrial and commercial use of solvent for cleaning and degreasing in vapor degreasers (batch vapor degreaser—closed-loop). Under the proposed regulatory action, these two conditions of use would be regulated under the WCPP.

When considering the use of required prescriptive engineering controls, administrative controls and PPE, EPA expects that such controls will be fully and properly implemented. Merely having the specified controls present is not sufficient to consider them ''fully and properly'' implemented. Rather, the regulated entities would be required to ensure that the controls are present and maintained, and that employees understand the proper use of those controls and use them accordingly. Examples of practices that would demonstrate that the regulated entities are in compliance with the controls would include proper installation and maintenance of the equipment according to manufacturer's instructions, timely replacement of filters and other similar parts, regular documented inspections to ensure equipment is operating properly, maintaining the required flow rates, and regular documented training to ensure proper use of controls.

For the condition of use of industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—open-top, inline vapor degreaser) EPA described in section 2.3.1.11 of the risk evaluation a local exhaust ventilation system for an open-top vapor degreaser (lateral exhaust hoods installed on two sides of the tank) that can reduce worker exposure. There are several limitations regarding use of ventilation systems, including uncertainties regarding the type of model used and the lack of monitoring data. Additionally, local exhaust ventilation systems may increase the volatilization of the solvent, leading to an increase in the use of solvent and the cost of operating the vapor degreaser. Also, a local ventilation system might require a Title V operating permit under the Clean Air Act and could require additional controls, such as the use of a carbon adsorber, to avoid emissions to the environment. As discussed in the proposed regulatory action (Unit IV.A.1.), EPA is proposing to require pollution prevention and source reduction wherever possible when making decisions about what control techniques to install. In addition, as indicated in the risk evaluation, a 90% reduction of 1–BP workplace emissions by using a local exhaust ventilation system is not enough to address the unreasonable risk to workers and occupational non-users. Additional controls would be needed, such as respirators with an APF of 50. Workers would also need gloves to reduce dermal exposures.

In Section 2.3.1.12 of the risk evaluation, EPA also identified a study indicating that air emissions can be reduced by 98% or more when a closed-loop degreaser is used instead of an open-top vapor degreaser (Ref. 1). Also, in the risk evaluation, EPA indicated that the unreasonable risk to workers when using a closed-loop degreaser could be addressed by using respirators with an APF of 10, but additional controls would be needed to reduce inhalation exposures to occupational non-users.

Therefore, under this primary alternative regulatory action, for the industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—open-top, inline vapor degreaser), EPA considered requirements to demonstrate reductions of emissions based on engineering controls and achieve an exposure concentration of less than 2.5 ppm (50 times the proposed ECEL value of 0.05ppm) as an 8-hour time-weighted average, isolate the vapor degreaser with controlled access to a ''regulated area'' where only workers who are wearing PPE to minimize exposures to 1–BP, and use of respirators with APF of 50 for any worker operating the vapor degreaser, would be permitted to go. EPA also considered requirements for use of gloves made of supported polyvinyl alcohol or a multiple-layer laminated material. EPA also considered requiring periodic monitoring (personal breathing zone or representative sample) every 3 months to determine that the respirators used are of a sufficient protection factor to be adequate to protect workers. In addition, EPA considered requiring that the regulated entity implement all aspects of a respiratory protection program (*e.g.,* training, fitting, medical surveillance, etc.), as outlined in Unit IV.A.2.c., and referred to 29 CFR 1910.132, 29 CFR 1910.133, and 29 CFR 1910.134 for requirements on selection and use of PPE.

Also as a primary alternative regulatory option, for the industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—closed-loop) EPA considered requiring regulated entities to: use closed-loop vapor degreasers with the adequate maintenance and a ventilation system or other engineering controls to achieve an exposure concentration of less than 0.5 ppm as an 8-hour time-weighted average; require isolation of the vapor degreaser in a ''regulated area'' with controlled access to minimize exposures to 1–BP; and require the use of respirators with APF of 10 for any worker in the vicinity of the vapor degreaser within the regulated area. EPA also considered requiring use of gloves made of supported polyvinyl alcohol or a multiple-layer laminated material. EPA also considered requiring periodic monitoring (personal breathing zone or representative sample) every 3 months to determine that the respirators used are adequate to protect workers. In addition, EPA considered requiring that the regulated entity implement all aspects of a respiratory protection program (*e.g.,* training, fitting, medical surveillance, etc.), as outlined in Unit IV.A.2.c., and refers to 29 CFR 1910.132, 29 CFR 1910.133, and 29 CFR 1910.134 for requirements on selection and use of PPE.

EPA also considered requiring the use of closed-loop vapor degreasers instead of open-top or inline vapor degreasers. EPA recognizes that using only closed-loop vapor degreasers can present several challenges to the regulated entities, depending on the size of the parts, the configuration of their operation and the time required to complete the cleaning operation. In addition, closed-loop vapor degreasers

can be expensive. Therefore, EPA is also seeking comments on an alternative regulatory approach where facilities would be required to use only closed-loop vapor degreasers for any batch vapor degreasing, and use ventilation systems and engineering controls that achieve exposure concentrations of less than 0.5 ppm as an 8-hour time-weighted average, isolate the vapor degreaser in a ''regulated area'' with controlled access to minimize exposures to 1–BP, and require the use of respirators with APF of 10 for any worker in the regulated area of the vapor degreaser, and the use of gloves made of supported polyvinyl alcohol or a multiple-layer laminated material. This alternative also considered requiring periodic monitoring (personal breathing zone or representative sample) every 3 months to determine that the respirators used are adequate to protect workers, and requiring that the regulated entity implement all aspects of a respiratory protection program (*e.g.,* training, fitting, medical surveillance, etc.), as outlined in Unit IV.A.2.c., including referring to 29 CFR 1910.132, 29 CFR 1910.133, and 29 CFR 1910.134 for requirements on selection and use of PPE.

For batch vapor degreasing (open-top and inline vapor degreasers) and cold cleaning, EPA also considered requiring engineering controls similar to the requirements set by the National Emission Standards for Halogenated Solvent Cleaning (40 CFR part 63, subpart T), which currently apply to other halogenated solvents but not 1–BP. EPA would expect that requirements under 40 CFR part 63, subpart T most likely would not reduce the 1–BP concentrations to 0.05 ppm as an 8-hour time-weighted average. Even if facilities were to install control measures to meet the requirements of 40 CFR part 63, subpart T, EPA believes that additional controls and PPE would be needed, including the use of gloves made of supported polyvinyl alcohol or a multiple-layer laminated material. Therefore, EPA is seeking comments regarding how the requirements of 40 CFR part 63, subpart T could be applied for 1–BP, as well as any additional information on how effective these requirements would be to reduce 1–BP air concentrations and additional controls needed to reduce 1–BP exposure to workers to 0.05 ppm as an 8-hour time-weighted average.

Under this primary alternative regulatory option, EPA considered requiring that the regulated entity engaged in any uses of 1–BP outlined in this Unit IV.B.1.c. develop an exposure control plan, as outlined in Unit IV.A.2.d.i., as well as comply with monitoring requirements, as outlined in Unit IV.2.A.b.ii., and recordkeeping requirements, as outlined in Unit IV.2.A.d.iv.

EPA also considered requiring that within 15 working days after receipt of the results of any exposure monitoring, the regulated entity must notify each person whose exposure is represented by that monitoring in writing, either individually to each person or by posting the information in an appropriate and accessible location. The notice would identify the exposure monitoring results, and any corresponding respiratory protection required. Also, the notice would be required to include a description of the actions taken by the regulated entity to reduce inhalation exposures or refer to a document available to the person which states the actions to be taken to reduce exposures.

ii. Prescriptive Controls—Gloves

Under the primary alternative regulatory action, EPA would apply prescriptive controls to reduce dermal exposures in the workplace and address the unreasonable risk of injury to health resulting from dermal exposures to 1–BP. Specifically, EPA is proposing that the owner or operator require the use of gloves for the following conditions of use: manufacturing (import); processing as a reaction; processing as incorporation into articles; repackaging, recycling; and disposal. As shown in Unit IV.C., which presents an overview of the proposed regulatory action and two alternative regulatory actions for each condition of use, the primary alternative action described in this document would subject the same occupational conditions of use to prescriptive dermal controls as the proposed regulatory action.

Regarding compliance timeframes, the primary alternative regulatory action would include longer timeframes for implementation of glove use by non-Federal owners and operators than the proposed regulatory action. Under the primary alternative action, prescriptive controls would generally take effect for non-Federal owners and operators 6 months later than in the proposed regulatory action. Under a compliance timeframe that is 6 months longer than the proposed regulatory action, the prescriptive controls for certain occupational conditions of use of 1–BP described in this unit would take effect for non-Federal owners and operators 12 months after the publication date of the final rule. The primary alternative regulatory action does not include longer compliance timeframes for implementation of these prescriptive controls for Federal agencies and Federal contractors acting for or on behalf of the Federal Government.

d. Self-Certification

The primary alternative regulatory action considered by EPA would also require self-certification, as outlined in Unit IV.A.4., for the following occupational conditions of use: processing for incorporation into a formulation, mixture, or reaction products; industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—open-top, in-line); industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—closed-loop); industrial and commercial use as solvent for cleaning and degreasing in cold cleaners; industrial and commercial use as solvent in aerosol spray degreaser/cleaner; industrial and commercial use in other uses in electronic and electronic products and metal products, laboratory chemicals and asphalt extraction, and in coatings for temperature indicators. As shown in Unit IV.C., which presents an overview of the proposed regulatory action and two alternative regulatory actions for each condition of use, the primary alternative action described in this document would subject the same occupational conditions of use to self-certification requirements as the proposed regulatory action. While similar in most ways to the proposed regulatory action, the primary alternative regulatory action differs from the proposed regulatory action by requiring prescriptive controls rather a WCPP for two industrial and commercial conditions of use: industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—open-top, in-line); industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser—closed-loop). If the primary alternative regulatory action is chosen rather than the proposed regulatory action, EPA will update the self-certification statement to better align with whichever regulatory action is chosen.

2. Second Alternative Regulatory Action Considered

a. Prohibitions

The second alternative regulatory action described in this document and considered by EPA is to prohibit all occupational uses of 1–BP and the manufacture, processing, and

distribution in commerce of 1–BP for all consumer uses, except for the consumer use of 1–BP in building/construction materials (insulation) and distribution in commerce for non-prohibited uses, to address the unreasonable risk from 1–BP contributed by the various conditions of use. While similar in some ways to the proposed regulatory action, the second alternative regulatory action differs from the proposed regulatory action by prohibiting the conditions of use that would have requirements for a WCPP, self-certification, and/or prescriptive controls under the proposed regulatory action. Regarding the compliance timeframes, the second alternative regulatory action would include a longer timeframe for implementation of prohibition than the proposed regulatory action. Additionally, EPA would not stagger the compliance dates for manufacturers, processors, and distributors. The prohibitions for the manufacturing, processing, distribution in commerce, and use for the occupational conditions of use, except for the commercial use of 1–BP in insulation, would take effect 3 years after the publication date of the final rule. With regard to the compliance timeframe for the manufacturing, processing, and distribution in commerce for consumer use, except the consumer use of 1–BP in insulation, the prohibitions would take effect 3 years after the publication date of the final rule (Ref. 32). EPA requests comment on this second alternative regulatory action and whether any elements of this second alternative regulatory action described in this unit should be considered as EPA develops the final regulatory action. EPA also requests comment on any advantages or drawbacks for the timelines outlined in this unit compared to the timelines identified for the proposed regulatory action in Unit IV.A.

b. Recordkeeping and Downstream Notification

The second alternative regulatory action also would include a requirement that manufacturers, processors and distributors maintain ordinary business records, such as invoices and bills-of-lading, that demonstrate compliance with the prohibitions, restrictions, and other provisions of the second alternative regulatory action; and to maintain such records for a period of 5 years from the date the record is generated. The recordkeeping requirements associated with this second alternative regulatory action would take effect 90 days after the effective date of the final rule.

Also, under this second alternative regulatory action, EPA would require that manufacturers, processors, and distributors, excluding retailers, of 1–BP provide downstream notification of the prohibitions through SDS by adding to sections 1(c) and 15 of the SDS the following language:

As of [DATE 90 DAYS AFTER OF PUBLICATION OF THE FINAL RULE], this chemical/product can only be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for use in insulation for building/construction materials.

The downstream notification requirements associated with this alternative approach would take effect 90 days after the effective date of the final rule in order to provide adequate time to undertake the changes to the SDS and ensure that all products in the supply chain include the revised SDS.

C. Overview of Conditions of Use, Proposed Regulatory Action and Alternative Regulatory Actions

Table 2 is a side-by-side depiction of the proposed regulatory action with the primary and secondary alternative regulatory actions that EPA considered for each condition of use identified as driving the unreasonable risk (Ref. 2). The purpose of this table is to succinctly convey to the public certain differences between the proposed regulatory action and the alternative regulatory actions; as such the actions in each column are truncated and do not reflect all the details of the proposed and alternative regulatory actions, including differences in timeframes, as outlined in Units IV.A. and B. The proposed action and the alternative regulatory actions that EPA considered are described more fully in Units IV.A. and B.

TABLE 2—OVERVIEW OF CONDITIONS OF USE DRIVING UNREASONABLE RISK AND PROPOSED REGULATORY ACTION AND ALTERNATIVE REGULATORY ACTION

Conditions of use	Action		
Condition of use driving unreasonable risk determination	Proposed regulatory action	Primary alternative action [2]	Secondary alternative action
Industrial and commercial use as solvent for open-top batch and in-line vapor degreasing.	1–BP WCPP + self-certification.	Prescriptive Controls + self-certification.	Prohibit.
Industrial and commercial use as solvent for closed-loop batch vapor degreasing.	1–BP WCPP + self-certification.	Prescriptive Controls + self-certification.	Prohibit.
Industrial and commercial use as solvent for cold cleaning	1–BP WCPP + self-certification.	1–BP WCPP + self-certification.	Prohibit.
Industrial and commercial use as a solvent for aerosol spray degreaser/cleaner.	1–BP WCPP + self-certification.	1–BP WCPP + self-certification.	Prohibit.
Industrial and commercial use in other uses in electronic and electronic products and metal products; laboratory chemicals; asphalt extraction.	1–BP WCPP + self-certification.	1–BP WCPP + self-certification.	Prohibit.
Industrial and commercial use in adhesives and sealants	Prohibit	Prohibit	Prohibit.
Industrial and commercial use in other uses in arts, crafts, hobby materials (adhesive accelerant); automotive care products (engine degreaser, brake cleaner, refrigerant flush); anti-adhesive agents (mold cleaning and release product); functional fluids (close/open-systems)—refrigerant/cutting oils.	Prohibit	Prohibit	Prohibit.
Industrial and commercial use in dry cleaning solvents, spot cleaners and stain removers.	Prohibit	Prohibit	Prohibit.
Industrial and commercial use in coin and scissor cleaner (liquid, aerosol, or spray cleaners).	Prohibit	Prohibit	Prohibit.
Consumer use as solvent in aerosol degreasers/cleaners	Prohibit [1]	Prohibit [1]	Prohibit.[1]

TABLE 2—OVERVIEW OF CONDITIONS OF USE DRIVING UNREASONABLE RISK AND PROPOSED REGULATORY ACTION AND ALTERNATIVE REGULATORY ACTION—Continued

Conditions of use	Action		
Condition of use driving unreasonable risk determination	Proposed regulatory action	Primary alternative action [2]	Secondary alternative action
Consumer use in spot cleaners and stain removers	Prohibit [1]	Prohibit [1]	Prohibit.[1]
Consumer use in liquid cleaners (*e.g.,* coin and scissor cleaner) and liquid aerosol/spray cleaners.	Prohibit [1]	Prohibit [1]	Prohibit.[1]
Consumer use in liquid spray/aerosol cleaners	Prohibit [1]	Prohibit [1]	Prohibit.[1]
Consumer use in arts, crafts, and hobby materials (adhesive accelerant).	Prohibit [1]	Prohibit [1]	Prohibit.[1]
Consumer use in automotive care products (refrigerant flush)	Prohibit [1]	Prohibit [1]	Prohibit.[1]
Consumer use in anti-adhesive agents (mold cleaning and release products).	Prohibit [1]	Prohibit [1]	Prohibit.[1]
Manufacturing (Domestic manufacturing)	1–BP WCPP	1–BP WCPP	Prohibit.
Manufacturing (Import)	Prescriptive Controls	Prescriptive Controls	Prohibit.
Processing: processing as a reactant	Prescriptive Controls	Prescriptive Controls	Prohibit.
Processing: incorporation into a formulation, mixture, or reaction product.	1–BP WCPP + self-certification.	1–BP WCPP + self-certification.	Prohibit.
Processing: incorporation into articles	Prescriptive Controls	Prescriptive Controls	Prohibit.
Processing: repackaging	Prescriptive Controls	Prescriptive Controls	Prohibit.
Processing: recycling	Prescriptive Controls	Prescriptive Controls	Prohibit.
Disposal	Prescriptive Controls	Prescriptive Controls	Prohibit.

[1] Prohibit manufacture (including import), processing, and distribution in commerce for the consumer use. Except in insulation.
[2] Different timeframes are applicable to the primary and secondary alternative regulatory actions considered, in comparison to the proposed regulatory action.

V. Rationale for the Proposed Regulatory Action and Alternative Regulatory Actions

This unit describes how the considerations described in Unit III.B.3. were applied when selecting among the TSCA section 6(a) requirements to arrive at the proposed and alternative regulatory actions described in Unit IV.

A. Consideration of Risk Management Requirements Available Under TSCA Section 6(a)

1. Proposed Regulatory Action

a. Prohibition

EPA considered a prohibition as a regulatory option and is proposing it for certain occupational conditions of use (Unit IV.A.). As described in this unit, EPA determined prohibition was appropriate for certain occupational conditions of use after taking into consideration other combinations of controls such as self-certification, a non-prescriptive WCPP, or prescriptive controls (*i.e.,* engineering controls, administrative controls, and PPE).

EPA also considered the potential for 1–BP use to increase in particular sectors, such as dry cleaning solvents, where it has largely been phased out because of its well-established hazard (Refs. 26, 3). In order to prevent the potential for use of 1–BP to increase in a sector that has already moved away from it, use of 1–BP for certain conditions of use would be prohibited under the proposed regulatory and alternative regulatory actions. Such uses of 1–BP include, but are not limited to, use as dry cleaning solvents, use in adhesives and sealants, and use in liquid cleaners and liquid spray/aerosol cleaners.

EPA determined prohibition would not be appropriate for the remaining occupational conditions of use, such as manufacturing (domestic manufacturing and import), processing as a reactant, processing for incorporation into articles, recycling, and repackaging; processing into a formulation, mixture, or reaction product; and industrial and commercial uses as a solvent for cleaning and degreasing in vapor degreasers, in aerosol spray degreaser/cleaner, in electronic and electronic products and metal products, in laboratory use for asphalt extraction, and in coating for temperature indicators. EPA made this determination based on compelling reasons, as described below, to not prohibit the activity and to identify a different regulatory action that would address the unreasonable risk. For example, prohibition may not be appropriate for conditions of use where EPA identified strict workplace controls could be implemented to address the unreasonable risk as described in Unit V.A.1.b. Additionally, prohibition may not be appropriate for conditions of use where alternative substances to 1–BP are more or equally hazardous (in particular some of the other solvents undergoing risk evaluation and risk management under TSCA section 6).

For these conditions of use, EPA determined restrictions under a 1–BP WCPP, self-certification requirements, prescriptive controls, or a combination of such requirements were more appropriate for addressing the unreasonable risk to the extent necessary so that 1–BP no longer presents such risk, while also allowing for regulated entities to continue operations, as described in this unit and in Unit IV.A.

Regarding industrial, commercial, and consumer uses of 1–BP, TSCA section 6(a)(2) provides EPA with the authority to prohibit or otherwise restrict the manufacture (including import), processing, or distribution in commerce of a substance or mixture ''for a particular use'' to ensure that a chemical substance no longer presents unreasonable risk. For this rulemaking, EPA proposes that ''for a particular use'' includes consumer use more broadly, as well as industrial and commercial use, which encompasses all known, intended, and reasonably foreseen uses of 1–BP. Given the severity and ubiquitous nature of the risks identified in the 2020 Risk Evaluation for 1–BP for all industrial, commercial, and consumer conditions of use (except in insulation), and noting that those conditions of use encompass all known, intended, and reasonably foreseen use of 1–BP, EPA proposes that prohibiting manufacture (including importing),

processing, and distribution in commerce of 1–BP for some industrial and commercial use and all consumer conditions of use, except for the consumer and commercial use of 1–BP in building materials/construction (insulation), is reasonable and necessary to eliminate the unreasonable risk of 1–BP from industrial, commercial, and consumer use. This includes precluding retailers from selling 1–BP and products containing 1–BP, except insulation, to consumers for unspecified end-uses. EPA believes that any retailer selling products containing 1–BP, except insulation, to consumers for unspecified end-uses would be selling products for use by consumers for one of the consumer uses EPA evaluated in the 2020 Risk Evaluation for 1–BP and found to contribute to the unreasonable risk for 1–BP in the 2022 revised risk determination. EPA's proposed requirements to address unreasonable risk to consumers and bystanders to consumer use are described in Unit IV.A.

A key consideration regarding consumer uses is the role of retailers and other distributors. A retailer, as EPA has defined in 40 CFR 751.103 (and proposes to define in CFR 751.5), is any entity that makes available a chemical substance or mixture to consumer end users, including through e-commerce internet sales or distribution. Previously, in the 2019 methylene chloride TSCA section 6(a) risk management rule addressing consumer use of methylene chloride in paint and coating removal (Ref. 34), EPA prohibited retailers from distributing in commerce paint and coating removers containing methylene chloride (see 40 CFR 751.105(b) and (c)). To meet the same goal of protecting consumers from accessing products containing 1–BP that could pose unreasonable risks, for a broader range of consumer use, EPA considered and is proposing a similar provision to ensure that retailers will not be able to purchase 1–BP for sale or distribution to consumers and will not be able to sell or distribute 1–BP to consumers, including making available to consumers products containing 1–BP, except insulation. For these reasons, as described in Unit IV.A., EPA's proposal to address unreasonable risk from 1–BP includes prohibition on the distribution in commerce of 1–BP to and by retailers, except for the use of 1–BP in insulation.

b. Workplace Chemical Protection Program (WCPP)

One option EPA considered for occupational conditions of use was establishing a requirement for a 1–BP WCPP, which would include a combination of requirements to the extent necessary to address unreasonable risk contributed by inhalation and dermal exposures in the workplace. A 1–BP WCPP would encompass restrictions on certain occupational conditions of use and could include provisions for an ECEL and ancillary requirements to support implementation of these exposure limits. Due to the low exposure level and stringent requirements in the 1–BP WCPP that would be necessary to address the unreasonable risk from 1–BP, EPA identified those conditions of use where the Agency expected a 1–BP WCPP could be successfully implemented.

i. Existing Chemical Exposure Limit (ECEL)

One requirement considered by EPA to include in a 1–BP WCPP to address unreasonable risk contributed by inhalation exposures to 1–BP for occupational conditions of use was establishing an ECEL and related implementation measures, such as exposure monitoring. As described in Unit IV.A., the 1–BP WCPP would be non-prescriptive, in the sense that regulated entities would not be required to use specific controls prescribed by EPA to achieve the exposure concentration limit. Rather, it would be a performance-based exposure limit that would enable owners or operators to determine how to most effectively meet the exposure limit based on conditions at their workplace, consistent with the hierarchy of controls.

A central component of the 1–BP WCPP is the exposure limit. EPA has determined as a matter of risk management policy that ensuring exposures remain at or below the ECEL will eliminate any unreasonable risk of injury to health from occupational inhalation exposures for those conditions of use subject to the WCPP.

In the case of 1–BP, EPA has calculated the ECEL to be 0.05 parts per million (ppm) (0.25 mg/m^3) for inhalation exposures as an 8-hour TWA in workplace settings, based on the chronic cancer inhalation unit risk (IUR) at a risk level of 1×10^{-4}. This is the concentration at which an adult human, including a member of a potentially exposed or susceptible subpopulation, would be unlikely to suffer adverse effects if exposed for a working lifetime (Ref. 12). EPA chose the chronic cancer inhalation endpoint for 1–BP as the basis for this exposure limit because it is the most protective of the endpoints identified for occupational settings, and therefore will be protective of both acute and chronic cancer and chronic non-cancer inhalation endpoints over the course of a working day and lifetime, as described in Unit IV.A.2.b.

In deciding whether an ECEL and related required implementation measures would appropriately address the unreasonable risk contributed by occupational inhalation exposures for specific conditions of use, EPA considered factors related to work activities that may make it difficult to comply with an ECEL, particularly at the low air concentration level EPA has identified. Once EPA identified the appropriate risk-based inhalation limit to address identified unreasonable risk, EPA carefully considered the appropriateness of such an exposure control program for each occupational condition of use of 1–BP, in the context of the unreasonable risk. Examples include conditions of use with work activities that may take place in the field, making it challenging to establish a regulated area and conduct monitoring; work activities that may take place in open systems that require manual contact with the chemical substance; work activities that may take place in small, enclosed spaces, creating challenges for implementing engineering controls or using respiratory PPE; work activities that require a high range of motion or for some other reason create challenges for the implementation of respiratory PPE; and the type of PPE that would be needed under the 1–BP WCPP to meet the ECEL in the absence of, or in addition to, other feasible exposure controls, based on analysis in the 2020 Risk Evaluation for 1–BP describing expected exposures with and without use of PPE.

EPA also considered the feasibility of exposure reduction sufficient to address the unreasonable risk, including in facilities complying with recommended OELs such as the ACGIH TLV. This creates a degree of uncertainty as to whether facilities engaging in some industrial and commercial conditions of use could meet the ECEL (and associated action level) and whether they could do so without relying primarily on the use of PPE (which is the least preferred option in the hierarchy of controls), and, therefore, whether exposures could be reduced in a manner aligned with the hierarchy of controls.

EPA understands that this uncertainty extends to the feasibility of respirators to address unreasonable risk from 1–BP as well. Although respirators, specifically SCBAs, could reduce exposures to levels that protect against non-cancer and cancer risks, not all workers may be able to wear respirators. Individuals with impaired lung function

due to asthma, emphysema, or chronic obstructive pulmonary disease, for example, may be physically unable to wear a respirator. OSHA requires that a determination regarding the ability to use a respirator be made by a physician or other licensed health-care professional, and annual fit testing is required for tight-fitting, full-face piece respirators to provide the required protection. Individuals with facial hair, such as beards or sideburns that interfere with a proper face-to-respirator seal, cannot wear tight fitting respirators. In addition, respirators may also present communication problems, vision problems, worker fatigue, and reduced work efficiency (63 FR 1152, January 8, 1998). According to OSHA, ''improperly selected respirators may afford no protection at all (for example, use of a dust mask against airborne vapors), may be so uncomfortable as to be intolerable to the wearer, or may hinder vision, communication, hearing, or movement and thus pose a risk to the wearer's safety or health.'' (63 FR 1189 through 1190).

ii. Personal Protective Equipment (PPE) Program

Another requirement considered by EPA to include in a 1–BP WCPP to address unreasonable risk driven by exposures to 1–BP for occupational conditions of use was requiring a prescriptive PPE program. The requirements under this prescriptive program are a process-based set of provisions to address unreasonable risk driven by workplace exposures to 1–BP. In order to address workplace exposures to 1–BP, requirements would include use of prescriptive PPE, including dermal PPE. EPA's description for how the requirements related to this prescriptive PPE program would address the unreasonable risk resulting from workplace exposures and the rationale for this regulatory approach is outlined in Units III.B.3. and V.A.

Similar to the ECEL, under prescriptive PPE requirements, EPA is proposing to require owners and operators to implement respiratory controls in accordance with the hierarchy of controls, as outlined in Unit IV.A.2.c. EPA also recommends and encourages the use of pollution prevention as a means of controlling exposures whenever practicable.

In contrast to the proposed non-prescriptive requirements of the ECEL, EPA is proposing to require owners and operators to implement specific prescriptive controls for those occupational conditions of use subject to a 1–BP WCPP. Specifically, EPA is proposing to require the use of chemically resistant gloves made of supported polyvinyl alcohol or a multiple-layer laminated material, in combination with specific activity training (*e.g.,* procedure for glove removal and disposal) for tasks where dermal exposure can be expected to occur.

In consideration of the whole of the 2020 Risk Evaluation for 1–BP, including the uncertainties, EPA has preliminarily determined that preventing workplace exposure to 1–BP through prescriptive PPE requirements, including the use of respirators and/or gloves, workplace specific training, and PPE training, as described in Unit IV.A.2.c., for certain occupational conditions of use would address the unreasonable risk from 1–BP exposures in the workplace driven by these conditions of use for potentially exposed persons.

iii. 1–BP WCPP

Taking into account these considerations, EPA is proposing that certain conditions of use would be allowed to continue if regulated entities could ensure exposures remain at or below the ECEL and other requirements are met in the 1–BP WCPP. In contrast to considerations that would weigh against the likelihood that a facility within a condition of use to successfully implement a WCPP, there are certain considerations that indicate a facility engaged in a condition of use would likely be able to achieve effective risk management via WCPP. Based on reasonably available information, including monitoring data process descriptions, and information related to considerations described previously in this unit, EPA's confidence that requirements to meet an ECEL can be implemented is highest in highly standardized and industrialized settings, such as where 1–BP is used in a closed system (Ref. 32). For example, two industry commenters provided EPA with closed system process and exposure monitoring information that indicate circumstances where the requirements to meet an ECEL could be successfully implemented (Ref. 32).

Pursuant to TSCA section 6(c)(2)(A)(i), EPA is considering reasonably available information regarding the adverse effects of 1–BP on human health and the magnitude of exposure of human beings to 1–BP. EPA recognizes that people at workplaces that manufacture, process, use, or dispose of 1–BP may live in the fenceline communities surrounding these facilities and consequently may be potentially exposed to 1–BP through ambient air outside of working hours. In addition, the Agency understands that certain engineering controls can reduce exposure to people inside the workplace but may lead to increased ventilation of 1–BP outside of the workplace, thereby increasing risks to people in fenceline communities of adverse health effects from exposure to 1–BP in ambient air. Therefore, pursuant to TSCA section 6(c)(2)(B), EPA is considering the potential adverse effects on health of people in fenceline communities posed by emissions of 1–BP to ambient air described in Unit VI. as a factor when proposing to prohibit increased releases of 1–BP to outdoor air associated with the implementation of the WCPP. This proposed requirement is intended to avoid unintended increases in exposures to people from 1–BP emissions to ambient air. The proposed rule would require owners and operators to attest in their WCPP exposure control plan that engineering controls selected to address worker risk do not increase emissions of 1–BP to ambient air outside of the workplace and document in their exposure control plan whether additional equipment was installed to capture emissions of 1–BP to ambient air.

Details of the proposed 1–BP WCPP, including provisions for the ECEL and ancillary required implementation measures, requirements for demonstrating compliance, and requirements for distributors, are described in more detail in Unit IV.A. EPA requests comment on all aspects of this proposal to allow certain conditions of use to continue under the WCPP, including the likelihood that the provisions of the WCPP, including exposure monitoring, engineering and administrative controls, PPE, and the exposure control plan, could be successfully implemented for the identified conditions of use, including, for example, the industrial and commercial use as a solvent for aerosol spray degreaser/cleaner.

c. Prescriptive Controls

In addition to the considerations addressed in Unit V.A.1.b., EPA is also proposing prescriptive controls to reduce dermal exposures in the workplace and address the unreasonable risk of injury to health resulting from dermal exposures to 1–BP. Specifically, EPA is proposing the use of chemically resistant gloves, either made of supported polyvinyl alcohol or a multiple-layer laminated material, supplied by the owner or operator, for certain occupational conditions of use where dermal exposure is expected to result in unreasonable risk, but for which there is no unreasonable risk

from inhalation exposure. In the 2020 Risk Evaluation for 1–BP, EPA identified that only the use of such gloves is needed to reduce dermal exposures to 1–BP to address the unreasonable risk contributed by dermal exposures from these conditions of use. Details of the proposed prescriptive controls are described in more detail in Unit IV.A.

d. Self-Certification

Since it is unlikely that all industrial or commercial facilities with occupational exposures engaged in one or more uses of 1–BP as listed in Unit IV.A.2. have the ability to implement a WCPP, EPA is including a point-of-sale self-certification requirement in order to purchase 1–BP for certain uses. EPA is proposing that this self-certification would be required for the conditions of use, other than domestic manufacturing, that would be allowed to continue for regulated entities under the WCPP. This would allow only those entities within those conditions of use that could ensure that exposures remain at or below the ECEL and meet other requirements of the 1–BP WCPP to continue to process or use 1–BP for those particular conditions of use. EPA estimates that most, but not all, workplaces under the conditions of use that would be subject to the WCPP as a proposed regulatory action are capable of implementing the ECEL and other aspects of the WCPP as part of an industrial hygiene program (existing or newly established for 1–BP), since many of these facilities would have the ability to implement process changes to reduce exposures, have equipment in place to control ventilation rates, and have or can implement a monitoring program to demonstrate compliance. However, EPA does not expect that all workplaces would be able to implement fully all the controls and monitoring necessary to comply with the WCPP to reduce the risks from 1–BP so that they are no longer unreasonable. Subjecting facilities to self-certification would ensure that only those facilities that are able to implement the ECEL and other requirements of the WCPP would be able to continue to purchase 1–BP for a condition of use subject to the 1–BP WCPP.

Under a self-certification requirement, entities would submit a self-certification to the distributor each time 1–BP is purchased. The self-certification would consist of a statement indicating that the facility is implementing a WCPP that would include an ECEL, PPE requirements, and ancillary requirements; the self-certification would be signed and presented to the distributor by the facility owner or operator or person authorized to do so. In this way, distributors of 1–BP for the specified conditions of use would be able to identify clearly the entities engaging in the specified conditions of use who should be able to purchase 1–BP. Additionally, while not required to be reported to EPA, the self-certification records would be retained for 5 years and would also provide important information to EPA during any verification of compliance with the WCPP.

Details of the proposed self-certification, including ancillary recordkeeping requirements, requirements for demonstrating compliance and requirements for distributors, are described in more detail in Unit IV.A.

2. Alternative Regulatory Actions

EPA acknowledges that, for two of the occupational conditions of use (industrial and commercial use in batch vapor degreasing—open-top and in-line; industrial and commercial use in batch vapor degreasing—closed-loop) that EPA is proposing to subject to a WCPP, there may be some activities or facilities that could conceivably implement prescriptive controls to ensure that exposures remain below an ECEL. In some cases, they may be able to undertake more extensive risk reduction measures than EPA currently anticipates. As described in Unit IV.B.1.b., under a 1–BP WCPP owners and operators would have more ability to implement risk reduction measures that may be better suited for their facility rather than subjecting facilities to specific required prescriptive controls that may not be the most suitable for all. Therefore, as a primary alternative regulatory action, described in Unit IV.B., EPA is considering and requesting comment on prescriptive controls and the implementation of a PPE program. Additionally, EPA is requesting any existing monitoring data that could inform whether a WCPP or prescriptive controls with a PPE program is a more appropriate regulatory action for these two conditions of use of 1–BP.

EPA understands that some of the workplaces engaged in a condition of use may already have stringent engineering controls, administrative controls, and PPE in place to reduce inhalation and dermal exposures to 1–BP, such as vapor degreasing. As part of the primary alternative regulatory action, EPA considered prescribed engineering controls, administrative controls, and PPE for the two occupational conditions of use. In contrast to the proposed non-prescriptive requirements of the WCPP where regulated entities would have flexibility to select controls in accordance with the hierarchy of controls to comply, EPA understands that requiring specific prescriptive controls for certain occupational conditions of use may provide greater certainty to some facilities that they are addressing the unreasonable risk. However, as summarized in this unit, EPA has uncertainty regarding the feasibility of exposure reductions through specified engineering controls, administrative controls, and/or PPE to address unreasonable risk across all workplaces engaged in certain conditions of use. Prescribing specific engineering controls, administrative controls, or PPE does not consider distinctions in processes, equipment, or workplace layout in all facilities, which may result in varying levels and types of controls needed to reduce inhalation exposures to below the ECEL. Additionally, as described in Unit V.A.1.b., there is a degree of uncertainty regarding applicability of respirators, including their feasibility and consistency of proper use, especially when exposure monitoring is not regularly conducted. However, as part of the primary alternative regulatory action, EPA is considering PPE and soliciting comment on prescribing specific engineering and administrative controls for some occupational conditions of use. In the 2020 Risk Evaluation for 1–BP, EPA identified PPE that could reduce exposures and therefore considered requiring PPE, including respiratory protection and dermal protection, as part of the primary alternative regulatory action for those certain conditions of use where the proposed regulatory action is a 1–BP WCPP. Turning to the use of PPE, however, does not consider other more preferable controls in the hierarchy of controls, including elimination, substitution, engineering, and administrative controls. As part of the primary alternative regulatory action, EPA is soliciting comment on prescribing specific engineering or administrative controls that would reduce inhalation and dermal exposures enough to address the unreasonable risk across all workplaces engaged in a condition of use.

EPA also considered a prohibition as a second alternative regulatory option for all manufacturing (including import), processing, industrial and commercial use, and disposal of 1–BP, except for the use of 1–BP and products containing 1–BP in building/construction materials (insulation). EPA

considered determining that prohibition, as a second alternative regulatory option, would be suitable for all conditions of use (except in insulation) after taking into consideration other combinations of controls as described in this unit and Unit IV. Ultimately, a prohibition would result in elimination of unreasonable risk from the use of 1–BP, rather than allowing 1–BP use to continue in perpetuity.

EPA acknowledges that, for some conditions of use for which it is considering prohibition under the second alternative regulatory option, there may be some activities or facilities that would need longer compliance timeframes in order to appropriately transition. Therefore, the second alternative regulatory action also considered providing for additional time under a prohibition to provide the flexibility for facilities to comply, for example, to account for issues affecting the supply chain, such as the ready availability of alternatives to reformulate products. In selecting among the TSCA section 6(a) requirements for the second alternative regulatory action for use of 1–BP-containing products, EPA considered risk-related factors, including but not limited to, the population exposed and the severity of the hazard of 1–BP and, separately, for other alternative solvents, which are undergoing risk evaluation and risk management under TSCA section 6, such as PCE (as part of a separate rulemaking). For example, there may be instances where PCE and 1–BP may be desired because they are non-flammable solvents used as cleaning agents for use in vapor degreasing. In these instances, additional time may be needed to identify an alternative chemical or process to avoid flammability concerns.

Details of the primary alternative regulatory action and second alternative regulatory action are described in more detail in Unit IV.B.

3. Risk Management Requirements Considered But Not Proposed

EPA considered but is not proposing to regulate the weight fraction of 1–BP in products for industrial and commercial or consumer use because 1–BP is the main constituent (*e.g.,* cleaning component) of the majority of 1–BP-containing product formulations and EPA understands that decreasing the concentration of 1–BP decreases the efficacy of the product.

EPA's proposed requirements to address unreasonable risk to workers, ONUs, and consumers and bystanders to consumer use are described in Unit IV.A.

Additional Considerations

After considering the different regulatory options under TSCA section 6(a), alternatives (described in Unit V.B.), compliance dates, and other requirements under TSCA section 6(c), EPA developed the proposed regulatory action described in Unit IV.A. to address the unreasonable risk from 1–BP to the extent necessary so that the risk is no longer unreasonable. To ensure successful implementation of this proposed regulatory action, EPA considered other section 6(a) requirements to support compliance with the proposed regulations, such as requiring monitoring and recordkeeping to demonstrate compliance with the 1–BP WCPP and downstream notification regarding the prohibition on manufacturing, processing, distribution in commerce, and use of 1–BP, including products containing 1–BP, for certain conditions of use. These proposed requirements are described in Unit IV.A.

As required under TSCA section 6(d), any rule under TSCA section 6(a) must specify mandatory compliance dates, which shall be as soon as practicable with a reasonable transition period, but no later than 5 years after the date of promulgation of the final rule (except in the case of a use exempted under TSCA section 6(g) or for full implementation of ban or phase-out requirements). For ban or phase-out requirements, EPA must specify mandatory compliance dates for the start of ban or phase-out requirements, which must be as soon as practicable but no later than 5 years after the date of promulgation of the final rule. These compliance dates are detailed in Unit IV.A. and IV.B. EPA may finalize significantly shorter or longer compliance timeframes based on consideration of public comments. Following Panel recommendations in the SBAR report, and described in Unit IV., EPA considered reasonable compliance timeframes in response to SER input and other appropriate factors, such as capital costs for new equipment, and ongoing regulations and rulemakings, including the addition of 1–BP to the list of (HAPs under the Clean Air Act (January 5, 2022; 87 FR 393) (Ref. 20). Additionally, following Panel recommendations in the SBAR report, EPA considered compliance timelines based on the availability of technically and economically feasible alternatives, as well as any information provided by other agencies that may set requirements for certification or standards relevant to degreasing, parts cleaning, or other uses of 1–BP. Following Panel recommendations in the SBAR report, EPA is requesting comment on any additional appropriate factors for identifying reasonable compliance timeframes and how to weigh the factors for degreasing and other industries, as well as differing compliance or reporting requirements or timetables that account for the resources available to small entities.

B. Consideration of Alternatives in Deciding Whether To Prohibit or Substantially Restrict 1–BP

Under TSCA section 6(c)(2)(C), in deciding whether to prohibit or restrict in a manner that substantially prevents a specific condition of use of a chemical substance or mixture, and in setting an appropriate transition period for such action, EPA must consider, to the extent practicable, whether technically and economically feasible alternatives that benefit human health or the environment, compared to the use so proposed to be prohibited or restricted, will be reasonably available as a substitute when the proposed prohibition or other restriction takes effect. To that end, in addition to an Economic Analysis (Ref. 3), EPA conducted an Alternatives Assessment, using reasonably available information (Ref. 35).

For this assessment, EPA identified and analyzed alternatives to 1–BP in products relevant to industrial, commercial, and consumer conditions of use proposed to be prohibited or restricted, even if such restrictions are not anticipated to substantially prevent the condition of use. Based on reasonably available information, including information submitted by the industry, EPA understands viable alternatives to 1–BP may not be available for several conditions of use—for example, processing 1–BP as a raw material in chemical reactions for the manufacturing of another chemical substance or product—and considered that information to the extent practicable in the development of the regulatory options as described in Unit III.B.3. For some conditions of use, EPA was unable to identify products currently available for sale that contain 1–BP. EPA is soliciting comments on whether there are products in use or available for sale relevant to these conditions of use that contain 1–BP at this time, so that EPA can ascertain whether there are alternatives that benefit human health or the environment as compared to such use of 1–BP. These conditions of use are detailed in the Alternatives Assessment (Ref. 35).

In deciding whether to propose prohibition or other significant restrictions on a condition of use of 1–BP and in proposing an appropriate transition period for any such action, EPA has therefore, pursuant to TSCA section 6(c)(2)(C), considered, to the extent practicable, whether technically and economically feasible alternatives that benefit human health or the environment, compared to the use proposed to be prohibited or restricted, would be reasonably available as a substitute when a proposed prohibition or other significant restriction would become effective. EPA is additionally requesting comment on the Alternatives Assessment as a whole.

VI. TSCA Section 6(c)(2) Considerations

A. Health Effects of 1–BP and the Magnitude of Human Exposure to 1–BP

EPA's analysis of the health effects of 1–BP and the magnitude of human exposure to 1–BP are in the 2020 Risk Evaluation for 1–BP (Ref. 1). A summary is presented here.

The 2020 Risk Evaluation for 1–BP identified potential health effects of 1–BP including non-cancer adverse health effects such as liver toxicity, kidney toxicity, reproductive toxicity, developmental toxicity, and neurotoxicity. Relative to cancer effects, the risk evaluation identified cancer hazards from genotoxicity, a recognized mechanism of cancer, and site-specific cancers, particularly for skin, intestinal, and lung tumors. EPA has determined that protecting at the cancer endpoint would also address the risk for other acute or chronic non-cancer endpoints.

For acute inhalation and dermal exposure scenarios, EPA identified non-cancer developmental effects as the most sensitive endpoint. For chronic inhalation and dermal exposure scenarios, EPA identified the following health effects: liver (increased hepatocellular vacuolization), kidney (increased pelvic mineralization), reproductive system (decreased seminal vesicle weight), developmental effects (decreased live litter size and post-implantation loss), and nervous system (decreased traction time) as the most sensitive endpoints. By the criteria presented in EPA's Guidelines for Carcinogen Risk Assessment (Ref. 30), 1–BP is characterized as ''likely to be carcinogenic to humans by all routes of exposure'' based on the positive findings for carcinogenicity in more than one test species, together with positive findings for the direct reactivity of 1–BP with DNA and suggestive but inconclusive evidence for genetic toxicity. In a two-year cancer bioassay with 1–BP exposures via the inhalation route, increases in the incidence of skin tumors (keratoacanthoma/squamous cell carcinomas) in male F344 rats, rare large intestine adenomas in female F344 rats, and alveolar/bronchiolar adenomas or carcinomas (combined) in female B6C3F1 mice were observed (Ref.1).

Regarding the magnitude of human exposure, one factor EPA considers for the conditions of use that contribute to unreasonable risk is the size of the exposed population which, for 1–BP, EPA estimates that, annually, there are between approximately 4,147 and 8,131 workers and between 2,310 and 4,709 ONUs at between 716 and 1,627 commercial operations either processing or using products containing 1–BP (Ref. 3). The number of consumers that use products containing 1–BP each year is likely to be few because EPA found that products containing 1–BP aren't typically marketed to consumers and several products that might have been marketed to consumers are being discontinued.

For the conditions of use that contribute to the unreasonable risk for 1–BP, PESS include workers, ONUs, consumer users, and bystanders to consumers using products containing 1–BP. PESS also includes the following life stages: people of reproductive age, pregnant women, infants, and children.

In addition to workers, ONUs, consumers, and bystanders to consumer use directly exposed to 1–BP, EPA recognizes there is exposure to the general population from the ambient air pathway for 1–BP, including fenceline communities. As mentioned in Unit II.D., EPA has separately conducted a screening approach to assess whether there may be potential risks to the general population from this exposure pathway. While the use of this screening approach indicates that EPA is not able to quantify reduced risk or find that there are no potential risks to fenceline communities, the screening approach was not designed to facilitate the making of an unreasonable risk determination for these communities. This unit summarizes the results of that fenceline analysis. EPA is not making a determination of unreasonable risk based on the fenceline screening analysis, however, the proposed regulatory action described in Unit IV., in combination with EPA's designation of 1–BP as a HAP (87 FR 393) and subsequent CAA-required NESHAPs, particularly for vapor degreasing, is expected to reduce risk.

As described in Unit II.D., EPA's fenceline analysis methodology was presented to the SACC peer review panel in March 2022, and EPA considered SACC feedback (including the SACC recommendation to EPA to consider multiple years of release data to estimate exposures and associated risks) and made decisions regarding how to assess general population exposures. For 1–BP, EPA recognizes that a key input into the fenceline analysis for the ambient air pathway was data on releases from the most recent Toxics Release Inventory (TRI) reporting year and that the use of more than one year of data could result in different conclusions. Accordingly, in this unit EPA presents the results of its ambient air pathway fenceline analysis based on 1–BP releases reported to TRI over a single reporting year as well as over multiple years. Additionally, analysis of the facilities identified with risk show no co-located facilities (Ref. 36).

EPA's fenceline analysis for the air pathway for 1–BP indicates that EPA is not able to conclude that there are no potential risks to fenceline communities, described further in this unit. Additionally, based on the fenceline analysis for the ambient air pathway for 1–BP, including the strengths, limitations, and uncertainties associated with the information used to inform the analysis, EPA is unable to determine with this analysis whether those risks contribute to the unreasonable risk of injury to health presented by 1–BP. Standard cancer benchmarks used by EPA and other regulatory agencies are an increased cancer risk above benchmarks ranging from 1 in 1,000,000 to 1 in 10,000 (*i.e.,* 1×10^{-6} to 1×10^{-4}) depending on the subpopulation exposed. For example, when setting standards under section 112(f)(2) of the CAA, EPA uses a two-step process, with ''an analytical first step to determine an 'acceptable risk' that considers all health information, including risk estimation uncertainty, and includes a presumptive limit on maximum individual risk (MIR) of approximately 1-in-10 thousand'' (Ref. 37). In this screening level fenceline analysis for the ambient air pathway for 1–BP, estimates of risk to fenceline communities were calculated with reference to a 1×10^{-6} benchmark for cancer risk. While the screening fenceline analysis for 1–BP indicates risk to fenceline communities, EPA is unable to determine, based on that analysis, whether risks to the general population contribute to the unreasonable risk (Ref. 36). The benchmark values are not a bright line, and the Agency considers a number of factors when determining unreasonable risk, such as the endpoint under

consideration, the reversibility of effect, and exposure-related considerations (*e.g.,* duration, magnitude, or frequency of exposure, or size of population exposed). EPA is working on improving the fenceline assessment methodology for future chemicals based on feedback from SACC and public comments. The evolving approach for evaluating risks to fenceline communities was in EPA's Draft Supplement to the Risk Evaluation for 1,4-Dioxane, *https://www.regulations.gov/document/EPA-HQ-OPPT-2019-0238-0011.*

In this unit, EPA presents the results of its ambient air pathway fenceline analysis and the uncertainties associated with the analysis. EPA also describes how the proposal to prohibit the manufacturing (include importing), processing, and distribution in commerce of 1–BP for certain industrial and commercial use and all consumer use, and to prohibit some industrial and commercial use of 1–BP, is expected to reduce the potential risks identified in the screening analysis to fenceline communities close to facilities engaging in 1–BP use. This unit also describes how EPA believes the proposed WCPP requirements may reduce exposures to the general population for facilities identified in the fenceline analysis with expected exposures to fenceline communities that are associated with conditions of use EPA is not proposing to prohibit. EPA also believes that with the proposed prohibitions of some conditions of use, risk is expected to be reduced for certain fenceline communities. EPA therefore does not intend to revisit the air pathway for 1–BP as part of a supplemental risk evaluation.

In January 2022, 1–BP was added to the HAP list under the CAA (87 FR 393), which also requires EPA to list source categories of HAPs, set standards for all HAPs that are emitted from each source category, and review and revise these standards, if necessary, to account for improvements in air pollution controls and/or prevention, including addition of any recently added HAPs that may be applicable to the standard being reviewed. As NESHAPs continue to be reviewed, and as the majority of facilities assessed, and those which indicate potential risk, in the fenceline analysis were vapor degreasing facilities, the NESHAPs process under the CAA will assess risk to the general population at the fenceline and regulate as necessary.

There are some uncertainties associated with the fenceline analysis for the air pathway for 1–BP. The TRI dataset used for the single- and the multi-year fenceline analysis and land use analysis does not include actual release point locations, which can affect the estimated concentrations of the chemical at varying distances modeled. To identify the release location for each facility, EPA used a local-coordinate system based on latitude/longitude coordinates reported in TRI. The latitude/longitude coordinates may represent the mailing address location of the office building associated with a very large facility or some other area of the facility rather than the actual release location (*e.g.,* a specific process stack). This discrepancy between the coordinates reported in TRI and the actual release point could result in an exposure concentration that does not represent the actual distance where fenceline communities may be exposed. The fenceline analysis also evaluated the most ''conservative exposure scenario'' that consists of a facility that operates year-round (365 days per year, 24 hours per day, 7 days per week) in a South Coastal meteorologic region and a rural topography setting (Ref. 36). Therefore, the modeled exposures to people may be overestimated if there are fewer exposure days per year or hours per day. Additionally, the ambient air fenceline analysis organizes facilities and associated risks by OES and generally crosswalks each OES with the associated condition of use of 1–BP (Ref. 36). For some OES, EPA identified the associated conditions of use to the category level in the August 2020 Risk Evaluation for 1–BP but was unable to identify the conditions of use to the subcategory level due to limited information on activities and use of 1–BP reported under TRI. Therefore, some OES indicating increased cancer risk from ambient air exposures to 1–BP in the air fenceline analysis may be associated with one or more conditions of use of 1–BP.

EPA's single year fenceline analysis for the ambient air pathway, based on methods presented to the SACC, evaluated 1–BP releases to TRI over the 2019 reporting year. This single year fenceline analysis identified 71 facilities with some indication of releases and potential exposure with associated cancer risk to people within select distances evaluated from 5 to 1,000 meters from the respective releasing facility. Separately, following SACC feedback, EPA applied a slightly modified pre-screening methodology to evaluate 5 years of 1–BP release data (2016 through 2020 TRI data as well as the 5-year average of that data) rather than a single year of data for facilities with reported releases in TRI. The multi-year fenceline analysis identified 105 facilities with some indication of releases and potential exposures and associated cancer risk in excess of 1×10^{-6} at a distance of 100 meters from the releasing facility (Ref. 36). Based on the multi-year fenceline analysis, 47 of these 105 facilities may have cancer risks above 1×10^{-6} at distances farther out than 100 meters when compared to the single year analysis or are facilities that were not captured in the single-year analysis (*e.g.,* did not report in 2019 TRI). Although the multi-year analysis identified several additional facilities whose operations may result in fenceline community risks above 1×10^{-6} for cancer farther out when compared to the single year analysis or that were not captured in the single-year analysis, the results of overall risk profiles (*i.e.,* OES and corresponding conditions of use with risk estimates above the benchmark for cancer at the distances evaluated) for the single year and multi-year fenceline analyses are the same.

EPA conducted a land use analysis to determine if EPA can reasonably expect an exposure to fenceline communities to occur within the modeled distances for facilities where there was an indication of risk in the single year or multi-year fenceline analysis. This review consisted of a visual analysis using aerial imagery and interpreting land/use zoning practices spaces are present within those radial distances indicating risk (as opposed to uninhabited areas), as well as whether the radial distances lie outside the boundaries of the facility. The land use analysis identified 49 facilities indicating risk in the single-year fenceline analysis and identified 35 out of the 49 facilities with expected exposure to fenceline communities. The land use analysis of the 34 additional facilities indicating risk in the multi-year fenceline analysis (*i.e.,* facilities where cancer risk estimates were above 1×10^{-6} at distances farther out when compared to the single-year analysis or facilities that were not captured in the single year analysis) identified 30 additional facilities with expected exposure to fenceline communities. Overall, the land use analysis identified a total of 49 facilities, associated with 11 conditions of use of 1–BP, with expected exposure to fenceline communities (Ref. 36). Those conditions of use of 1–BP are: degreasing (batch open-top degreasing; batch closed-loop degreasing; conveyorized vapor degreasing; web vapor degreasing; cold cleaning); incorporation into formulation, mixture, or reaction product; import; manufacturing (domestic manufacturing); other

industrial uses—cutting oils; repackaging; and recycling and disposal (Ref. 36).

Under the proposed regulatory action described in Unit IV.A., most of the conditions of use with an indication of potential risk to fenceline communities would be subject to requirements of the 1–BP WCPP, including: manufacturing; several processing conditions of use; and several industrial conditions of use. EPA is also proposing to prohibit certain conditions of use that may be associated with 2 of the 47 facilities analyzed with an indication of potential risk to fenceline communities in the fenceline analysis, including: dry cleaning and functional fluids. As a result, exposures to any fenceline communities from these facilities would be addressed under the prohibitions in the proposed rulemaking.

The remaining facilities with expected exposure to fenceline communities may be associated with the following conditions of use that EPA is not proposing to prohibit: manufacturing (domestic manufacture); processing as a reactant; processing for incorporation into formulation, mixture, or reaction products; processing for incorporation into articles; industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser—closed loop; industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser—open-top, inline vapor degreaser; and, industrial and commercial use as solvent for cleaning and degreasing in cold cleaners. For these conditions of use that may be associated with facilities that indicate expected exposure to fenceline communities, the proposed rule would require strict workplace exposure controls via implementation of a WCPP as described in Unit IV.A.2. Under the proposed WCPP requirements, facilities would need to monitor 1–BP air concentrations by taking personal breathing zone air samples of potentially exposed persons, which would allow facilities to better understand and manage the total releases of 1–BP within the facility and potentially stack and fugitive emissions. Furthermore, as part of the proposed controls outlined in Unit IV., EPA is proposing to prohibit increased releases of 1–BP to outdoor air associated with the implementation of the WCPP to avoid unintended increases in exposures to people (in the workplace and fenceline communities) from 1–BP emissions to ambient air by requiring owners to attest in their WCPP exposure control plan that engineering controls selected do not increase emissions of 1–BP to ambient air outside of the workplace, keep records of that statement as part of the WCPP exposure control plan, and document in their exposure control plan whether additional equipment was installed to capture or otherwise prevent increased emissions of 1–BP to ambient air. EPA is requesting comment on best practices to remove and reduce fugitive emissions of 1–BP from relevant operations including, but not limited to, chemical manufacturing, vapor degreasing, electronics degreasing, cold cleaning, and adhesives manufacturing. EPA is requesting comment on the types and costs of technologies firms would adopt to comply with the prohibition on increased releases of 1–BP to outdoor air associated with engineering controls used in the implementation of the WCPP. In addition, EPA requests comment on whether and to what extent certain technologies, including technologies that might be implemented pursuant to applicable regulatory authority (such as emission standards resulting from possible future NESHAP requirements), would reduce 1–BP emissions to ambient air at facilities that adopt them below emissions levels that may have existed prior to implementation of the WCPP.

Finally, in the instances where efforts to reduce exposures in the workplace to levels below the ECEL could lead to adoption of engineering controls that that may result in more 1–BP being ventilated outside, EPA believes this potential additional exposure would be limited as a result of anticipated revisions to NESHAP requirements following the designation of 1–BP as a HAP under the CAA.

EPA expects that this proposed action, in combination with the emissions standards resulting from anticipated revisions to NESHAP requirements following the designation of 1–BP as a HAP, would reduce risk sufficiently to the general population and fenceline communities. EPA does not intend at this time to revisit the air pathway for 1–BP as part of a supplemental risk evaluation. EPA is seeking comment on its conclusions, and whether, consistent with TSCA section 9(b), any other statutory authorities administered by EPA should be used to take additional regulatory action identified as necessary to protect against such risk. EPA is also soliciting comment on whether EPA should require ambient air monitoring, including fenceline monitoring, at fenceline locations or facility emissions source monitoring to demonstrate compliance with the proposed requirement that engineering controls implemented as part of a WCPP under this rulemaking would not result in the ventilation of more 1–BP outside. The Agency recognizes that owners and operators may have difficulty distinguishing between emission increases due to implementation of the WCPP and emissions increases resulting from other factors such as increased manufacturing, processing, or use of 1–BP, although monitoring at both upwind and downwind locations could help them do so. In addition, EPA understands the difficulty in distinguishing between background levels of 1–BP and emissions from facilities. Therefore, EPA is soliciting comment on the need for and associated costs of ambient air monitoring at fenceline locations and facility emissions source monitoring, as well as information on the frequency and nature of air monitoring EPA should consider including as requirements in the final rule (such as a detection limit for 1–BP). EPA is also requesting comment on methods to inform fenceline communities of any increases of 1–BP emissions to ambient air. EPA is also soliciting comment on whether, if EPA does not finalize the proposed prohibition on increased releases of 1–BP to ambient air outside of the workplace associated with implementation of the WCPP, EPA should require monitoring to alert EPA to any increased emissions to ambient air associated with WCPP implementation so that the Agency may take appropriate action.

B. Environmental Effects of 1–BP and the Magnitude of Exposure of the Environment to 1–BP

EPA's analysis of the environmental effects of 1–BP and the magnitude of exposure of the environment to 1–BP are in the 2020 Risk Evaluation for 1–BP (Ref. 1). The unreasonable risk determination for 1–BP is based solely on risks to human health; based on the TSCA 2020 Risk Evaluation for 1–BP, EPA determined that exposures to the environment did not contribute to the unreasonable risk from 1–BP. A summary is presented here.

EPA considered the effects of 1–BP on aquatic, sediment dwelling, and terrestrial organisms. EPA found that there were no exceedances of benchmarks to aquatic organisms from exposures to 1–BP. Based on a consideration of the physical-chemical properties and uses of 1–BP, exposure to aquatic species is the only route of exposure to the environment that was quantitatively assessed in the risk evaluation. Risks to terrestrial and sediment-dwelling aquatic species were qualitatively evaluated by considering

physical-chemical and environmental fate properties of 1–BP, which indicate that there is a low potential for exposure to terrestrial and sediment-dwelling aquatic species. The quantitative assessment of water column-dwelling aquatic species was updated in the final risk evaluation to incorporate the Ecological Structure Activity Relationships (ECOSAR) modeling results for environmental hazards to reduce uncertainty about the limited environmental hazard data available for 1–BP. EPA conducted a screening-level assessment of the available environmental hazards and release information to calculate RQs to quantify potential risks to the environment from 1–BP. The RQ values associated with acute and chronic exposures are <0.01 and 0.12, respectively, based on the best available science (Risk Evaluation, Table 4–2) and are less than the concentrations that would cause an effect to organisms in the aquatic pathways. The RQ values for risks from acute and chronic exposure to 1–BP are <1, based on a comparison of all available data characterizing exposure and hazard to aquatic species. These values indicate that risks to the environment are not identified based on the conditions of use within the scope of the risk evaluation.

EPA considered uncertainties in its determination of unreasonable risk for 1–BP to the environment. While EPA has determined that sufficient data are reasonably available to characterize the overall environmental hazards of 1–BP under the conditions of use, there are uncertainties regarding the available environmental hazard data for 1–BP. High volatility (Vapor Pressure = 110 mm Hg and Henry's Law constant of 7.3 $\times 10^{-3}$ atm-m^3/mole), and a consideration of the conditions of use of the chemical, indicate that 1–BP will only be present in terrestrial environmental compartments as a transient vapor. No specific conditions of use were identified that resulted in systematic, significant airborne exposures that overlap with terrestrial habitats, so this is not considered a relevant route of exposure for 1–BP under the conditions of use of the risk evaluation. Additionally, 1–BP is not expected to bioaccumulate and therefore, exposure to terrestrial species through ingestion of prey is negligible.

C. Benefits of 1–BP for Various Uses

1–BP has a wide range of uses, including as a solvent for cleaning and degreasing (*i.e.,* vapor degreasing, cold cleaning, and aerosol degreasing). A variety of consumer and commercial products use 1–BP as adhesives and sealants, in furniture care products, in dry cleaning, spot cleaning and other liquid, spray, and aerosol cleaners, and in automotive care products. 1–BP is also used in insulation for building and construction materials. 1–BP is subject to federal and state regulations and reporting requirements, as further described in Unit VIII. According to data collected in EPA's 2016 Chemical Data Reporting (CDR) Rule, 25.9 million pounds of 1–BP were manufactured in or imported into the United States in 2015. Data publicly reported indicate that there are two domestic manufacturers and eight importers of 1–BP in the United States. Total production volume (domestic manufacture plus import) of 1–BP increased from 2012 to 2015. 1–BP's volume has increased because it has been an alternative to ozone-depleting substances and chlorinated solvents. Import volumes for 1–BP reported to the 2016 CDR are between 10 million and 25 million pounds per year.

D. Reasonably Ascertainable Economic Consequences of the Proposed Rule

1. Likely Effect of the Rule on the National Economy, Small Business, Technological Innovation, the Environment, and Public Health

The reasonably ascertainable economic consequences of this proposed rule include several components, all of which are described in the Economic Analysis for this proposed rule (Ref. 3). With respect to the anticipated effects of this proposed rule on the national economy, EPA considered the number of businesses and workers that would be affected and the costs and benefits to those businesses and workers and did not find that there would be an impact on the national economy (Ref. 3). The economic impact of a regulation on the national economy becomes measurable only if the economic impact of the regulation reaches 0.25% to 0.5% of Gross Domestic Product (GDP). Given the current GDP, this is equivalent to a cost of $40 billion to $80 billion. Therefore, because EPA has estimated that the monetized cost of the proposed rule would range from $14.8 million annualized over 20 years at a 3% discount rate and $15.5 million annualized over 20 years at a 7% discount rate, EPA has concluded that it is highly unlikely this proposed rule would result in any measurable effect on the national economy (Ref. 3). In addition, EPA considered the employment impacts of this proposed rule, and found that the direction of change in employment is uncertain, but EPA expects the short-term and longer-term employment effects would be small.

There are an estimated 931 small entities affected by the proposed option with a per firm and total estimated cost impact of $13 thousand and $12 million, respectively. Of the small businesses potentially impacted by this proposed rule, 88% are expected to have impacts of less than 1% of their firm revenues, 7% are expected to have impacts between 1 and 3% of their firm revenues, and 5% are expected to have impacts greater than 3% of their firm revenues.

Users of 1–BP in vapor degreasing could be strongly impacted because they may have no economical alternative to the use of 1–BP.

No incremental costs beyond the cost of rule familiarization are estimated for users of 1–BP products that are prohibited under the proposed rule. Users are assumed to switch to alternatives with similar costs and efficacy. As noted in section 7.12 of the EA, there may be some applications where 1–BP is more effective, reducing labor time and wait time, and this analysis was unable to quantify those costs. For example, there may be some safety-critical applications where alternatives would need to undergo extensive safety review and testing before they could replace the 1–BP products. The impact of a prohibition of 1–BP for these uses could potentially result in important negative impacts of the proposed option, but EPA was unable to quantify any of these potential impacts, so cost impacts to potentially affected small businesses could not be estimated.

With respect to this proposed rule's effect on technological innovation, EPA expects this action to spur more innovation than it will hinder. A prohibition or significant restriction on the manufacture, processing, and distribution in commerce of 1–BP for uses covered in this proposed rule may increase demand for safer chemical substitutes. This proposed rule is not likely to have significant effects on the environment because 1–BP does not present an unreasonable risk to the environment, though this proposed rule does present the potential for small reductions in air emissions associated with improper disposal of products containing 1–BP. The effects of this proposed rule on public health are estimated to be positive, due to the reduced risk of cancer and other non-cancer endpoints from exposure to 1–BP.

2. Costs and Benefits of the Proposed Regulatory Action and of the One or More Primary Alternative Regulatory Actions Considered by the Administrator

The costs and benefits that can be monetized for this proposed rule are described at length in the Economic Analysis (Ref. 3). The monetized costs for this proposed rule are estimated to range from $14.8 million annualized over 20 years at a 3% discount rate and $15.5 million annualized over 20 years at a 7% discount rate. The monetized benefits are estimated to be $27.2 million annualized over 20 years at a 3% discount rate and $12.9 million annualized over 20 years at a 7% discount rate.

EPA considered the estimated costs to regulated entities as well as the cost to administer and enforce alternative regulatory actions. The primary and second alternative regulatory actions are described in detail in Unit IV.B. The estimated annualized costs of the primary alternative regulatory action are $14.4 million at a 3% discount rate and $15.0 million at a 7% discount rate over 20 years (Ref. 3). The estimated annualized costs of the second alternative regulatory action are $181.2 million at a 3% discount rate and $250.1 million at a 7% discount rate over 20 years. The monetized benefits of the primary alternative action are estimated to be $27.2 million annualized over 20 years at a 3% discount rate and $12.9 million annualized over 20 years at a 7% discount rate (Ref. 3). The monetized benefits of the second alternative action are estimated to be $27.2 million annualized over 20 years at a 3% discount rate and $13.0 million annualized over 20 years at a 7% discount rate. For the proposed rule, as described in the Economic Analysis, EPA assumes that all vapor degreasing and batch cold cleaning users can comply with a WCPP. However, some users may require supplied air respirators to comply with the WCPP and it may be impractical for some workers to perform their jobs using these types of respirators. Since we estimate substitution away from 1–BP to be much more expensive than complying with a WCPP, our estimated costs could be several times higher than our current estimate if a WCPP is impractical for many users.

This proposal is expected to achieve health benefits for the American public, some of which can be monetized and others that, while tangible and significant, cannot be monetized. EPA believes that the balance of costs and benefits of this proposal cannot be fairly described without considering the additional, non-monetized benefits of mitigating the cancer and non-cancer adverse effects. These effects may include liver toxicity, kidney toxicity, reproductive effects possibly including reduction in fertility, developmental effects possibly including fetal loss and low birth weight, and neurotoxicity including peripheral neuropathy (Ref. 1). Peripheral neuropathy has been documented in workers chronically exposed to high levels of 1–BP in spray adhesives.

Fetal loss, also referred to as fetal death or fetal mortality, includes miscarriage, spontaneous abortion, or stillbirth, depending on when in the pregnancy it occurs. The impacts of fetal death, including miscarriage or stillbirth, include mental health impacts, such as depression and anxiety on the woman experiencing the death of a fetus, and can also impact partners and spouses (Ref. 3). Mental health research has consistently identified both miscarriage (defined as fetal death occurring before the 20th week of gestation) and stillbirth (defined as fetal death occurring after the 20th week of gestation) as a significant emotional burden exhibited as anxiety and depression that can persist; research suggests women and men feel effects for more than a year, women can feel effects nearly three years following the event of fetal death and after the birth of a healthy child, which emphasizes effects can persist significantly longer beyond the event (Ref. 3).

EPA also identified risks of reduction in fertility as an effect resulting from exposures to 1–BP (Ref. 1). While impacts from 1–BP exposure on fertility and fecundity cannot be quantified at this time with available data, for couples seeking treatment for infertility, costs of such treatment are often significant both financially and emotionally. The most comprehensive and appropriate value for benefit-cost analysis is willingness to pay. There are few studies for the reduced risk of infertility, but a recent study estimates a willingness to pay of $102,000 per statistical case of infertility avoided (Ref. 3). EPA also identified risks of low-birth weight by women of child-bearing age exposed to 1–BP as another health effect of concern. Low birth weight can have significant impacts on childhood development and the incidence of future diseases; reduced birth weight can cause serious health problems for some children, as well as long-term impacts on their lives as adults (Ref. 3).

The multitude of adverse effects from 1–BP exposure can profoundly impact an individual's quality of life, as discussed in Units II.A. (overview), III.B.2. (description of the unreasonable risk), and VI.A. (discussion of the health effects), as well as the 2020 Risk Evaluation for 1–BP. Chronic adverse effects of 1–BP exposure include both cancer and the non-cancer effects addressed in Unit VI.A. Acute effects of 1–BP exposure could be experienced for a shorter portion of life but are nevertheless significant in nature. The incremental improvements in health outcomes achieved by given reductions in exposure cannot be quantified for non-cancer health effects associated with 1–BP exposure, and therefore cannot be converted into monetized benefits. The qualitative discussion throughout this rulemaking and in the Economic Analysis highlights the importance of these non-cancer effects. These effects include willingness-to-pay to avoid illness, which includes cost of illness and other personal costs such as pain and suffering. Considering only monetized benefits underestimates the impacts of 1–BP adverse outcomes and therefore underestimates the benefits of this proposed rule. EPA requests comment on how EPA might best quantify and monetize non-cancer endpoints described in the 2020 Risk Evaluation for 1–BP for economic analysis.

3. Cost Effectiveness of the Proposed Regulatory Action and of One or More Primary Alternative Regulatory Actions Considered by the Administrator

Cost effectiveness is a method of comparing certain actions in terms of the expense per item of interest or goal. A goal of this proposed regulatory action is to prevent unreasonable risk resulting from exposure to 1–BP. The proposed regulatory action would cost $3.2 million per potential prevented cancer case while the primary alternative regulatory action would cost $3.1 million (using the 3% discount rate) and the second alternative regulatory action would cost $38.8 million to achieve the same goals. At a 7% discount rate, the proposed regulatory action would cost $3.3 million per potential prevented cancer case while the primary alternative regulatory action would cost $3.2 to million, and the second alternative regulatory action would cost $53.6 to million to achieve the same goals. While the proposed regulatory action is higher in cost compared to the primary alternative action, the difference is small (Ref. 3).

VII. TSCA Section 9 Analysis, Section 14, and Section 26 Considerations

A. TSCA Section 9(a) Analysis

TSCA section 9(a) provides that, if the Administrator determines, in the Administrator's discretion, that an unreasonable risk may be prevented or reduced to a sufficient extent by an action taken under a Federal law not administered by EPA, the Administrator must submit a report to the agency administering that other law that describes the risk and the activities that present such risk. Section 9(a) describes additional procedures and requirements to be followed by EPA and the other Federal agency following submission of any such report. As discussed in this unit, for this proposed rule, the Administrator proposes to exercise discretion not to determine that the unreasonable risk from 1–BP under the conditions of use may be prevented or reduced to a sufficient extent by an action taken under a Federal law not administered by EPA.

In addition, TSCA section 9(d) instructs the Administrator to consult and coordinate TSCA activities with other Federal agencies for the purpose of achieving the maximum enforcement of TSCA while imposing the least burdens of duplicative requirements. For this proposed rule, EPA has and continues to coordinate with appropriate Federal executive departments and agencies including OSHA and the Consumer Product Safety Commission (CPSC) to, among other things, identify their respective authorities, jurisdictions, and existing laws with regard to 1–BP, which are summarized in this unit.

OSHA requires that employers provide safe and healthful working conditions by setting and enforcing standards and by providing training, outreach, education and assistance. However, gaps exist between OSHA's authority to set workplace standards under the OSH Act and EPA's obligations under TSCA section 6 to eliminate unreasonable risk presented by chemical substances under the conditions of use. Health standards issued under section 6(b)(5) of the OSH Act must reduce significant risk only ''to the extent feasible.'' 29 U.S.C. 655(b)(5). To set PELs for chemical exposure, OSHA must first establish that the new standards are economically and technologically feasible (79 FR 61384, 61387, Oct. 10, 2014). But under TSCA section 6(a), EPA's substantive burden is to demonstrate that, as regulated, the chemical substance no longer presents an unreasonable risk, with unreasonable risk being determined without consideration of costs or other nonrisk factors. Thus, if OSHA were to initiate a new action to establish a PEL for 1–BP, the difference in standards between the OSH Act and TSCA may well result in the OSHA PEL being set at a higher level than the exposure limit that EPA determined would be sufficient to address the unreasonable risk under TSCA.

In addition, OSHA may set exposure limits for workers, but its authority is limited to the workplace and does not extend to consumer uses of hazardous chemicals, and thus OSHA cannot address the unreasonable risk from 1–BP under all of its conditions of use, which include consumer uses. OSHA also does not have direct authority over State and local employees, and it has no authority over the working conditions of State and local employees in States that have no OSHA-approved State Plan under 29 U.S.C. 667.

CPSC, under authority provided to it by Congress in the CPSA, protects the public from unreasonable risks of injury or death associated with the use of consumer products. Under the CPSA, CPSC has the authority to regulate 1–BP in consumer products, but not in other sectors such as automobiles, industrial and commercial products, or aircraft, for example. Further, a consumer product safety rule under the CPSA must include a finding that ''the benefits expected from the rule bear a reasonable relationship to its costs,'' 15 U.S.C. 2058(f)(3)(E), whereas EPA must apply TSCA risk management requirements to the extent necessary so that the chemical no longer presents unreasonable risk and only consider costs and benefits of the regulatory action to the extent practicable, 15 U.S.C. 2605(a), (c)(2). Additionally, the 2016 amendments to TSCA reflect Congressional intent to ''delete the paralyzing 'least burdensome' requirement,'' 162 Cong. Rec. S3517 (June 7, 2016), a reference to TSCA section 6(a) as originally enacted, which required EPA to use ''the least burdensome requirements'' that protect ''adequately'' against unreasonable risk, 15 U.S.C. 2605(a) (1976). However, a consumer product safety rule under the CPSA must impose ''the least burdensome requirement which prevents or adequately reduces the risk of injury for which the rule is being promulgated.'' 15 U.S.C. 2058(f)(3)(F). Analogous requirements, also at variance with recent revisions to TSCA, affect the availability of action CPSC may take under the Federal Hazard Substances Act (FHSA) relative to action EPA may take under TSCA. 15 U.S.C. 1262. EPA's substantive burden under TSCA section 6(a) is to apply requirements to the extent necessary so that the chemical substance no longer present the unreasonable risk that was determined in accordance with TSCA section 6(b)(4)(A) without consideration of cost or other non-risk factors.

EPA therefore concludes that TSCA is the only regulatory authority able to prevent or reduce unreasonable risk of 1–BP to a sufficient extent across the range of conditions of use, exposures and populations of concern. This unreasonable risk can be addressed in a more coordinated, efficient and effective manner under TSCA than under different laws implemented by different agencies. Moreover, the timeframe and any exposure reduction as a result of updating OSHA or CPSC regulations cannot be estimated, while TSCA requires a much more accelerated 2-year statutory timeframe for proposing and finalizing regulatory requirements to address unreasonable risk. Further there are key differences between the finding requirements of TSCA and those of the OSH Act, CPSA, and FHSA. For these reasons, in the Administrator's discretion, the Administrator proposes not to determine that unreasonable risk from 1–BP may be prevented or reduced to a sufficient extent by an action taken under a Federal law not administered by EPA. However, EPA is requesting public comment on this issue (*i.e.,* the sufficiency of an action taken under a Federal law not administered by EPA).

B. TSCA Section 9(b) Analysis

If EPA determines that actions under other Federal laws administered in whole or in part by EPA could eliminate or sufficiently reduce a risk to health or the environment, TSCA section 9(b) instructs EPA to use these other authorities to protect against that risk unless the Administrator determines in the Administrator's discretion that it is in the public interest to protect against such risk under TSCA. In making such a public interest finding, TSCA section 9(b)(2) states: ''the Administrator shall consider, based on information reasonably available to the Administrator, all relevant aspects of the risk and a comparison of the estimated costs and efficiencies of the action to be taken under this title and an action to be taken under such other law to protect against such risk.''

Although several EPA statutes could be used to limit 1–BP exposure (Ref. 6), regulations under those EPA statutes would have limitations with respect to addressing the unreasonable risk of injury to human health presented by 1–BP as identified in the 2020 Risk Evaluation because they largely regulate

releases to the environment, rather than occupational or consumer exposures, and risk to the environment does not contribute to the unreasonable risk from 1–BP identified by EPA under TSCA.

The primary exposures and unreasonable risk to consumers, bystanders, workers, and ONUs would be addressed by EPA's proposed prohibitions and restrictions under TSCA section 6(a). In January 2022, EPA added 1–BP to the HAP list under the CAA (87 FR 393). Section 112 of the CAA requires that EPA identify categories of sources that emit HAPs and then promulgate emission standards that address the emissions of all HAPs emitted from the source category. Section 112 also requires EPA to review promulgated standards at least every 8 years and to revise such standards, if necessary, to account for improvements in air pollution controls and/or pollution prevention. Technology reviews typically include an evaluation of developments in HAP control technologies or other methods of reducing HAP emissions, adjustments to emissions testing and monitoring approaches, and updates to ensure that rules are consistent with recent court decisions and other relevant issues related to the CAA section 112 rulemaking program. Further, CAA section 112 requires EPA to conduct a residual risk review to assess human health and environmental risks associated with the HAP emitted from the source category being reviewed. It is intended to ensure that public health is protected with an ample margin of safety. EPA has generally treated the risk review as a one-time requirement for each source category, but EPA has authority to conduct subsequent reviews, and sometimes does so, for example, if new information, such as a new toxicological assessment showing the increased potency of a chemical, warrants a new residual risk assessment. As part of these reviews, the EPA is required to set standards for any unregulated HAPs emitted from the source category under review, including any newly listed HAP. Since the listing of 1–BP in 2022, EPA has conducted reviews of the standards promulgated for some source categories and has looked for potential emissions of 1–BP. None of these categories were found to emit 1–BP and, therefore, EPA has not yet promulgated standards for 1–BP under CAA section 112. As other NESHAP reviews continue as part of the 8-year review cycle, including for the halogenated solvents source category for vapor degreasing facilities that constitute the majority of facilities assessed in the 1–BP fenceline analysis, the NESHAPs process under the CAA will assess risk to the general population, including people living in near proximity to facilities in the source categories. These reviews are intended to provide an ample margin of safety to protect public health consistent with statutory requirements. All source categories will be reviewed and EPA will set CAA section 112 standards that regulate 1–BP if it is found to be emitted from the source category under review. This includes the halogenated solvents source category. This rulemaking under TSCA is more appropriate to address the unreasonable risk of injury to human health and the environment presented by 1–BP as identified in the 2020 Risk Evaluation. None of EPA's other statutes (*e.g.,* RCRA, CAA, CWA) can adequately address exposures to workers and ONUs related to the specific activities that result in occupational exposures. EPA therefore concludes that TSCA is the most appropriate regulatory authority to prevent or reduce risks of 1–BP to a sufficient extent across the range of conditions of use, exposures, and populations of concern.

For these reasons, the Administrator does not determine that unreasonable risk from 1–BP under the conditions of use evaluated in the 2020 TSCA Risk Evaluation for 1–BP could be eliminated or reduced to a sufficient extent by actions taken under other Federal laws administered in whole or in part by EPA.

C. TSCA Section 14 Requirements

EPA is also providing notice to manufacturers, processors, and other interested parties about potential impacts to CBI that may occur if this action is finalized as proposed. Under TSCA section 14(b)(4), if EPA promulgates a rule pursuant to TSCA section 6(a) that establishes a ban or phase-out of a chemical substance, the protection from disclosure of any CBI regarding that chemical substance and submitted pursuant to TSCA will be ''presumed to no longer apply,'' subject to the limitations identified in TSCA section 14(b)(4)(B)(i) through (iii). If this action is finalized as proposed, then pursuant to TSCA section 14(b)(4)(B)(iii), the presumption against protection from disclosure would apply only to information about the specific conditions of use that this rulemaking would prohibit or phase out. Manufacturers or processors seeking to protect such information would be able to submit a request for nondisclosure as provided by TSCA sections 14(b)(4)(C) and 14(g)(1)(E). Any request for nondisclosure would need to be submitted within 30 days after receipt of notice from EPA under TSCA section 14(g)(2)(A). EPA anticipates providing such notice via the Central Data Exchange (CDX).

D. TSCA Section 26 Considerations

In accordance with TSCA section 26(h), EPA has used scientific information, technical procedures, measures, methods, protocols, methodologies, and models consistent with the best available science. As in the case of the unreasonable risk determination, risk management decisions for this proposed rule, as discussed in Unit III.B.3. and Unit V., were based on a risk evaluation that was subject to public comment and independent, expert peer review, and was developed in a manner consistent with the best available science and based on the weight of the scientific evidence as required by TSCA sections 26(h) and (i) and 40 CFR 702.43 and 702.45.

In particular, the ECEL value incorporated into the WCPP is derived from the analysis in the 2020 Risk Evaluation for 1–BP; it likewise represents decisions based on the best available science and the weight of the scientific evidence (Refs. 12, 38, 39). The ECEL value of 0.05 ppm as an 8-hour TWA is based on the chronic cancer inhalation unit risk (IUR) at a risk level of 1×10^{-4} identified in the 2020 Risk Evaluation for 1–BP, which is the concentration at which an adult human would be unlikely to suffer adverse effects if exposed for a working lifetime, including susceptible subpopulations.

The extent to which the various information, procedures, measures, methods, protocols, methodologies or models, as applicable, used in EPA's decisions have been subject to independent verification or peer review is adequate to justify their use, collectively, in the record for this rulemaking. Additional information on the peer review and public comment process, such as the peer review plan, the peer review report, and the Agency's response to comments, can be found at EPA's risk evaluation docket at EPA–HQ–OPPT–2016–0741 (Ref. 32).

VIII. Requests for Comment

EPA is requesting public comment on all aspects of this proposal, including the proposed and alternative regulatory actions and all individual elements of these, and all supporting analysis. Additionally, within this proposal, the Agency is soliciting feedback from the public on specific issues throughout this proposed rule. For ease of review, this

section summarizes those specific requests for comment.

1. EPA is requesting public comment on all elements of the proposed regulatory action and the alternative regulatory actions.

2. EPA is requesting comment on all elements of the IRFA, and, in particular the flexibilities that EPA has identified following input from the SERs during the SBAR process.

3. EPA is requesting public comment regarding the need for exemptions from the proposed requirement (and under what specific circumstances) pursuant to the provisions of TSCA section 6(g).

4. EPA requests public comment on whether EPA should promulgate definitions for the conditions of use covered by the 2020 Risk Evaluation for 1–BP that would not be prohibited, and, if so, whether the descriptions in Unit II.B. are consistent with the conditions of use evaluated in the 2020 Risk Evaluation for 1–BP and whether they provide a sufficient level of detail to improve the clarity and readability of the regulation if EPA were to promulgate a regulation that contains a list of the industrial and commercial conditions of use evaluated in the 2020 Risk Evaluation for 1–BP. Additionally, EPA is requesting comment regarding the number of businesses or other entities that could potentially close, as well as associated costs, with a prohibition of 1–BP for certain industrial and commercial conditions of use identified in this proposed rule.

5. EPA also requests comment on whether, rather than just excluding the consumer and commercial uses of 1–BP in insulation from the prohibitions and other requirements in this risk management rulemaking, EPA should more broadly exclude the use of articles under TSCA section 6(c)(2)(E), which would also exclude the use of 1–BP in articles that were not specifically evaluated in the 2020 Risk Evaluation for 1–BP, and if so, whether and how to define ''article'' for the purposes of this rulemaking.

6. EPA requests comment on the proposed compliance dates for prohibitions of 1–BP manufacturing, processing, distribution in commerce, and use and whether additional time is needed, for example, for products to clear the channels of trade, or for implementing substitutes; comments should include documentation such as the specific use of the chemical throughout the supply chain; concrete steps taken to identify, test, and qualify substitutes for those uses (including details on the substitutes tested and the specific certifications that would require updating); and estimates of the time required to identify, test, and qualify substitutes with supporting documentation. EPA also requests comment on whether these are the appropriate types of information for use in evaluating compliance requirements, and whether there are other considerations that should apply.

7. EPA would also like comment on whether it should consider a de minimis level of 1–BP in formulations for certain continuing industrial and commercial uses to account for impurities when finalizing these prohibitions, and, if so, what process and product formulations should be considered when evaluating a de minimis calculation to ensure exposure risk is removed.

8. EPA is requesting comment on commercial distribution channels or systems that would allow for distribution to commercial users while preventing retailers from making these products available to consumers, or feasible distribution channels for commercial users that have been developed in analogous situations, including information on whether there are market barriers to such systems.

9. EPA is soliciting comment regarding an ECEL action level that is lower than the ECEL and any associated provisions related to the ECEL action level.

10. EPA requests comment on the feasibility of complying with and monitoring for an ECEL of 0.05 ppm and an ECEL action level of 0.03 ppm, including occupational exposure monitoring and associated analytical methods. In particular, EPA requests comment on changes that may be needed in order to meet such a standard, for example changes related to elimination or substitution of 1–BP, engineering controls, process changes, or monitoring frequency. EPA is also interested in the information on the availability of laboratory capacity needed to meet the proposed standard, and the costs associated with such testing.

11. EPA is soliciting comments regarding the timing of the initial exposure monitoring so that it would be representative of all tasks involving 1–BP where exposures may approach the ECEL.

12. EPA requests comment on the timeframes for periodic monitoring outlined in Table 1 of Unit IV.A.2.

13. EPA requests comment on workplace monitoring for implementation of an ECEL. EPA is soliciting information related to the frequency of monitoring, initial monitoring, and periodic monitoring that would be needed to demonstrate workplace exposure levels. Specifically, when this may impact the frequency of periodic monitoring where initial monitoring shows that employee exposures are above the level that would initiate requirements for compliance with the ECEL.

14. EPA is requesting comment on the proposed timeframe of within 30 days to conduct additional exposure monitoring after there has been a change in the production, process, control equipment, personnel or work practices that may reasonably be expected to result in new or additional exposures at or above the ECEL action level, or when the owner or operator has any reason to believe that new or additional exposures at or above the ECEL action level have occurred.

15. EPA is also requesting comment on the proposed timeframe to conduct additional exposure monitoring after the cleanup of the spill or repair of the leak, rupture or other breakdown, as outlined in Unit IV.A.2.

16. EPA is requesting comment on how the proposed requirement that owners or operators attest that the engineering controls selected do not increase emissions of 1–BP to ambient air outside of the workplace may impact the availability, feasibility, or cost of engineering controls as a means to reduce workplace exposures to or below the proposed ECEL.

17. EPA is soliciting comment on requiring warning signs to demarcate regulated areas, such as the requirements found in OSHA's General Industry Standard for Beryllium.

18. EPA is requesting comment on whether there should be a requirement to replace cartridges or canisters after a certain number of hours, such as the requirements found in OSHA's General Industry Standard for 1,3-Butadiene, or a requirement for a minimum service life of non-powered air-purifying respirators such as the requirements found in OSHA's General Industry Standard for Benzene.

19. EPA is requesting comment on how owners and operators can engage with potentially exposed persons on the development and implementation of an exposure control plan and PPE program. EPA is also requesting comment on whether EPA should include designated representatives who can also be permitted to observe exposure monitoring and have regular access to exposure-related information at the request of potentially exposed persons.

20. EPA requests comment relative to the ability of owners or operators to conduct initial monitoring within the timeframes identified in this proposed rule, and anticipated timelines for any procedural adjustments needed to comply with the requirements outlined

in this proposed rule, including establishment of a respiratory protection program and development of an exposure control plan.

21. EPA also requests comment on whether additional time is needed to implement all aspects of the WCPP or if there are available substitutes for these applications.

22. EPA is soliciting comments on the requirements proposed for appropriate PPE selection. In addition, EPA understands that some workplaces rinse and reuse PPE after minimal use and is therefore soliciting comments on the impact on effectiveness of rinsing and reusing certain types of PPE, either gloves or protective clothing and gear. EPA also requests comment on the degree to which additional guidance related to use of PPE might be appropriate.

23. EPA requests comment on establishing a self-certification requirement, and/or reporting requirements, for purchasing and continued use of 1–BP or products containing 1–BP for certain conditions of use. For example, EPA seeks comment on whether, in future rulemakings, it should require reporting to EPA of the type of records specified in 40 CFR 751.815.

24. EPA requests comment on reasonable compliance timeframes for small businesses, including timeframes for reformulation of products or processes containing 1–BP; implementation of new engineering or administrative controls; changes to labels, SDSs, and packaging; implementation of new PPE requirements, including training and monitoring practices; and supply chain management challenges. EPA also requests comment on establishing differing compliance or reporting requirements or timetables that take into account the limited resources available to small entities.

25. EPA requests comments on the appropriateness of identified compliance timeframes for recordkeeping and downstream notification requirements described in this proposed rule.

26. EPA requests comment on the primary alternative regulatory action (a combination of prohibitions, requirements for a WCPP, prescriptive controls, self-certification, and glove use) and whether any elements of this primary alternative regulatory action described in this proposed rule should be considered as EPA develops the final regulatory action. In particular, EPA is soliciting comment on prescribing specific engineering or administrative controls that would reduce inhalation exposures enough to address the unreasonable risk across all workplaces engaged in a condition of use. EPA also requests comment on any advantages or drawbacks for the timelines outlined in Unit IV.B. compared to the timelines identified for the proposed regulatory action in Unit IV.A.

27. EPA is requesting comment on the ways in which 1–BP may be used in the following conditions of use: manufacturing (domestic); processing into formulation, mixture, or reaction products; industrial and commercial use as solvent for cleaning and degreasing in cold cleaners; industrial and commercial use as solvent in aerosol spray degreaser/cleaner; and industrial and commercial use in other uses in electronic and electronic products and metal products; laboratory chemicals for asphalt extraction; coatings for temperature indicator, including whether activities may take place in a closed system and the degree to which users of 1–BP in these sectors could successfully implement an ECEL and ancillary requirements described in Unit IV.A.

28. EPA requests comment on the second alternative regulatory action (prohibition of all uses of 1–BP, except for the commercial and consumer uses in insulation) and whether any elements of this second alternative regulatory action described in Unit IV.B. should be considered as EPA develops the final regulatory action. EPA also requests comment on any advantages or drawbacks for the timelines outlined in Unit IV.B. compared to the timelines identified for the proposed regulatory action in Unit IV.A.

29. Each non-Federal owner or operator would be required to provide respiratory protection to all potentially exposed persons in the regulated area within 3 months after receipt of the results of any exposure monitoring or within 9 months after date of publication of the final rule in the **Federal Register**. Non-Federal regulated entities would be required to implement an exposure control plan within 12 months after date of publication of the final rule in the **Federal Register**. EPA requests comment on any advantages or drawbacks for the timelines outlined in Unit IV.B. compared to the timelines identified for the proposed regulatory action in Unit IV.A.

30. EPA requests comment on the amount of time needed, for example, for vapor degreasers, to transition to an alternative process or solvent. EPA also requests comment regarding the number of entities that could potentially close as identified in the proposed rule.

31. EPA is seeking comments regarding how the requirements of 40 CFR part 63, subpart T could be applied for 1–BP, as well as any additional information on how effective these requirements would be to reduce 1–BP air concentrations and additional controls needed to reduce 1–BP exposure to workers to 0.05 ppm as an 8-hour time-weighted average.

32. EPA is requesting comment on the second alternative regulatory action and whether any elements of this second alternative regulatory action described in this unit should be considered as EPA develops the final regulatory action. EPA also requests comment on any advantages or drawbacks for the timelines outlined in this unit compared to the timelines identified for the proposed regulatory action in Unit IV.A.

33. EPA requests comment on providing an option of either complying with the ECEL or implementing various administrative and engineering controls, such as those uses employed in a closed-loop system. EPA also requests information on how a small business can demonstrate that such controls eliminate the unreasonable risk for uses of 1–BP in closed-loop systems, or other types of vapor degreasers.

34. EPA requests comment on all aspects of the proposal to allow certain conditions of use to continue under the WCPP, including the likelihood that the provisions of the WCPP, including exposure monitoring, engineering and administrative controls, PPE, and the exposure control plan, could be successfully implemented for the identified conditions of use, including, for example, the industrial and commercial use as a solvent for aerosol spray degreaser/cleaner.

35. EPA is requesting comment on specific controls that would mitigate the unreasonable risk from 1–BP and that could be included as part of a prescriptive workplace controls requirement, which could be considered as EPA develops the final regulatory action. Specifically, EPA is soliciting comment on combinations of specific engineering controls, administrative controls, and PPE that would reduce inhalation exposures to at or below the ECEL of 0.05 ppm as an 8-hour TWA for all workplaces where such controls would be required. EPA also is soliciting comment on the extent to which such requirements could reduce inhalation exposures to at or below the ECEL of 0.05 ppm as an 8-hour TWA. EPA is requesting comment on the compliance timeframe needed to implement engineering controls, administrative controls, and PPE that reduce inhalation exposures to at or

below the ECEL of 0.05 ppm as an 8-hour TWA for all regulated entities. Additionally, EPA is requesting any existing monitoring data that could inform whether a WCPP or prescriptive controls with a PPE program is a more appropriate regulatory action for industrial and commercial use of 1–BP in batch vapor degreasing.

36. EPA is soliciting comments on whether, for those product types relevant to industrial, commercial, and consumer conditions of use proposed to be prohibited or significantly restricted, where EPA was unable to identify products currently available for sale that contain 1–BP, there are products in use or available for sale relevant to these conditions of use that contain 1–BP at this time, so that EPA can ascertain whether there are alternatives that benefit human health or the environment as compared to such use of 1–BP.

37. EPA is requesting comment on the Alternatives Assessment as a whole.

38. EPA is requesting comment on the types and costs of technologies firms would adopt to comply with the prohibition on increased releases of 1–BP to outdoor air associated with engineering controls used in the implementation of the WCPP. Additionally, EPA requests comment on whether and to what extent certain control technologies, including technologies that might be implemented pursuant to applicable regulatory authority (such as emission standards resulting from possible future NESHAP requirements), would reduce 1–BP ambient air emissions at facilities that adopt them below emissions levels that existed prior to implementation of the WCPP.

39. EPA is requesting public comment on its TSCA Section 9(a) Analysis described in Unit VII.A., (*i.e.,* the sufficiency of an action taken under a Federal law not administered by EPA).

40. EPA is requesting comment on the need for and associated costs of ambient air monitoring, including fenceline monitoring, at fenceline locations; or facility emissions source monitoring, as well as information on the frequency and nature of air monitoring EPA should consider including as requirements in the final rule (such as a detection limit for 1–BP). EPA is also requesting comment on methods to inform fenceline communities of any increases of 1–BP emissions to ambient air.

41. EPA is requesting comment on whether, if EPA does not finalize the proposed prohibition on increased releases of 1–BP to ambient air outside of the workplace associated with implementation of the WCPP, EPA should require monitoring to alert EPA to any increased emissions to ambient air associated with WCPP implementation so that the Agency may take appropriate action.

42. EPA requests comment on whether owners and operators should be required to attest to whether and why the exposure controls they have selected would not result in increased releases of 1–BP to ambient air from the workplace, and keep records of that statement as part of the WCPP exposure control plan.

43. EPA is requesting comment on best practices for controlling fugitive emissions and associated costs of monitoring and controlling facility emissions to eliminate or reduce fenceline releases. This can include best workplace hazard control practices that EPA should consider including as requirements in the final rule.

44. EPA requests comment on how EPA might best quantify and monetize non-cancer endpoints described in the 2020 Risk Evaluation for 1–BP for economic analysis.

45. Following Panel report recommendations and in response to input provided by SERs, EPA is requesting comment on the following topics as outlined in the SBAR Panel Report (Ref. 23):

- EPA requests public comment on the extent to which a regulation under TSCA section 6(a) could minimize requirements, such as testing and monitoring protocols, recordkeeping, and reporting requirements.
- EPA requests comment on the methodology and inputs for the ECEL value that are directly derived from the peer reviewed analysis in the August 2020 Risk Evaluation.
- EPA requests comment on reasonable compliance timeframes for small businesses.
- EPA requests comment on differing compliance or reporting requirements or timetables that account for the resources available to small entities.
- EPA requests public comment about the feasibility of entities complying with and monitoring for a potential ECEL of 0.05 ppm. Specifically, EPA aims to obtain more information on potential costs that could be incurred using strategies to meet the requirements of such a standard, such as engineering, administrative, or prescriptive controls and how feasible it would be for entities to implement these strategies in their operations.
- EPA requests comment on providing an option of either complying with the ECEL or implementing various administrative and engineering controls, such as those employed in a closed-loop system, including information on how a small business can demonstrate that such controls eliminate the unreasonable risk for that use.
- EPA requests public comment about the feasibility of the use of alternatives to 1–BP and their availability for conditions of use that contribute to the unreasonable risk.
- EPA requests comment on temporary work practices to allow for limited circumstances, including but not limited to equipment failure or maintenance activity, where monitoring may not be feasible to comply with an ECEL. EPA requests information on the extent to which 1–BP may be used in the same facility for TSCA and non-TSCA uses.

IX. References

The following is a listing of the documents that are specifically referenced in this document. The docket includes these documents and other information considered by EPA, including documents that are referenced within the documents that are included in the docket, even if the referenced document is not itself physically located in the docket. For assistance in locating these other documents, please consult the person listed under **FOR FURTHER INFORMATION CONTACT**.

1. EPA. Risk Evaluation for 1-Bromopropane. August 2020.

2. EPA. Final Revised Unreasonable Risk Determination for 1-Bromopropane (1–BP) December 19, 2022.

3. EPA. Economic Analysis of the Proposed Regulation of 1-Bromopropane Under TSCA Section 6(a). July 2024.

4. EPA. Chemical Data Reporting. 2016.

5. EPA. Chemical Data Reporting. 2020.

6. EPA. Regulatory Actions Pertaining to 1-Bromopropane. July 2024.

7. OSHA. Standard Interpretations: 8-hour total weight average (TWA) permissible exposure limit (PEL).

8. NIOSH. Hierarchy of Controls.

9. EPA. 1-Bromopropane (1–BP); Draft Revision to Toxic Substances Control Act (TSCA) Risk Determination; Notice of Availability and Request for Comment. **Federal Register**. 87 FR 43265, July 20, 2022 (FRL–9944–01–OCSPP).

10. U.S. Army Public Health Command. Information Regarding 1-Bromopropane and the Adopted Notice of Intended Change (Threshold Limit Value Decrease from 10 ppm to 0.1 ppm).

11. OSHA. Enforcement Policy for Respiratory Hazards Not Covered by OSHA Permissible Exposure Limits. November 2, 2018.

12. EPA. Existing Chemical Exposure Limit (ECEL) for Occupational Use of 1-Bromopropane (1–BP). March 2, 2021.

13. G. Ichihara, et al. Neurologic Abnormalities in Workers of a 1-Bromopropane Factory. *Environmental Health Perspectives*. 112(13): 1319–1325.

September 2004. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1247523/.*

14. NIOSH. Hazard Alert. October 2014.

15. EPA. EPA Announces Path Forward for TSCA Chemical Risk Evaluations. June 30, 2021.

16. Executive Order 13985. Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. **Federal Register** (86 FR 7009, January 20, 2021).

17. Executive Order 13990. Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. **Federal Register** (86 FR 7037, January 25, 2021).

18. Executive Order 14008. Tackling the Climate Crisis at Home and Abroad. **Federal Register** (86 FR 7619, February 1, 2021).

19. EPA. Science Advisory Committee on Chemicals 1-Bromopropane Meeting Minutes and Final Report. September 10–12, 2019.

20. EPA. Notes from Federalism Consultation on Forthcoming Proposed Rulemakings for Methylene Chloride and 1-Bromopropane under TSCA Section 6(a). October 22, 2020.

21. EPA. Notes from Tribal Consultations on Forthcoming Proposed Rulemakings for Methylene Chloride and 1-Bromopropane under TSCA Section 6(a). November 12 & 17, 2020.

22. EPA. Environmental Justice Consultation on Forthcoming Proposed Rulemakings under TSCA Section 6(a). November 16 & 19, 2020.

23. Small Business Advocacy Review Panel. Small Business Advocacy Review Panel on EPA's Planned Proposed Rule under the Toxic Substances Control Act (TSCA) Section 6(a) for 1-Bromopropane (1–BP). December 16, 2021.

24. EPA. Initial Regulatory Flexibility Analysis for 1-Bromopropane; Regulation under the Toxic Substances Control Act (TSCA); Proposed Rule; RIN 2070–AK73. August 2023.

25. EPA. Materials for September 2020 1-Bromopropane Risk Management Webinar.

26. EPA. Stakeholder Meeting List for Proposed Rulemaking for 1-Bromopropane under TSCA Section 6(a).

27. EPA. 2021 Policy on Children's Health. October 5, 2021.

28. EPA. Problem Formulation of the Risk Evaluation for 1-Bromopropane. May 2018.

29. EPA. Supplemental Information on Occupational Exposure Assessment. August 2019.

30. EPA. Guidelines for Carcinogen Risk Assessment. March 2005.

31. OSHA. Occupational Exposure to Methylene Chloride. **Federal Register**. 62 FR 7, January 10, 1997.

32. EPA. Summary of External Peer Review and Public Comments and Disposition for 1-Bromopropane (n-Propyl Bromide). August 2020.

33. OSHA. Personal Protective Equipment. 2004. *https://www.osha.gov/sites/default/files/publications/osha3151.pdf.*

34. EPA. Final Rule. Methylene Chloride; Regulation of Paint and Coating Removal for Consumer Use Under TSCA Section 6(a). **Federal Register**. 84 FR 11420, March 27, 2019 (FRL–9989–29).

35. EPA. Alternatives Assessment for Use of 1-Bromopropane. July 2023.

36. EPA. 1-Bromopropane: Fenceline Technical Support—Ambient Air Pathway. June 16, 2023.

37. EPA. Final Rule. National Emission Standards for Hazardous Air Pollutants; Benzene Emissions From Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke ByProduct Recovery Plants. **Federal Register**. 54 FR 38044, September 14, 1989.

38. EPA. 1-Bromopropane (1–BP): Risk Management Support Documents. [DATE].

39. EPA. Risk Management for 1-Bromopropane Supplemental File: Consumer Risk Calculator. [DATE].

40. EPA. Supporting Statement for an Information Collection Request (ICR) Under the Paperwork Reduction Act (PRA); Regulation of 1-Bromopropane under TSCA Section 6(a) (Proposed Rule). EPA ICR No. 2785.01; OMB Control No. 2070–NEW. [DATE].

41. Kevin Ashley. Harmonization of NIOSH Sampling and Analytical Methods with Related International Voluntary Consensus Standards. *Journal of Occupational and Environmental Hygiene.* 12(7):D107–15. 2015. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4589148/.*

X. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 14094: Modernizing Regulatory Review

This action is a ''significant regulatory action'' as defined in Executive Order 12866 (58 FR 51735 October 4, 1993), as amended by Executive Order 14094 (88 FR 21879, April 11, 2023). Accordingly, EPA submitted this action to OMB for Executive Order 12866 review. Documentation of any changes made in response to the Executive Order 12866 review is available in the docket. EPA prepared an economic analysis (Ref. 3) of the potential costs and benefits associated with this action, which is available in the docket and is summarized in Unit VI.D.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted to OMB for review and comment under the PRA, 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR Number 2785.01 (Ref. 40). You can find a copy of the ICR in the docket for this proposed rule, and it is briefly summarized here.

There are four primary provisions of the proposed rule that may increase burden under the PRA. The first is downstream notification, which would be carried out by updates to the relevant SDS and which would be required for manufacturers, processors, and distributors in commerce of 1–BP, who would provide notice to companies downstream upon shipment of 1–BP about the prohibitions. The information submitted to downstream companies through the SDS would provide knowledge and awareness of the restrictions to these companies. The second primary provision of the proposed rule that may increase burden under the PRA is WCPP-related information generation, recordkeeping, and notification requirements (including development of exposure control plans; exposure level monitoring and related recordkeeping; development of documentation for a PPE program and related recordkeeping; development and notification to potentially exposed persons (employees and others in the workplace) about how they can access the exposure control plans, exposure monitoring records, PPE program documentation). The third primary provision of the rule that may increase burden under the PRA are requirements related to prescriptive controls recordkeeping and notification (including development and retention of records necessary for implementing use of prescriptive controls (*e.g.,* gloves), providing workplace notification to potentially exposed persons, and serving as a reference for EPA or authorized entities). The fourth primary provision of the proposed rule that may increase burden under the PRA is self-certification-related information generation, recordkeeping, and notification requirements (including development and documentation of those requirements under the WCPP and related recordkeeping; development of documentation of a self-certification statement and related recordkeeping; and notification of self-certification).

Respondents/affected entities: Persons that manufacture, process, use, distribute in commerce, or dispose of 1–BP or products containing 1–BP, except for the use of 1–BP and products containing 1–BP in building/construction materials (insulation). See also Unit I.A.

Respondent's obligation to respond: Mandatory (TSCA section 6(a) and 40 CFR part 751).

Estimated number of respondents: 1,143.

Frequency of response: On occasion.

Total estimated burden: 73,401hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $8,955,764 (per year), includes $4,371,126 annualized capital or operation and maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this proposed rule. EPA will respond to ICR-related comments in the final rulemaking. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs using the interface at *https://www.reginfo.gov/public/do/PRAMain.* Find this particular information collection by selecting ''Currently under Review—Open for Public Comments'' or by using the search function. OMB must receive comments no later than September 9, 2024.

C. Regulatory Flexibility Act (RFA)

As required by section 609(b) of the RFA, 5 U.S.C. 601 *et seq.,* EPA convened a SBAR Panel to obtain advice and recommendations from SERs that potentially would be subject to the rule's requirements. The SBAR Panel evaluated the assembled materials and small-entity comments on issues related to elements of an initial regulatory flexibility analysis (IRFA). A copy of the full SBAR Panel Report (Ref. 23) is available in the rulemaking docket.

Pursuant to section 603 of the RFA, EPA prepared an IRFA (Ref. 24) that examines the impact of the proposed rule on small entities along with regulatory alternatives that could minimize that impact. The complete IRFA is available for review in the docket and is summarized here.

1. Need for the Rule

Under TSCA section 6(a) (15 U.S.C. 2605(a)), if EPA determines after a TSCA section 6(b) risk evaluation that a chemical substance presents an unreasonable risk of injury to health or the environment, without consideration of costs or other non-risk factors, including an unreasonable risk to a PESS identified as relevant to the risk evaluation, under the conditions of use, EPA must by rule apply one or more requirements listed in TSCA section 6(a) to the extent necessary so that the chemical substance or mixture no longer presents such risk. 1–BP was the subject of a risk evaluation under TSCA section 6(b)(4)(A) that was issued in August 2020. In addition, in December 2022, EPA issued a revised unreasonable risk determination that 1–BP as a whole chemical substance presents an unreasonable risk of injury to health under the conditions of use. As a result, EPA is proposing to take action to the extent necessary so that 1–BP no longer presents such risk.

2. Objectives and Legal Basis

Under TSCA section 6(a) (15 U.S.C. 2605(a)), if EPA determines through a TSCA section 6(b) risk evaluation that a chemical substance presents an unreasonable risk of injury to health or the environment, EPA must by rule apply one or more requirements listed in section 6(a) to the extent necessary so that the chemical substance or mixture no longer presents such risk. EPA has determined through a TSCA section 6(b) risk evaluation that 1–BP presents an unreasonable risk under the conditions of use.

3. Description and Number of Small Entities to Which the Rule Will Apply

The proposed rule potentially affects small manufacturers (including importers), processors, distributors, retailers, users of 1–BP or of products containing 1–BP, and entities engaging in disposal. EPA estimates that the proposal would affect approximately 931 small entities. End users with economic and technologically feasible alternatives available do not have estimated cost impacts beyond rule familiarization costs.

4. Projected Compliance Requirements

To address the unreasonable risk EPA has identified, EPA is proposing to: prohibit the manufacture (including import), processing, and distribution in commerce of 1–BP for all consumer use, excluding the use of 1–BP in insulation; prohibit certain industrial and commercial uses and the manufacture (including import), processing and distribution in commerce of 1–BP for those uses; require a 1–BP WCPP, which would include requirements to meet an inhalation exposure concentration limit, for certain conditions of use; require self-certification for certain occupational conditions of use; require the use of gloves for certain occupational conditions of use; and establish recordkeeping and downstream notification requirements. There are an estimated 931 small entities affected by the proposed option with a per firm cost of $13 thousand with a total estimated cost impact of $12 million. This includes $12.0 million for WCPP use and $0.1 million for uses that are prohibited. No incremental costs beyond the cost of rule familiarization are estimated for users of 1–BP products that are prohibited under the proposed rule. Users are assumed to switch to alternatives with similar costs and efficacy. As noted in section 7.12 of the EA, there may be some applications where 1–BP is more effective, reducing labor time and wait time, and this analysis was unable to quantify those costs. For example, there may be some safety-critical applications where alternatives would need to undergo extensive safety review and testing before they could replace the 1–BP products. The impact of a prohibition of 1–BP for these uses could potentially result in important negative impacts of the proposed option, but EPA was unable to quantify any of these potential impacts, so cost impacts to potentially affected small businesses could not be estimated.

EPA is proposing to prohibit certain conditions of use. For most other conditions of use that contribute to the unreasonable risk determination for 1–BP, EPA proposes to address the unreasonable risk with a 1–BP WCPP, which would include a combination of requirements to address unreasonable risk contributed by inhalation. A 1–BP WCPP would encompass restrictions on certain occupational conditions of use and could include provisions for an ECEL, a PPE program, and ancillary requirements to support implementation of these restrictions.

As described in Unit IV.A., the 1–BP WCPP would be non-prescriptive, in the sense that regulated entities would not be required to use specific controls prescribed by EPA to achieve the exposure concentration limit. Rather, it would be a performance-based exposure limit that would enable owners or operators to determine how to most effectively meet the exposure limit based on conditions at their workplace.

A central component of the 1–BP WCPP is the exposure limit. Exposures remaining at or below the ECEL would address any unreasonable risk of injury to health contributed by inhalation exposures for occupational conditions of use. EPA's proposed requirements include the specific exposure limits that would be required to meet the TSCA section 6(a) standard to apply one or more requirements to the substance so that it no longer presents unreasonable risk, and also include ancillary requirements necessary for the ECEL's

successful implementation as part of a WCPP.

Regarding recordkeeping requirements, three primary provisions of the proposed rule relate to recordkeeping. The first is recordkeeping of general records: all persons who manufacture, process, distribute in commerce, or engage in industrial or commercial use of 1–BP or products containing 1–BP, except for the use of 1–BP in insulation, must maintain ordinary business records, such as invoices and bills-of-lading related to compliance with the prohibitions, restrictions, and other provisions of the regulation.

The second is recordkeeping related to WCPP compliance: under the proposed regulatory action, facilities complying with the rule through WCPP would be required to develop and maintain records associated with ECEL exposure monitoring (including measurements, compliance with Good Laboratory Practice Standards, and information regarding monitoring equipment); ECEL compliance (including the exposure control plan, PPE program implementation, and workplace information and training); and workplace participation. To support and demonstrate compliance, EPA is proposing that each owner or operator of a workplace subject to the WCPP retain compliance records for five years.

EPA is also proposing to require self-certification for certain occupational conditions of use. To further support and demonstrate compliance, EPA is proposing to require owners or operators to self-certify with a self-certification statement and provide that statement to distributors of 1–BP, as described in Unit IV.A. EPA is also proposing that each owner or operator of a facility subject to self-certification, and distributors of 1–BP to such facilities, retain compliance records for five years.

a. Classes of Small Entities Subject to the Compliance Requirements

The small entities that would be potentially directly regulated by this rulemaking are small entities that manufacture (including import), process, distribute in commerce, use, or dispose of 1–BP, including retailers of 1–BP for end-consumer uses.

b. Professional Skills Needed To Comply

Entities that would be subject to this proposal that manufacture (including import), process, or distribute 1–BP in commerce for consumer use (except for the use of 1–BP in insulation) would be required to cease under the proposed rule. The entity would be required to modify their SDS to inform their customers of the prohibition on manufacture, processing, and distribution of 1–BP for consumer use (except for the consumer use of 1–BP in building/construction materials (insulation)). They would also be required to maintain ordinary business records, such as invoices and bills-of-lading, that demonstrate compliance with the prohibitions, restrictions, and other provisions of this proposed regulation. These are all routine business tasks that do not require specialized skills or training.

Entities that use 1–BP in any industrial and commercial capacity that is proposed to be prohibited would be required to cease under the proposed rule. Restriction or prohibition of these uses will likely require the implementation of an alternative chemical or the cessation of use of 1–BP in a process or equipment that may require persons with specialized skills, such as engineers or other technical experts. Instead of developing an alternative method themselves, industrial and commercial users of 1–BP may choose to contract with another entity to do so.

Certain entities that would be permitted to continue to manufacture, process, distribute, use, or dispose of 1–BP would be required to implement a WCPP and would have to meet the provisions of the program for continued use of 1–BP. A transition to a WCPP may require persons with specialized skills such as an engineer or health and safety profession. Instead of implementing the WCPP themselves, entities that use 1–BP may choose to contract with another entity to do so. Records would have to be maintained for compliance with a WCPP, as applicable. While this recording activity itself may not require a special skill, the information to be measured and recorded may require persons with specialized skills, such as an industrial hygienist.

Certain entities that would be permitted to continue to manufacture, process, distribute, use, or dispose of 1–BP would be required to self-certify and would have to meet the provisions of self-certification for continued purchase of 1–BP. Records would have to be maintained for compliance with self-certification, as applicable. While this recording activity itself may not require a special skill, the information to be measured and recorded may require persons with specialized skills, such as an industrial hygienist, engineers, or other technical experts.

5. Relevant Federal Rules

EPA has issued numerous rules and notices pertaining to 1–BP under its various authorities. 1–BP manufacturing (including importing), processing, and use information is reported under the Chemical Data Reporting (CDR) rule (85 FR 20122, April 9, 2020; see 40 CFR part 711). 1–BP is also a listed substance subject to Toxics Release Inventory (TRI) reporting requirements pursuant to section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA), effective as of January 1, 2016 (40 CFR 372.65).

Relative to releases to air, in 2010 and 2011, EPA received petitions from the Halogenated Solvents Industry Alliance and the New York State Department of Environmental Conservation to list 1–BP as a hazardous air pollutant (HAP) under Section 112(b)(1) of the Clean Air Act (80 FR 6676, February 6, 2015). On January 9, 2017, EPA published a draft notice on the rationale for granting the petitions to add 1–BP to the list of HAPs (82 FR 2354, January 9, 2017), and subsequently issued a final notice granting the petitions to add 1–BP to the list of HAPs contained in Section 112(b)(1) of the CAA, 42 U.S.C. 7412 (85 FR 36851, June 18, 2020). On January 5, 2022, EPA published a final rule adding 1–BP to the list of HAPs (87 FR 393), effective February 4, 2022. In addition, 1–BP is listed under the National Volatile Organic Compound (VOC) Emission Standards for Aerosol Coatings (40 CFR part 59, subpart E).

The listing of 1–BP as a HAP also triggered the addition of 1–BP as a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (87 FR 20721, April 8, 2022), so that releases of 1–BP in excess of one pound must be reported (40 CFR 302).

Under EPA's Significant New Alternatives Policy (SNAP) program, EPA evaluated 1–BP as an acceptable substitute for ozone-depleting substances. In 2007, EPA listed 1–BP as an acceptable substitute for chlorofluorocarbon (CFC)–113 and methyl chloroform in the solvent and cleaning sector of industrial equipment for metals cleaning, electronics cleaning, and precision cleaning. EPA recommended the use of personal protective equipment, including chemical goggles, flexible laminate protective gloves and chemical-resistant clothing when using 1–BP (72 FR 30142, May 30, 2007). In 2007, the Agency also proposed to list 1–BP as an unacceptable substitute for CFC–113, hydrochlorofluorocarbon (HCFC)–141b

and methyl chloroform when used in adhesives or in aerosol solvents due to unacceptable risks to human health when compared with other available alternatives for these uses; and as an acceptable substitute in the coatings end use (subject to use conditions) (72 FR 30168, May 30, 2007). This proposed rule under SNAP has not been finalized by the Agency.

While OSHA has not issued a PEL for 1–BP, OSHA and NIOSH have issued a Hazard Alert, which indicates a recommended time-weighted average threshold limit value (TWA–TLV) of 10 ppm by the American Conference of Governmental Industrial Hygienists (Ref. 10). However, since then, ACGIH has recommended 0.10 ppm as the TWA–TLV value for 1–BP (Ref. 10). The U.S. Department of Transportation (DOT) regulates specific bromopropanes as a hazardous material, *e.g.,* ''UN2344, Bromopropanes, 3, PG II'' and ''UN2344, Bromopropanes, 3, PG III'' and therefore, are subject to certain requirements under the Hazardous Materials Regulations (HMR; 49 CFR parts 171–180) such as marking, labeling, and placarding—among others. The HMR derives its authority from the Federal Hazardous Materials Transportation Law (49 U.S.C. 5101 *et seq.*). As such, section 5103(b) authorizes the Secretary of Transportation to prescribe regulations for the safe transportation, including security, of hazardous materials in intrastate, interstate, and foreign commerce.

6. Significant Alternatives to the Proposed Rule

EPA analyzed alternative regulatory approaches to identify which would be feasible, reduce burden to small businesses, and achieve the objective of the statute (*i.e.,* applying one or more requirements listed in TSCA section 6(a) to the extent necessary so that the chemical substance or mixture no longer presents an unreasonable risk). As described in more detail in Unit V., EPA considered several factors, in addition to identified unreasonable risk, when selecting among possible TSCA section 6(a) requirements. To the extent practicable, EPA factored into its decisions: the effects of 1–BP on health and the environment, the magnitude of exposure to 1–BP of human beings and the environment, the benefits of 1–BP for various uses, and the reasonably ascertainable economic consequences of the proposed rule. EPA also considered input provided by the SERs in selecting among possible TSCA section 6(a) requirements as part of the proposed regulatory action and alternative regulatory actions. Additionally, as a part of this analysis, EPA considered—in addition to prohibition, WCPP, and self-certification described earlier—a wide variety of control measures to address the unreasonable risk from 1–BP such as weight fractions. As discussed in Unit V.A.3., EPA considered limiting the weight fraction of 1–BP in industrial/commercial and consumer products and conducted an analysis to estimate to what extent this would reduce risks from conditions of use that contribute to the unreasonable risk for 1–BP. EPA's analysis of these risk management approaches is detailed in Unit V.A.3. In general, EPA determined that this approach alone would either not be able to address the unreasonable risk, or would result in a product containing so little 1–BP that it would not be efficacious for the intended purpose.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million (adjusted annually for inflation) or more (in 1995 dollars) as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action would affect entities that use 1–BP. It is not expected to affect state, local, or Tribal governments because the use of 1–BP by government entities is minimal. The costs involved in this action are estimated not to exceed $183 million in 2023$ ($100 million in 1995$ adjusted for inflation using the GDP implicit price deflator) or more in any one year.

E. Executive Order 13132: Federalism

EPA has concluded that this action has federalism implications, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999), because regulations under TSCA section 6(a) may preempt State law. As set forth in TSCA section 18(a)(1)(B), the issuance of rules under TSCA section 6(a) to address the unreasonable risks presented by a chemical substance has the potential to trigger preemption of laws, criminal penalties, or administrative actions by a State or political subdivision of a State that are: (1) Applicable to the same chemical substance as the rule under TSCA section 6(a); and (2) Designed to prohibit or otherwise restrict the manufacture, processing, or distribution in commerce or use of that same chemical. TSCA section 18(c)(3) applies that preemption only to the ''hazards, exposures, risks, and uses or conditions of use'' of such chemical included in the final TSCA section 6(a) rule.

EPA provides the following preliminary federalism summary impact statement. The Agency consulted with State and local officials early in the process of developing the proposed action to permit them to have meaningful and timely input into its development. This included background presentation on September 9, 2020, and a consultation meeting on October 22, 2020. EPA invited the following national organizations representing State and local elected officials to these meetings: Association of State Drinking Water Administrators, National Association of Clean Water Agencies, Western States Water Council, National Water Resources Association, American Water Works Association, Association of Metropolitan Water Agencies, Association of Clean Water Administrators, Environmental Council of the States, National Association of Counties, National League of Cities, County Executives of America, U.S. Conference of Mayors, and National Association of Attorneys General. A summary of the meeting with these organizations, including the views that they expressed, is available in the docket (Ref. 20). EPA provided an opportunity for these organizations to provide follow-up comments in writing but did not receive any such comments.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have Tribal implications as specified in Executive Order 13175 (65 FR 67249, November 9, 2000), because it will not have substantial direct effects on Tribal governments, on the relationship between the Federal government and the Indian Tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes. This rulemaking would not have substantial direct effects on Tribal governments because 1–BP is not manufactured, processed, or distributed in commerce by Tribes. 1–BP is not regulated by Tribes, and this rulemaking would not impose substantial direct compliance costs on Tribal governments. Thus, Executive Order 13175 does not apply to this action. Nevertheless, EPA met with Tribal officials during the development of this action consistent with the EPA Policy on Consultation and Coordination with Indian Tribes, which EPA applies more broadly than Executive Order 13175.

As described in Unit III.A.1., EPA met with Tribal officials via teleconferences on November 12, 2020, and November 17, 2020, concerning the prospective regulation of the 1–BP under TSCA

section 6. (Ref. 21). During the consultation, EPA discussed risk management under TSCA section 6(a), findings from the 2020 Risk Evaluation for 1–BP, types of information to inform risk management, principles for transparency during risk management, and types of information EPA is seeking from Tribes (Ref. 21). EPA briefed Tribal officials on the Agency's risk management considerations and encouraged Tribal officials to provide additional comments after the teleconferences. Tribal officials raised no related issues or concerns to EPA during or in follow-up to those meetings. (Ref. 21)

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) directs federal agencies to include an evaluation of the health and safety effects of the planned regulation on children in federal health and safety standards and explain why the regulation is preferable to potentially effective and reasonably feasible alternatives. While the environmental health or safety risks addressed by this action present a disproportionate risk to children because the most sensitive adverse health effects are in early life stages, this action is not subject to Executive Order 13045 because it is not a significant regulatory action under section 3(f)(1) of Executive Order 12866.

However, EPA's *Policy on Children's Health* applies to this action. Information on how the Policy was applied is available in Units III.A.3., III.B.2., VI.A. and VI.B., and the 2020 Risk Evaluation for 1–BP and the Economic Analysis for this proposed rulemaking (Refs. 1, 3).

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not a ''significant energy action'' under Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution or use of energy and has not been designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action.

I. National Technology Transfer and Advancement Act (NTTAA)

Pursuant to the NTTAA section 12(d), 15 U.S.C. 272, the Agency has determined that this rulemaking involves environmental monitoring or measurement, specifically for occupational inhalation exposures to 1–BP. Consistent with the Agency's Performance Based Measurement System (PBMS), the Agency proposes not to require the use of specific, prescribed analytic methods. Rather, the Agency plans to allow the use of any method that meets the prescribed performance criteria. The PBMS approach is intended to be more flexible and cost-effective for the regulated community; it is also intended to encourage innovation in analytical technology and improved data quality. EPA is not precluding the use of any method, whether it constitutes a voluntary consensus standard or not, as long as it meets the performance criteria specified.

For this rulemaking, the key consideration for the PBMS approach is the ability to accurately detect and measure airborne concentrations of 1–BP at the ECEL and the ECEL action level. Some examples of methods which meet the criteria are included in appendix B of the ECEL memo (Ref. 12). EPA recognizes that there may be voluntary consensus standards that meet the proposed criteria (Ref. 41). EPA requests comments on whether it should incorporate such voluntary consensus standards in the final rule and seeks information in support of such comments regarding the availability and applicability of voluntary consensus standards that may achieve the sampling and analytical requirements of the proposed rule in lieu of the PBMS approach.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations and Executive Order 14096: Revitalizing Our Nation's Commitment to Environmental Justice for All

EPA believes that the human health and environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on communities with environmental justice concerns. As described more fully in the Economic Analysis, EPA conducted an analysis to characterize the baseline conditions faced by communities and workers affected by the regulation to identify the potential for disproportionate impacts on communities with environmental justice concerns. The baseline characterization suggests that workers in affected industries and regions, as well as residents of nearby communities, are more likely to be people of color than the general population in affected states, although this varied by use assessed.

EPA believes that this action is likely to reduce existing disproportionate and adverse effects on communities with environmental justice concerns. While the regulatory options are anticipated to address the unreasonable risk from exposure to 1–BP to the extent necessary so that it is no longer unreasonable, EPA is not able to quantify the distribution of the change in risk across affected workers, communities, or demographic groups. EPA is also unable to quantify the changes in risks to workers, communities, and demographic groups from non-1–BP-using technologies or practices that firms may adopt in response to the regulation to determine whether any such changes could pose EJ concerns. Data limitations prevent EPA from conducting a more comprehensive analysis that would identify the incremental impacts of the regulatory options and assess the extent to which they mitigate or exacerbate any disproportionate impacts in communities with EJ concerns. These data limitations are summarized in the Economic Analysis (Ref. 3).

EPA additionally identified and addressed EJ concerns by conducting outreach to advocates of communities that might be subject to disproportionate exposure to 1–BP, such as communities with environmental justice concerns. On November 16 and 19, 2020, EPA held public meetings as part of this consultation. (Ref. 22). See also Unit III.A.1.

The information supporting the review under Executive Order 12898 and Executive Order 14096 is contained in Units I.E., II.D., III.A.1., VI.A., and in the Economic Analysis (Ref. 3). EPA's presentations and fact sheets for the EJ consultations related to this rulemaking, are available at *https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/environmental-justice-consultations-methylene-chloride.* These materials and a summary of the consultation are also available in the public docket for this rulemaking (Ref. 22).

List of Subjects in 40 CFR Part 751

Environmental protection, Chemicals, Export notification, Hazardous substances, Import certification, Reporting and recordkeeping.

Michael S. Regan,

Administrator.

Therefore, for the reasons stated in the preamble, EPA proposes to amend 40 CFR part 751 as follows:

PART 751—REGULATION OF CERTAIN CHEMICAL SUBSTANCES AND MIXTURES UNDER SECTION 6 OF THE TOXIC SUBSTANCES CONTROL ACT

■ 1. The authority citation for part 751 continues to read as follows:

Authority: 15 U.S.C. 2605, 15 U.S.C. 2625(l)(4).

■ 2. Amend § 751.5 by adding in alphabetical order definitions for ''ECEL'' and ''Exposure group'', to read as follows:

§ 751.5 Definitions

* * * * *

ECEL is an Existing Chemical Exposure Limit and means an airborne concentration generally calculated as an eight (8)-hour time-weighted average (TWA).

* * * * *

Exposure group means a group consisting of every person performing the same or substantially similar operations in each work shift, in each job classification, in each work area where exposure to chemical substances or mixtures is reasonably likely to occur.

* * * * *

■ 3. Add subpart I to read as follows:

Subpart I—1-Bromopropane

§ 751.801 General.

This subpart establishes prohibitions and restrictions on the manufacture (including import), processing, distribution in commerce, use, and disposal of 1-bromopropane (CASRN 106–94–5), also known as n-propyl bromide, to prevent unreasonable risks of injury to health in accordance with TSCA section 6(a).

§ 751.803 Definitions.

The definitions in subpart A of this part apply to this subpart unless otherwise specified in this section. In addition, the following definitions apply to this subpart:

Distribute in commerce has the same meaning as in section 3 of the Act, except that the term does not include retailers for purposes of §§ 751.813 and 751.815.

ECEL action level means a concentration of airborne 1-bromopropane of 0.03 parts per million (ppm) calculated as an eight (8)-hour time-weighted average (TWA).

§ 751.805 Prohibitions of manufacturing, processing, distribution in commerce, and use.

(a) *Applicability.* The provisions of this section apply to the following conditions of use of 1-bromopropane as indicated in each paragraph of this section:

(1) All manufacturing, processing, and distribution in commerce for consumer use, excluding use of 1-bromopropane in building/construction materials (insulation).

(2) All manufacturing (including import), processing, and distribution in commerce of 1-bromopropane for industrial or commercial use, other than for the conditions of use addressed under §§ 751.807(a) and 751.809(a) of this subpart.

(3) All commercial or industrial use of 1-bromopropane, other than the conditions of use addressed under §§ 751.807(a) and 751.809(a) of this subpart.

(b) *Prohibitions.*

(1) After [DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], all persons are prohibited from manufacturing (including importing) 1-bromopropane for the uses listed in paragraph (a) of this section.

(2) After [DATE 9 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], all persons are prohibited from processing 1-bromopropane, including any 1-bromopropane-containing products, for the uses listed in paragraph (a) of this section.

(3) After [DATE 12 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], all persons are prohibited from distributing in commerce or making available 1-bromopropane, including any 1-bromopropane-containing products, to retailers for any use except in insulation.

(4) After [DATE 15 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], all retailers are prohibited from distributing in commerce or making available 1-bromopropane, including any 1-bromopropane containing products, for any use except in insulation.

(5) After [DATE 15 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], all persons are prohibited from distributing in commerce or making available 1-bromopropane, including any 1-bromopropane containing products, for the uses described in paragraph (a) of this section.

(6) After [DATE 18 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], all persons are prohibited from industrial or commercial use of 1-bromopropane, including any 1-bromopropane containing products, for the conditions of use listed in paragraph (a)(3) of this section.

§ 751.807 Workplace Chemical Protection Program (WCPP).

(a) *Applicability.* The provisions of this section apply to the following conditions of use of 1-bromopropane, unless otherwise indicated in this section, except to the extent the conditions of use are prohibited by § 751.805:

(1) Manufacturing (domestic manufacturing);

(2) Processing into formulation, mixture or reaction products;

(3) Industrial and commercial use as solvent for open-top and in-line batch vapor degreasing;

(4) Industrial and commercial use as solvent for closed-loop batch vapor degreasing;

(5) Industrial and commercial use as solvent for cleaning and degreasing in cold cleaners;

(6) Industrial and commercial use as solvent in aerosol spray degreaser/cleaner; and

(7) Industrial and commercial uses in other uses, in electronic and electronic products and metal products; asphalt extraction; laboratory chemicals; temperature indicator—coatings

(b) *Existing chemical exposure limit (ECEL).*

(1) *Eight-hour time-weighted average (TWA) ECEL.* Beginning [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, [DATE 9 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, or beginning 4 months after introduction of 1-bromopropane into the workplace if 1-bromopropane use commences after [DATE 9 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], the owner or operator must ensure that no person is exposed to an airborne concentration of 1-bromopropane in excess of 0.05 parts of 1-bromopropane per million parts of air (0.05 ppm) as an

eight (8)-hour TWA, consistent with requirements of paragraphs (c)(1) and, if necessary, paragraph (e)(1) of this section.

(2) *Exposure monitoring.*

(i) *General.*

(A) Owners or operators must determine each potentially exposed person's exposure by either:

(*1*) Taking a personal breathing zone air sample of each potentially exposed person's exposure; or

(*2*) Taking personal breathing zone air samples that are representative of the 8-hour TWA of each exposure group.

(B) Personal breathing zone air samples are representative of the 8-hour TWA of all potentially exposed persons in an exposure group if the samples are of at least one person's full-shift exposure who represents the highest potential 1-bromopropane exposures in that exposure group.

(C) Exposure samples must be analyzed using an appropriate analytical method by a laboratory that complies with the Good Laboratory Practice Standards in 40 CFR part 792 or a laboratory accredited by the American Industrial Hygiene Association (AIHA) or another industry-recognized program.

(D) Owners or operators must ensure that methods used to perform exposure monitoring produce results that are accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for airborne concentrations of 1-bromopropane.

(E) Owners and operators must re-monitor within 15 working days after receipt of any exposure monitoring when results indicate non-detect or air monitoring equipment malfunction, unless an Environmental Professional as defined at 40 CFR 312.10 or a Certified Industrial Hygienist reviews the monitoring results and determines re-monitoring is not necessary.

(ii) *Initial monitoring.* By [DATE 33 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, [DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, or within 30 days of introduction of 1-bromopropane into the workplace, whichever is later, each owner or operator covered by this section must perform initial monitoring of potentially exposed persons. Where the owner or operator has monitoring results from monitoring conducted within five years prior to [DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] and the monitoring satisfies all other requirements of this section, the owner or operator may rely on such earlier monitoring results to satisfy the requirements of this paragraph.

(iii) *Periodic monitoring.* The owner or operator must establish an exposure monitoring program for periodic monitoring of exposure to 1-bromopropane in accordance with Table 1.

TABLE 1 TO PARAGRAPH (b)(2)(iii)—PERIODIC MONITORING REQUIREMENTS

Air concentration condition	Periodic monitoring requirement
If initial exposure monitoring is below ECEL action level (< 0.03 ppm 8-hour TWA).	Periodic exposure monitoring is required at least once every five years.
If the most recent exposure monitoring indicates that airborne exposure is above the ECEL (>0.05 ppm 8-hour TWA).	Periodic exposure monitoring is required within 3 months of the most recent exposure monitoring.
If the most recent exposure monitoring indicates that airborne exposure is at or above the ECEL action level but at or below the ECEL (≥ 0.03 ppm 8-hour TWA, ≤ 0.05 ppm 8-hour TWA).	Periodic exposure monitoring is required within 6 months of the most recent exposure monitoring.
If the two most recent (non-initial) exposure monitoring measurements, taken at least seven days apart within a 6 month period, indicate exposure is below the ECEL action level (< 0.03 ppm 8-hour TWA).	Periodic exposure monitoring is required within 5 years of the most recent exposure monitoring.
If the owner or operator engages in a condition of use for which the ECEL is required but does not manufacture, process, use, or dispose of 1-bromopropane in that condition of use over the entirety of time since the last required monitoring event.	The owner or operator may forgo the next periodic monitoring event. However, documentation of cessation of use of 1-bromopropane is required; and periodic monitoring would be required immediately when the owner or operator resumes the condition of use.

(iv) *Additional monitoring.*

(A) The owner or operator must conduct the exposure monitoring required by paragraph (b)(2)(ii) of this section within 30 days after there has been a change in the production, process, control equipment, personnel or work practices that may reasonably be expected to result in new or additional exposures above the ECEL action level or when the owner or operator has any reason to believe that new or additional exposures above the ECEL action level have occurred.

(B) Whenever start-ups or shutdowns, or spills, leaks, ruptures or other breakdowns or unexpected releases occur that may lead to exposure to potentially exposed persons, the owner or operator must conduct the exposure monitoring required by paragraph (b)(2)(ii) of this section within 30 days after the conclusion of the start-up or shutdown and/or the cleanup of the spill or repair of the leak, rupture or other breakdown.

(v) *Observation of monitoring.*

(A) The owner or operator must provide potentially exposed persons an opportunity to observe any monitoring of occupational exposure to 1–BP that is conducted under this section and is designed to characterize the potentially exposed person's exposure.

(B) When monitoring observation requires entry into a regulated area, the owner or operator must provide the observers with the required PPE in accordance with paragraph (b)(3)(iv).

(vi) *Notification of monitoring results.*

(A) The owner or operator must inform each person whose exposures are monitored or who is part of a monitored exposure group of any represented by the monitoring of the monitoring results within 15 working days of receipt of monitoring results.

(B) This notification must include the following:

(*1*) Exposure monitoring results;

(*2*) Identification and explanation of the ECEL and ECEL action level;

(*3*) Statement of whether the monitored airborne concentration of 1-bromopropane exceeds the ECEL action level or ECEL;

(*4*) If the ECEL is exceeded per paragraph (b)(2)(vi)(B) of this section, descriptions of any exposure controls implemented by the owner or operator to reduce exposures to or below the ECEL, as required by paragraph (c)(1) of this section;

(*5*) Explanation of any respiratory protection provided in accordance with

paragraphs (b)(3)(iv), (c)(1)(ii), and (e) of this section;

(*6*) Quantity of 1-bromopropane in use at the time of monitoring;

(*7*) Location(s) of 1-bromopropane use at the time of monitoring;

(*8*) Manner of 1-bromopropane use at the time of monitoring; and

(*9*) Identified releases of 1-bromopropane.

(C) Notice must be written, in plain language, and either provided to each potentially exposed person individually in a language that the person understands, or posted in an appropriate and accessible location outside the regulated area with an English-language version and a non-English language version representing the language of the largest group of workers who do not read English.

(3) *Regulated areas.*

(i) *Establishment.* By [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, [DATE 9 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, or beginning 4 months after introduction of 1-bromopropane into the workplace if 1-bromopropane use commences after [DATE 9 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], the owner or operator must establish and maintain a regulated area wherever airborne concentrations of 1-bromopropane exceeds or can reasonably be expected to exceed the ECEL.

(ii) *Access.* The owner or operator must limit access to regulated areas to authorized persons.

(iii) *Demarcation.* The owner or operator must demarcate regulated areas from the rest of the workplace in a manner that adequately establishes and alerts persons to the boundaries of the area and minimizes the number of authorized persons exposed to 1-bromopropane within the regulated area.

(iv) *Provision of respirators.*

(A) The owner or operator must ensure that each person who enters a regulated area is supplied with a respirator selected in accordance with paragraph (e) of this section and must ensure that all persons within the regulated area are using the provided respirators whenever 1-bromopropane exposures may exceed the ECEL.

(B) An owner or operator who has implemented all feasible controls as required in paragraph (c)(1) of this section, and who has established a regulated area as required by paragraphs (b)(3)(i) and (iii) of this section where 1-bromopropane exposure can be reliably predicted to exceed the ECEL only on certain days (for example, because of work or process schedule) must have persons use respirators in that regulated area on those days.

(vi) The owner or operator must ensure that, within a regulated area, persons do not engage in non-work activities which may increase 1-bromopropane exposure.

(vii) The owner or operator must ensure that while persons are wearing respirators in the regulated area, they do not engage in activities which interfere with respirator seal or performance.

(c) *Exposure control procedures and plan.*

(1) *Methods of compliance.*

(i) By [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, or [DATE 12 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, the owner or operator must institute one or a combination of elimination, substitution, engineering controls or administrative controls to reduce exposure to or below the ECEL except to the extent that the owner or operator can demonstrate that such controls are not feasible, in accordance with the hierarchy of controls.

(ii) If the feasible controls required under paragraph (c)(1)(i) of this section that can be instituted do not reduce exposures for potentially exposed persons to or below the ECEL, then the owner or operator must use such controls to reduce exposure to the lowest levels achievable by these controls and must supplement those controls with the use of respiratory protection that complies with the requirements of paragraph (e) of this section.

(iii) Where an owner or operator cannot demonstrate that exposure to 1-bromopropane has been reduced to or below the ECEL through the use of controls required under paragraphs (c)(1)(i) and (ii) of this section, and has not demonstrated that it has appropriately supplemented with respiratory protection that complies with the requirements of paragraph (e) of this section, this will constitute a failure to comply with the ECEL.

(iv) For the Department of Defense and Federal contractors acting for or on behalf of the Department of Defense, in the event that ongoing or planned construction is necessary to implement the feasible controls required by paragraph (c)(1)(i) of this section such that no one is exposed above the ECEL, the deadlines in paragraph (c)(1)(i) of this section are extended to [DATE 60 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**]. Ongoing or planned construction efforts to address exposures above the ECEL must be documented in the exposure control plan required by paragraph (c)(2) of this section.

(2) *Exposure control plan.* By [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, or [DATE 12 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, each owner and operator must establish and implement an exposure control plan.

(i) *Exposure control plan contents.* The exposure control plan must include documentation of the following:

(A) Identification of exposure controls that were considered, including those that were used or not used to meet the requirements of paragraph (c)(1)(i) of this section, in the following sequence: elimination, substitution, engineering controls and administrative controls;

(B) For each exposure control considered, a rationale for why the exposure control was selected or not selected based on feasibility, effectiveness, and other relevant considerations;

(C) A description of actions the owner or operator must take to implement exposure controls selected, including proper installation, regular inspections, maintenance, training or other actions;

(D) A description of regulated areas, how they are demarcated, and persons authorized to enter the regulated areas;

(E) Description of activities conducted by the owner or operator to review and update the exposure control plan in compliance with paragraph (c)(2)(ii)(C) of this section to ensure effectiveness of the exposure controls, identify any necessary updates to the exposure controls, and confirm that all persons are properly implementing the exposure controls;

(F) Attestation that exposure controls selected do not increase emissions of 1-bromopropane to ambient air outside of the workplace and whether additional equipment was installed to capture or

otherwise prevent increased emissions of 1-bromopropane to ambient air.

(ii) *Exposure control plan requirements.*

(A) The owner or operator must not implement a schedule of personnel rotation as a means of compliance with the ECEL.

(B) The owner or operator must maintain the effectiveness of any controls instituted under this paragraph (c).

(C) The exposure control plan must be reviewed and updated as necessary, but at least every 5 years, to reflect any significant changes in the status of the owner or operator's approach to compliance with paragraphs (b) and (c) of this section.

(iii) *Availability of exposure control plan.*

(A) Owners or operators must make the exposure control plan and associated records available to potentially exposed persons.

(B) Owners or operators must notify potentially exposed persons of the availability of the exposure control plan and associated records within 30 days of the date that the exposure control plan is completed and at least annually thereafter.

(C) Notice of the availability of the exposure control plan and associated records must be provided in plain language writing to each potentially exposed person in a language that the person understands or posted in an appropriate and accessible location outside the regulated area with an English-language version and a non-English language version representing the language of the largest group of workers who do not read English.

(d) *Workplace information and training.*

(1) By [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, or [DATE 9 MONTHS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, the owner or operator must institute a training program and ensure that persons potentially exposed to 1-bromopropane participate in the program according to the requirements of this paragraph (d).

(2) The owner or operator must ensure that each potentially exposed person is trained prior to or at the time of a potential exposure to 1-bromopropane.

(3) The owner or operator must ensure that information and training is presented in a manner that is understandable to each person required to be trained.

(4) The following information and training must be provided to all persons potentially exposed to 1-bromopropane:

(i) The requirements of this section, as well as how to access or obtain a copy of these requirements in the workplace;

(ii) The quantity, location, manner of use, release, and storage of 1-bromopropane and the specific operations in the workplace that could result in exposure to 1-bromopropane, particularly noting where each regulated area is located;

(iii) Methods and observations that may be used to detect the presence or release of 1-bromopropane in the workplace (such as monitoring conducted by the owner or operator, continuous monitoring devices, visual appearance or odor of 1-bromopropane when being released);

(iv) The acute and chronic health hazards of 1–BP as detailed on relevant Safety Data Sheets; and

(v) The principles of safe use and handling of 1-bromopropane and measures potentially exposed persons can take to protect themselves from 1-bromopropane, including specific procedures the owner or operator has implemented to protect potentially exposed persons from exposure to 1-bromopropane, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

(5) The owner or operator must re-train each potentially exposed person annually to ensure that each such person maintains the requisite understanding of the principles of safe use and handling of 1-bromopropane in the workplace.

(6) Whenever there are workplace changes, such as modifications of tasks or procedures or the institution of new tasks or procedures, that increase exposure, and where such exposure exceeds or can reasonably be expected to exceed the ECEL action level, the owner or operator must update the training and ensure that each potentially exposed person is re-trained.

(e) *Personal Protective Equipment (PPE).*

(1) *Respiratory protection.*

(i) Beginning [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, or [DATE 9 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, or within 3 months after receipt of any exposure monitoring that indicates exposures exceeding the ECEL, or that indicates non-detect or air monitoring equipment malfunction resulting in an unknown concentration, if an owner or operator is required to provide respiratory protection pursuant to paragraph (b)(3)(iv) or (c)(1)(ii), the owner or operator must ensure that each potentially exposed person is provided with a respirator according to the requirements of this section.

(ii) For the purposes of this paragraph (e)(1), cross-referenced provisions in 29 CFR 1910.134 applying to an ''employee'' apply equally to potentially exposed persons and cross-referenced provisions applying to an ''employer'' also apply equally to owners or operators. Other terms in cross-referenced provisions in 29 CFR 1910.134 that are defined in 29 CFR 1910.134(b) have the meaning assigned to them in that paragraph.

(iii) Beginning [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, or [DATE 9 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, or within 3 months after receipt of any exposure monitoring that indicates exposures exceeding the ECEL, or that indicates non-detect or air monitoring equipment malfunction resulting in an unknown concentration, if an owner or operator is required to provide respiratory protection pursuant to paragraph (b)(3)(iv) or (c)(1)(ii), the owner or operator must develop and administer a written respiratory protection program consistent with the requirements of 29 CFR 1910.134(c)(1), (c)(3) and (c)(4).

(iv) Owners and operators must select respiratory protection required by paragraph (e)(1)(i) based on a medical evaluation consistent with the requirements of 29 CFR 1910.134(e), 1910.134 App. C. If a potentially exposed person cannot use a negative-pressure respirator that would otherwise be required by paragraph (e)(1)(i), then the owner or operator must provide that person with an alternative respirator. The alternative respirator must have less breathing resistance than the negative-pressure respirator and provide equivalent or greater protection. If the person is unable to use an alternative respirator, then the person must not be permitted to enter the regulated area.

(v) Owners and operators must select respiratory protection that properly fits each affected person and communicate

respirator selections to each affected person consistent with the requirements of 29 CFR 1910.134(f), 1910.134 App. A.

(vi) Owners and operators must provide, ensure use of, and maintain (in a sanitary, reliable, and undamaged condition) respiratory protection that is of safe design and construction for the applicable condition of use consistent with the requirements of 29 CFR 1910.134(g) through (j), 1910.134 App. B–1 to B–2.

(vii) Prior to or at the time of initial assignment to a job involving potential exposure to 1-bromopropane, owners and operators must provide training to all persons required to use respiratory protection consistent with 29 CFR 1910.134(k), 1910.134 App. D.

(viii) Owners and operators must retrain all persons required to use PPE at least annually, or whenever the owner or operator has reason to believe that a previously trained person does not have the required understanding and skill to properly use PPE, or when changes in the workplace or in PPE to be used render the previous training obsolete.

(ix) Owners or operators must select and provide to persons appropriate respirators as indicated by the most recent monitoring results as follows:

(A) If the measured exposure concentration is at or below 0.05 ppm: no respiratory protection is required.

(B) If the measured exposure concentration is above 0.05 ppm and less than or equal to 0.5 ppm (10 times ECEL): Any NIOSH Approved® air-purifying half mask respirator equipped with organic vapor cartridges or canisters; or any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator operated in demand mode equipped with a half mask; or any NIOSH-certified Self-Contained Breathing Apparatus (SCBA) in demand mode equipped with a half mask [APF 10].

(C) If the measured exposure concentration is above 0.5 ppm and less than or equal to 1.25 ppm (25 times ECEL): Any NIOSH Approved® Powered Air-Purifying Respirator (PAPR) equipped with a loose-fitting facepiece or hood/helmet equipped with organic vapor cartridges or canisters; or any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a continuous-flow mode equipped with a loose-fitting facepiece or helmet/hood [APF 25].

(D) If the measured exposure concentration is above 1.25 ppm and less than or equal to 2.5 ppm (50 times ECEL): Any NIOSH Approved® air-purifying full facepiece respirator equipped with organic vapor cartridges or canisters; any NIOSH Approved® Powered Air-Purifying Respirator (PAPR) with a half mask equipped with organic vapor cartridges or canisters; any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a pressure-demand or other positive pressure mode with a half mask; any NIOSH Approved®s Supplied-Air Respirator (SAR) or Airline Respirator in a continuous-flow mode equipped with a half mask; any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a pressure-demand or other positive pressure mode with a half mask; or any NIOSH Approved® SCBA in demand-mode equipped with a full facepiece or helmet/hood [APF 50].

(E) If the measured exposure concentration is above 2.5 ppm and less than or equal to 50 ppm (1,000 times ECEL): Any NIOSH Approved® Powered Air-Purifying Respirator (PAPR) equipped with a full facepiece equipped with organic vapor cartridges or canisters; any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a continuous-flow mode equipped with full facepiece; any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in pressure-demand or other positive-pressure mode equipped with a full facepiece and an auxiliary self-contained air supply [APF 1,000]; or any NIOSH Approved® Supplied-Air Respirator (SAR) or Airline Respirator in a continuous-flow mode equipped with a helmet or hood and has been tested to demonstrate performance at a level of a protection of APF 1,000 or greater.

(F) If the measured exposure concentration is greater than 50 ppm (1,000 times ECEL): Any NIOSH Approved® Self-Contained Breathing Apparatus (SCBA) in a pressure-demand or other positive-pressure mode equipped with a full facepiece or helmet/hood [APF 10,000].

(G) If the exposure concentration is unknown: Any NIOSH Approved® Self-Contained Breathing Apparatus (SCBA) in a pressure-demand or other positive-pressure mode equipped with a full facepiece or helmet/hood [APF 10,000].

(x) Owners and operators must select and provide respirators as required in paragraph (e)(1)(ix) of this section consistent with the requirements of 29 CFR 1910.134(d)(1)(iv), and with consideration of workplace and user factors that affect respirator performance and reliability.

(xi) Owners and operators who select air-purifying respirators must either:

(A) Select respirators that have an end-of-service-life indicator (ESLI) that is NIOSH-certified for 1-bromopropane; or

(B) Implement a change schedule for canisters and cartridges based on objective information or data that ensures that canisters and cartridges are changed before the end of their service life. The written respiratory protection program required by paragraph (e)(1)(iii) of this section must include a description of the information and data relied upon, the basis for reliance on the information and data, and the basis for the canister and cartridge change schedule.

(xii) Owners and operators must ensure that respirators are used in compliance with the terms of the respirator's NIOSH certification.

(xiii) Owners and operators must conduct regular evaluations of the workplace, including consultations with potentially exposed persons using respiratory protection, consistent with the requirements of 29 CFR 1910.134(l), to ensure that the provisions of the written respiratory protection program required under paragraph (e)(1)(iii) of this section are being effectively implemented.

(xiv) The respiratory protection requirements in this paragraph represent the minimum respiratory protection requirements, such that any respirator affording a higher degree of protection than the required respirator may be used.

(2) *Dermal protection.*

(i) Beginning [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, or [DATE 9 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, the owner or operator must provide to and ensure appropriate use of gloves by each potentially exposed person in accordance with § 751.809(b)(1) through (3).

(ii) The owner or operator must provide training and retraining to all persons required to use gloves consistent with § 751.809(b)(4) and (5).

§ 751.809 Prescriptive Controls.

(a) *Applicability.*

The provisions of this section apply to workplaces engaged in the following conditions of use of 1-bromopropane, unless otherwise indicated:

(1) Manufacturing (import);

(2) Processing as a reactant;

(3) Processing for incorporation into articles;

(4) Processing as repackaging;

(5) Processing as recycling; and
(6) Disposal.
(b) *Glove requirements.*
(1) Beginning [DATE 36 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for Federal agencies and Federal contractors acting for or on behalf of the Federal Government, or [DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] for other owners and operators, the owner or operator is required to provide and ensure the use of gloves that are chemically-resistant to 1-bromopropane, made of supported polyvinyl alcohol or a multiple-layer laminated materials, by all persons likely to be dermally exposed to 1-bromopropane (including products containing 1-bromopropane).
(2) Owners and operators must select gloves that properly fit each affected person and communicate glove selections to each affected person.
(3) Owners and operators must provide, ensure use of, and maintain (in a sanitary, reliable, and undamaged condition) gloves that are of safe design and construction for the work to be performed.
(4) Owners or operators must provide training in accordance with 29 CFR 1910.132(f) to all persons required to use gloves prior to or at the time of initial assignment to a job involving exposure to 1-bromopropane. For the purposes of this paragraph (b), provisions in 29 CFR 1910.132(f) applying to an ''employee'' also apply equally to potentially exposed persons, and provisions applying to an ''employer'' also apply equally to owners or operators.
(5) Owners and operators must retrain each person required to use gloves at least annually or whenever the owner or operator has reason to believe that a previously trained person does not have the required understanding and skill to properly use gloves, or when changes in the workplace or in gloves to be used render the previous training obsolete.

§ 751.811 Self-certification.

(a) *Applicability.*
The provisions of this section apply to the following conditions of use of 1-bromopropane, unless otherwise indicated:
(1) Processing into a formulation, mixture, or reaction product;
(2) Industrial and commercial use as a solvent in open-top and in-line batch vapor degreasing;
(3) Industrial and commercial use as a solvent in closed-loop vapor degreasing;
(4) Industrial and commercial use as a solvent for cleaning and degreasing in cold cleaners;
(5) Industrial and commercial use as a solvent in aerosol spray degreaser/cleaner; and
(6) Industrial and commercial use in other uses in electronic and electronic products and metal products; laboratory chemicals; asphalt extraction; and coatings for temperature indicators.
(b) *Self-certification requirements.*
(1) The owner or operator purchasing 1-bromopropane for one or more of the conditions of use listed in (a) must comply with the requirements of § 751.807.
(2) The owner or operator, or authorized person, must self-certify each facility engaging in one or more uses listed in paragraph (a) of this section are in compliance with requirements of § 751.807 of this subpart with the following written statement:

I certify each of the following statements, under penalty of law., This document was prepared under my direction and supervision. I further certify that this facility's implementation of the Workplace Chemical Protection Program (WCPP) for 1-bromopropane was evaluated by qualified personnel with industrial hygiene qualifications or similar experience and that this facility has implemented and complies with the WCPP for 1-bromopropane. Based on my inquiry of the individual or individuals who manage the facility and/or those individuals directly responsible for implementing the 1-bromopropane WCPP, and to the best of my knowledge and belief, the facility is in compliance with the 1-bromopropane WCPP, including the exposure control plan. I am aware that there are significant penalties, including the possibility of civil penalties for failing to comply with these requirements and criminal fines and imprisonment, for knowingly failing to comply with these requirements. If this is the first purchase of 1-bromopropane for this facility, I understand that this certification will serve as a certification that this facility will properly implement and comply with the WCPP for 1-bromopropane consistent with the applicable regulatory timelines.

(i) The statement must include the following:
(A) Printed name and signature, job classification, title, email address and phone number of the owner or operator, or authorized person, who is self-certifying;
(B) Date of self-certification;
(C) Name and address of the facility;
(D) Lists the condition of use, (*e.g.,* solvent for aerosol spray degreaser/cleaner);
(E) Examples of the type of equipment the owner or operator plans to use to meet the WCPP (*e.g.,* closed loop vapor degreaser); and
(F) Indication of whether this is the facility's first purchase of 1-bromopropane after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**].
(ii) Owners and operators must provide a current self-certification statement for each facility to the distributor from whom 1-bromopropane is being purchased for every purchase.
(iii) The self-certification statement is valid for one year, unless the facility has changed processes or there is an indication that exposures to 1–BP have changed.
(iv) Distributors of 1-bromopropane must review the self-certification statement to ensure it is appropriately completed to include the owner or operator's and the facility's information, as required by this section.
(v) Distributors of 1-bromopropane must have a complete and valid self-certification statement in accordance with this section for each sale of 1-bromopropane for a use described in paragraph (a) of this section. If the distributor obtains knowledge that the purchaser of 1–BP has failed to comply with the WCPP for 1–BP, the distributor must immediately cease to supply the substance to that purchaser, and may only commence supplying to the purchaser upon, unless the distributor has received written notification from EPA that permits its distribution.

§ 751.813 Downstream notification.

(a) Beginning on [DATE 2 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], each person who manufactures (including imports) 1-bromopropane for any use must, prior to or concurrent with the shipment, notify companies to whom 1-bromopropane is shipped, in writing, of the restrictions described in this subpart in accordance with paragraph (c) of this section.
(b) Beginning on [DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], each person who processes or distributes in commerce 1-bromopropane or any 1-bromopropane-containing products for any use must, prior to or concurrent with the shipment, notify companies to whom 1-bromopropane is shipped, in writing, of the restrictions described in this subpart in accordance with paragraph (c) of this section.
(c) The notification required under paragraphs (a) and (b) of this section must occur by inserting the following text in sections 1(c) and 15 of the Safety Data Sheet (SDS) provided with the 1-bromopropane or with any product

containing 1-bromopropane, except for the manufacture, processing, distribution in commerce, use, or disposal of 1-bromopropane in building/construction materials (insulation):

After [DATE 18 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], this chemical/product can only be distributed in commerce to or by retailers for the commercial and consumer use of 1-bromopropane in building/construction materials (insulation). After [DATE 21 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], this chemical/product is and can only be distributed in commerce to non-retailers or processed for the following purposes: Processing as a reactant; Processing into formulation, mixture, or reaction product; Processing for incorporation into articles; Processing for repackaging; Recycling; Industrial and commercial use as solvent for cleaning and degreasing in open-top and in-line batch vapor degreaser; Industrial and commercial use as solvent for cleaning and degreasing in closed-loop batch vapor degreaser; Industrial and commercial use as solvent for cleaning and degreasing in cold cleaners; Industrial and commercial use as solvent in aerosol spray degreaser/cleaner; Industrial and commercial uses in electronic and electronic products and metal products; asphalt extraction; laboratory chemicals; and temperature indicator—coatings; and Disposal.

§ 751.815 Recordkeeping requirements.

(a) *General records.*

After [DATE 60 DAYS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], all persons who manufacture, process, distribute in commerce, or engage in industrial or commercial use of 1-bromopropane or 1-bromopropane-containing products, except for the use of 1-bromopropane in insulation, must maintain ordinary business records, such as invoices and bills-of-lading related to compliance with the prohibitions, restrictions, and other provisions of this subpart.

(b) *Workplace Chemical Protection Program (WCPP) compliance.*

(1) *ECEL exposure monitoring.* For each monitoring event, owners or operators subject to the ECEL described in § 751.807(b) must retain records of:

(i) Dates, duration, and results of each sample taken;

(ii) The quantity, location(s) and manner of 1-bromopropane in use at the time of each monitoring event;

(iii) All measurements that may be necessary to determine the conditions that may have affected the monitoring results;

(iv) Name, workplace address, work shift, job classification, work area, and type of respiratory protection (if any) of each monitored person;

(v) Identification of all potentially exposed persons that a monitored person is intended to represent if using a representative sample, consistent with § 751.807(b)(2)(i)(A) and (B);

(vi) Sampling and analytical methods used as described in § 751.807(b)(2)(i)(D);

(vii) Compliance with the Good Laboratory Practice Standards in 40 CFR part 792, or use of a laboratory accredited by the AIHA or another industry-recognized program, as required by § 751.807(b)(2)(i)(C);

(viii) Information regarding air monitoring equipment, including: type, maintenance, calibrations, performance tests, limits of detection, and any malfunctions; and

(xi) Notification of exposure monitoring results in accordance with § 751.801(b)(2)(v).

(2) *ECEL compliance.* Owners or operators subject to the ECEL described in § 751.807(b) must retain records of:

(i) Exposure control plan as described in § 751.807(c)(2);

(ii) Implementation of the exposure control plan described in § 751.807(c)(2), including:

(A) Any regular inspections, evaluations, and updating of the exposure controls to maintain effectiveness;

(B) Confirmation that all persons are implementing the exposure controls; and

(C) Each occurrence and duration of any start-up, shutdown, or malfunction of the facility that causes an exceedance of the ECEL and any subsequent corrective actions taken by the owner or operator during the start-up, shutdown, or malfunctions to mitigate exposures to 1-bromopropane.

(iii) Respiratory protection used by each potentially exposed person and PPE program implementation as described in § 751.807(e), including:

(A) The name, workplace address, work shift, job classification, and work area of each potentially exposed person, and the type of respiratory protection provided to each potentially exposed person;

(B) The basis for the specific PPE selection in accordance with § 751.807(e); and

(C) Fit testing and training in accordance with § 751.807(e).

(iv) Information and training provided as required in § 751.807(d).

(3) *Workplace participation.* Owners or operators must document the notice to and ability of any potentially exposed person that may reasonably be affected by 1-bromopropane inhalation exposure to readily access the exposure control plans, facility exposure monitoring records, PPE program implementation, or any other information relevant to 1-bromopropane exposure in the workplace.

(c) *Dermal protection.*

Owners and operators subject to the dermal protection requirements described in § 751.807(e)(2) or § 751.809 of this subpart must maintain records of the following information:

(1) Dermal protection used by each potentially exposed person and PPE program implementation as described in § 751.809(b), including the name, workplace address, work shift, job classification, and work area of each person reasonably likely to directly handle 1-bromopropane or handle equipment or materials on which 1-bromopropane may present;

(2) Appropriately sized gloves and the type of glove being used at the facility, either supported polyvinyl alcohol, multiple-layer laminates, or other gloves as provided under subsequent guidance of this rule; and

(3) Training in accordance with § 751.809(b)(4) and (5).

(d) *Self-certification.*

(1) Owners and operators who self-certify as required under § 751.811 must document and retain records of each self-certification statement for each facility that is self-certifying, including:

(i) Printed name and signature, job classification, email address and phone number of the owner or operator who is self-certifying;

(ii) Date of self-certification;

(iii) Name and address of the facility; and

(iv) All records required under paragraphs (a) and (b) of this section.

(2) Distributors of 1-bromopropane must collect, maintain, and retain records relating to self-certification statements received under § 751.811 that include the following:

(i) Name of facility;

(ii) Name of owner or operator who is self-certifying;

(iii) Date of sale;

(iv) Quantity of 1-bromopropane being purchased; and

(v) Self-certification statement for each purchase of 1-bromopropane.

(e) *Retention.*

Persons required to maintain records required under this section must maintain the records for a period of 5 years from the date that such records were generated.

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