ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 751

[EPA–HQ–OPPT–2021–0057; FRL–8332–01–OCSPP]

RIN 2070–AK86

Asbestos Part 1; Chrysotile Asbestos; Regulation of Certain Conditions of Use Under the Toxic Substances Control Act (TSCA)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA or the Agency) is issuing this final rule under the Toxic Substances Control Act (TSCA) to address to the extent necessary the unreasonable risk of injury to health presented by chrysotile asbestos based on the risks posed by certain conditions of use. The injuries to human health include mesothelioma and lung, ovarian, and laryngeal cancers resulting from chronic inhalation exposure to chrysotile asbestos.

DATES: This final rule is effective on May 28, 2024.

ADDRESSES: The docket for this action, identified by docket identification (ID) number EPA–HQ–OPPT–2021–0057, is available online at *https://www.regulations.gov.* Additional instructions for visiting the docket, along with more information about dockets generally, is available at *https://www.epa.gov/.*

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION:

I. Executive Summary

A. Does this action apply to me?

You may be potentially affected by this final action if you manufacture (including import), process, distribute in commerce, use, or dispose of chrysotile asbestos. TSCA section 3(9) defines the term ''manufacture'' to mean to import into the customs territory of the United States (as defined in general note 2 of the Harmonized Tariff Schedule of the United States), produce, or manufacture. Therefore, unless expressly stated otherwise, importers of chrysotile asbestos are subject to any provisions regulating manufacture of chrysotile asbestos. 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 may include:

- Oil and Gas Extraction (NAICS code 211).
- Nuclear Electric Power Generation (NAICS code 221113).
- Chemical Manufacturing (NAICS code 325).
- Fabricated Metal Product Manufacturing (NAICS code 332).
- Transportation Equipment Manufacturing (NAICS code 336).
- Gasket, Packing, and Sealing Device Manufacturing (NAICS code 339991).
- Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS code 4231).
- Motor Vehicle and Parts Dealers (NAICS code 441).
- Automotive Repair and Maintenance (NAICS code 8111).

This action may also affect certain entities through pre-existing import, including 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 also subject to TSCA section 13 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 final 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. Asbestos (including chrysotile asbestos) is already subject to TSCA section 6(a) (40 CFR part 763, subparts G and I) rules and a significant new use rule under TSCA section 5(a)(2) (40 CFR part 721.11095) that trigger the export notification provisions of TSCA section 12(b) (15 U.S.C. 2611(b); see also 40 CFR 721.20). Any person who exports or intends to export asbestos (including chrysotile asbestos) must comply with the export notification requirements in 40 CFR part 707, subpart D.

If you have any questions regarding the applicability of this final 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 the 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, without consideration of costs or other non-risk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant to the risk evaluation, under the conditions of use, EPA must by rule apply one or more requirements 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 chrysotile asbestos presents an unreasonable risk of injury to health, without consideration of costs or other non-risk factors, including an unreasonable risk to potentially exposed or susceptible subpopulations identified as relevant to the 2020 Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos by EPA, under the following conditions of use (Ref. 1):

- Processing and Industrial use of Chrysotile Asbestos Diaphragms in the Chlor-alkali Industry;
- Processing and Industrial Use of Chrysotile Asbestos-Containing Sheet Gaskets in Chemical Production;
- Industrial Use and Disposal of Chrysotile Asbestos-Containing Brake Blocks in the Oil Industry;
- Commercial Use and Disposal of Aftermarket Automotive Chrysotile Asbestos-Containing Brakes/Linings;
- Commercial Use and Disposal of Other Chrysotile Asbestos-Containing Vehicle Friction Products;
- Commercial Use and Disposal of Other Chrysotile Asbestos-Containing Gaskets;
- Consumer Use and Disposal of Aftermarket Automotive Chrysotile Asbestos-Containing Brakes/Linings; and
- Consumer Use and Disposal of Other Chrysotile Asbestos-Containing Gaskets.

A detailed description of the conditions of use that contribute to

EPA's determination that chrysotile asbestos presents an unreasonable risk is included in Unit II.C.2. Accordingly, to address the unreasonable risk, EPA is issuing this final rule under TSCA section 6(a) to:

(i) Prohibit the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, in the chlor-alkali industry and require interim workplace controls;

(ii) Prohibit the manufacture (including import), processing, use, distribution in commerce and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for sheet gaskets in chemical production and require interim workplace controls for certain commercial uses;

(iii) Prohibit the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for oilfield brake blocks, aftermarket automotive brakes and linings, other vehicle friction products and other gaskets;

(iv) Prohibit the manufacture (including import), processing, and distribution in commerce of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for consumer use of aftermarket automotive brakes and linings and other gaskets; and

(v) Establish disposal and recordkeeping requirements.

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 no longer presents such risk.'' Chrysotile asbestos was the subject of a risk evaluation under TSCA section 6(b)(4)(A) that was issued in December 2020 (Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos) (Ref. 1). On April 12, 2022, EPA issued a proposed rule (87 FR 21706) (FRL–8332–02–OCSPP) under TSCA section 6(a) to regulate those conditions of use evaluated in the 2020 Risk Evaluation for which EPA determined unreasonable risk, so that chrysotile asbestos does not present unreasonable risk as determined in the 2020 Risk Evaluation, and the Agency received public comment on the proposal. After the close of the public comment period for the proposed rule, EPA received comments and held meetings with stakeholders. EPA issued a Notice of Data Availability on March 17, 2023 (88 FR 16389) (FRL–8332–04–OCSPP), to request additional public comment on any information received during and after the proposed rule public comment period and how EPA should consider such information in the development of this final rule. With this action, EPA is finalizing with modifications the rule proposed on April 12, 2022 (87 FR 21706), so that conditions of use of chrysotile asbestos do not present unreasonable risk, as determined in the 2020 Risk Evaluation. The unreasonable risk is described in Unit II.C.1. and the conditions of use that are the subject of this final action are described in Unit II.C.2.

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

EPA has prepared an Economic Analysis of the potential incremental impacts associated with this rulemaking. (Ref. 2).

1. Background

Asbestos use in the nation has been declining for decades and current domestic consumption of raw asbestos is less than 0.1% of peak consumption in the early 1970s. Chlor-alkali producers are the only industry in the U.S. known to fabricate products from raw chrysotile asbestos. In addition, EPA has concluded that imports of a few asbestos-containing products are intended, known, or reasonably foreseen to occur; while the total quantity of asbestos in those products is uncertain, it is believed to be relatively small (see Appendix C of the Risk Evaluation).

2. Costs

Three firms own a total of eight chlor-alkali facilities in the U.S. that still use asbestos diaphragms to produce chlorine and sodium hydroxide (also known as caustic soda). The eight facilities range in age from 42 to 83 years old, although some have had new capacity added as recently as 18 years ago, and others may have had recent refurbishments. The share of total chlorine and caustic soda production using asbestos diaphragm cells has been declining over time. The diaphragm cells in these facilities currently represent about one-third of U.S. chlor-alkali production capacity. EPA anticipates that firms will respond to the rule by converting their asbestos diaphragm cells to non-asbestos diaphragms or membrane cells, which do not use asbestos. A more detailed discussion of the expected impacts of conversion from asbestos-containing diaphragm cells to non-asbestos diaphragms or membrane cells is located in Unit VII.B.5.

Converting the facilities using asbestos diaphragm cells to non-asbestos technologies is predicted to require an investment of approximately $2.8 billion to $3.4 billion across all eight facilities. For a number of these facilities, the non-asbestos technologies, particularly membrane cells, are more energy efficient than asbestos diaphragm cells, so those conversions are expected to result in savings for the companies that would accrue over the lifetimes of the facilities. The dollar value of the expected change in energy usage (which is a net energy savings across all the facilities) is included in the estimated net annualized costs. Membrane cells also produce a higher grade of caustic soda that has historically commanded a higher price than the product from asbestos diaphragm cells, and which may continue to do so in the future. EPA anticipates that the conversions to non-asbestos diaphragms and membranes would occur in the coming decades even without this final rule, following existing trends in the chlor-alkali industry to transition away from asbestos. Compared to this baseline trend, the incremental net effect of the rule on the chlor-alkali industry over a 35-year period using a 3 percent discount rate is estimated to range from an annualized cost of $7 million per year to an annualized savings of $1 million per year, depending on whether the higher grade of caustic soda produced by membrane cells continues to command a premium price. Using a 7 percent discount rate, the incremental annualized net effect is a cost ranging from $34 million to $43 million per year, again depending on whether there are revenue gains from the caustic soda production.

EPA also estimates that approximately 1,800 sets of automotive brakes or brake linings containing asbestos may be imported into the U.S. each year, representing 0.002% of the total U.S. market for aftermarket brakes. The cost of a prohibition would be minimal due to the ready availability of alternative products that are only slightly more expensive (an average cost increase of about $5 per brake). The rule is estimated to result in total annualized costs for aftermarket automotive brakes

of approximately $300,000 per year using a 3% discount rate and $200,000 per year using a 7% discount rate.

EPA did not have information to estimate the costs of prohibiting asbestos for the remaining uses subject to the rule (sheet gaskets used in chemical production, including titanium dioxide production and nuclear material processing; brake blocks in the oil industry; other vehicle friction products; or other gaskets), so there are additional unquantified costs. EPA believes that the use of these asbestos-containing products has declined over time, and that, depending on which products, they are now either used in very small segments of the industries, or possibly not at all.

More information on the estimated costs is available in EPA's Economic Analysis for the rule (Ref. 2).

3. Benefits

EPA's Economic Analysis for the rule (Ref. 2), quantified the benefits from avoided cases of lung cancer, mesothelioma, ovarian cancer, and laryngeal cancer due to reduced asbestos exposures to workers, occupational non-users (ONUs), and do-it-yourselfers (DIYers) related to the rule's requirements for chlor-alkali diaphragms, aftermarket automotive brakes, and sheet gaskets used for titanium dioxide production. The combined national quantified benefits of avoided cancer cases associated with these products are approximately $6,000 per year using a 3% discount rate and $3,000 per year using a 7% discount rate, based on the cancer risk estimates from the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos. EPA did not estimate the aggregate avoided cancer benefits of the requirements for sheet gaskets used for other forms of chemical production, oilfield brake blocks, other vehicle friction products or other gaskets because the Agency did not have sufficient information on the number of individuals likely to be affected by the rule. To the extent that such products are still manufactured, processed, distributed in commerce, used, or disposed of, there would be additional benefits from reducing exposures from these use categories.

There are also unquantified benefits due to other avoided adverse health effects associated with asbestos exposure including respiratory effects (*e.g.,* asbestosis, non-malignant respiratory disease, deficits in pulmonary function, diffuse pleural thickening and pleural plaques). The rule will also generate unquantified benefits from other exposure pathways and life cycle stages for which exposures were not estimated. To the extent that the number of individuals exposed or exposure levels in the baseline were underestimated, EPA's analysis underestimates the benefits of the regulatory requirements.

In addition to the benefits of avoided adverse health effects associated with chrysotile asbestos exposure, the rule is expected to generate significant benefits from reduced air pollution associated with electricity generation. Chlor-alkali production is one of the most energy-intensive industrial operations in the United States. To the extent that alternative technologies are more energy efficient, converting asbestos diaphragm cells to non-asbestos technologies reduces overall electricity consumption and thus the total level of pollutants associated with electric power generation, including carbon dioxide, particulate matter, sulfur dioxide, and nitrogen oxides. Converting asbestos diaphragm cells to non-asbestos technologies could yield millions of dollars per year in environmental and health benefits from reduced emissions of these pollutants. EPA's Economic Analysis, which can be found in the rulemaking docket (Ref. 2), contains more information on the potential magnitude of these monetized benefits from reduced criteria air pollutants and carbon dioxide emissions.

4. Small Entity Impacts

As described in more detail in Unit X.C. and in section 6.2 of the Economic Analysis (Ref. 2), EPA estimates that 14 to 1,372 small entities would be subject to the rule.

Chlor-alkali facilities account for nearly all of the quantified costs of the rule, and none of the firms operating chlor-alkali facilities are small businesses.

Eleven to 1,369 of the affected small businesses perform brake replacements using aftermarket automotive brake linings and pads containing asbestos. The estimate of 11 affected small entities assumes that each affected business performs between 40 and 700 brake replacements per year using asbestos brake linings or pads. The estimate of 1,369 affected small entities assumes that each affected business installs a single set of asbestos brake linings or pads per year. Affected firms are expected to incur a cost of approximately $18 per brake replacement job for the additional expense of a set of four non-asbestos brake linings or pads, and about $1 for recordkeeping about their asbestos waste disposal activities. This results in annual costs between $20 and $14,000 per firm (depending on the number of brake replacements they perform). At the low-end estimate of 11 affected brake replacement firms, approximately 85% of firms would have cost impacts of less than 1% of their annual revenues, about 10% would have cost impacts between 1% and 3%, and around 6% would have cost impacts of greater than 3%. At the high-end estimate of 1,369 affected brake replacement firms, 100% of firms would have a cost impact of less than 1% of their annual revenues.

Two small businesses are assumed to manufacture sheet gaskets containing asbestos for titanium dioxide production. EPA does not have data on the cost to these businesses resulting from the prohibition on sheet gaskets containing asbestos. Therefore, EPA was unable to estimate the magnitude of the impacts for these small entities. Asbestos-free products in this application reportedly require more frequent replacement than items containing asbestos. As a result, the rule could increase revenues for the affected small business suppliers if they sell a larger volume of non-asbestos products to the end users as replacements.

One small business is known to import and distribute oilfield brake blocks containing asbestos. EPA does not have data on the cost for this use category resulting from the prohibition on products containing asbestos. Therefore, EPA was unable to estimate the magnitude of the impacts for this small entity. Asbestos-free products in this application reportedly require more frequent replacement than items containing asbestos. As a result, the rule could increase revenues for the affected small business supplier if it sells a larger volume of non-asbestos products to the end users as replacements.

No small businesses have been identified as using sheet gaskets for chemical production or brake blocks in the oil industry.

EPA has not identified specific firms (of any size) manufacturing, processing, distributing or using products containing asbestos for the aftermarket automotive brakes, other gaskets, and other vehicle friction products use categories. To the extent that there are any small businesses engaged in these activities, there are likely only a few firms facing a small cost increase for asbestos-free products.

5. Environmental Justice

This rule is expected to increase the level of environmental protection for all affected populations without having disproportionate and adverse health or environmental effects on any population, including any communities

with environmental justice concerns (Ref. 2). Most of the affected chlor-alkali facilities and one other chemical manufacturer affected by this rule are located in or near communities with high levels of polluting industrial activities, elevated disease risk, and a high proportion of people of color. For example, communities that contain affected chlor-alkali facilities have a cumulative baseline cancer risk from air toxics that is nearly twice the national average, and the share of Black/African American persons in these communities is almost three times the national average. This rule is not expected to increase these pre-existing environmental justice concerns. Units III.B. and X.J. discuss outreach conducted to advocates for communities with environmental justice concerns that might be subject to disproportionate exposure to chrysotile asbestos.

6. Children's Environmental Health

Consistent with Executive Order 13045 (62 FR 19885, April 23, 1997), EPA evaluated the health and safety effects of this action on children. This action is also subject to EPA's Policy on Children's Health (*https://www.epa.gov//childrens-health-policy-and-plan*) because the environmental health risk addressed by this action has a disproportionate effect on children.

Chrysotile asbestos has a disproportionate effect on children. The health effect of concern relates to exposures to chrysotile asbestos are mesothelioma, lung and other cancers, all of which have a long latency period following exposure. The risk evaluation (Ref. 1) demonstrated in sensitivity analyses that age at first exposure affected risk estimates, with earlier exposures in life resulting in greater risk. For children, exposures can be anticipated (1) as bystanders for consumer uses such as aftermarket brakes and (2) in consumer uses and occupational uses given that the risk evaluation presented information indicating that children as young as 16 years of age may engage in these activities. Furthermore, EPA recognizes it is possible that workers exposed to chrysotile asbestos at work may cause unintentional exposure to individuals in their residence, including children, due to take-home exposure from contaminated clothing or other items, although this additional pathway was not specifically evaluated in the risk evaluation. This rule protects children from these disproportionate environmental health risks.

The results of EPA's evaluation are contained in the risk evaluation (Ref. 1) and the Economic Analysis (Ref. 2).

7. Effects on State, Local, and Tribal Governments

As discussed in Unit X.E., this action has federalism implications because regulation under TSCA section 6(a) may preempt state law. It does not impose costs on small governments or have tribal implications.

II. Background

A. Overview of Chrysotile Asbestos

Asbestos is defined in section 202 of TSCA Title II as: ''Asbestiform varieties of six fiber types—chrysotile (serpentine), crocidolite (riebeckite), amosite (cummingtonite-grunerite), anthophyllite, tremolite or actinolite.'' EPA used this definition of asbestos at the onset of the asbestos risk evaluation in 2016. However, EPA determined that chrysotile asbestos is the only type of asbestos where import, processing, and distribution in commerce for use is known, intended, or reasonably foreseen in the U.S. As such, EPA assessed these non-legacy conditions of use of chrysotile asbestos in the December 2020 Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos (Ref. 1). Following a decision by the Ninth Circuit Court of Appeals (*Safer Chemicals Healthy Families* v. *EPA,* 943 F.3d 397 (9th Cir. 2019)) concerning legacy use and associated disposal of asbestos (conditions of use that were not included in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos), EPA began developing a supplemental risk evaluation to address legacy and associated disposal conditions of use. The Risk Evaluation for Asbestos, Part 2: Supplemental Evaluation Including Legacy Uses and Associated Disposals of Asbestos will include evaluation of those conditions of use of chrysotile asbestos, the five amphibole fiber types identified in the TSCA Title II definition (crocidolite (riebeckite), amosite (cummingtonite-grunerite), anthophyllite, tremolite and actinolite) and Libby Amphibole Asbestos (mainly consisting of tremolite, winchite, and richterite). Additionally, some talc deposits and articles containing talc have been shown to contain asbestos. Thus, EPA recognizes that certain uses of talc may present the potential for asbestos exposure. Where EPA identifies reasonably available information demonstrating the presence of asbestos in talc, and where such talc applications fall under TSCA authority, those asbestos-containing talc conditions of use will be evaluated in Part 2 of the risk evaluation for asbestos. Once the Risk Evaluation for Asbestos, Part 2: Supplementary Evaluation Including Legacy Uses and Associated Disposals is complete, EPA intends to revisit the unreasonable risk determination issued in the 2020 Risk Evaluation for Asbestos Part 1, and, as appropriate, make an unreasonable risk determination for asbestos as a whole chemical substance.

In addition, on April 25, 2019, EPA finalized a significant new use rule for asbestos under TSCA section 5(a)(2) (40 CFR 721.11095) for manufacturing (including importing) or processing of asbestos for discontinued uses. This rule requires that persons notify EPA at least 90 days before commencing any manufacturing (including importing) or processing of asbestos (including as part of an article) for uses other than the uses evaluated under the Risk Evaluation for Asbestos, Part I: Chrysotile Asbestos and uses that are already prohibited under TSCA. The required notification would initiate EPA's evaluation of the risks associated with the intended significant new use. Manufacturing (including importing) and processing (including as part of an article) for the significant new use may not commence until EPA has conducted a review of the notice, made an appropriate determination on the notice, and taken such actions as are required in association with that determination. Also, on July 12, 1989, EPA issued a rule under TSCA section 6 entitled: Asbestos: Manufacture, Importation, Processing, and Distribution in Commerce Prohibitions (54 FR 29460, July 12, 1989) (FRL–3476–2), that prohibited the manufacture (including import), processing and distribution of commerce of almost all asbestos-containing products. On October 18, 1991, in *Corrosion Proof Fittings* v. *EPA,* 947 F.2d 1201, the United States Court of Appeals for the Fifth Circuit vacated and remanded most of the 1989 rule. However, as a result of the Court's decision, certain asbestos-containing products remain banned including the manufacture, importation, processing, and distribution in commerce of corrugated paper, rollboard, commercial paper, specialty paper and flooring felt. Also, any ''new use'' remains banned—defined by that rule as uses of asbestos for which the manufacture, importation, or processing would be initiated for the first time after August 25, 1989.

This final rule applies only to chrysotile asbestos (Chemical Abstract Services Registry Number (CASRN) 132207–32–0). Chrysotile asbestos is a hydrated magnesium silicate mineral, with relatively long and flexible crystalline fibers that are capable of being woven. Chrysotile asbestos fibers used in most commercial applications consist of aggregates and usually contain a broad distribution of fiber

lengths. Chrysotile asbestos fiber bundle lengths usually range from a fraction of a millimeter to several centimeters, and diameters range from 0.1 to 100 micrometers. More information on the physical and chemical properties of chrysotile asbestos is in Section 1.1 of the Risk Evaluation (Ref. 1).

EPA evaluated the conditions of use associated with six ongoing use categories of chrysotile asbestos (chlor-alkali diaphragms, sheet gaskets used in chemical production, oilfield brake blocks, aftermarket automotive brakes/linings, other vehicle friction products, and other gaskets). There is no longer any domestic mining of asbestos. All imported raw asbestos is chrysotile asbestos, and it is used in the manufacture of chlor-alkali diaphragms. According to the United States Geological Survey (USGS), 152 metric tons of raw chrysotile asbestos were imported in 2022 (Ref. 3) from Brazil; however, as discussed in this preamble, public comments to the proposed rule indicate the importation of raw chrysotile asbestos for chlor-alkali use has ceased for now, while imports for the other use categories may be ongoing. EPA is also aware that Brazil's Federal Supreme Court banned asbestos mining, processing and export in 2022.

B. Regulatory Actions Pertaining to Chrysotile Asbestos

Because of its adverse health effects, chrysotile asbestos is subject to numerous State, Federal, and international regulations restricting and regulating its use. A summary of EPA regulations pertaining to chrysotile asbestos, as well other Federal, State, and international regulations, is in the docket (Ref. 1; Ref. 4).

C. Summary of EPA's Risk Evaluation Activities on Chrysotile Asbestos

In July 2017, EPA published a scope of the chrysotile asbestos risk evaluation (82 FR 31592, July 7, 2017) (FRL–9963–57), and after receiving public comment, published a problem formulation in June 2018 (83 FR 26998, June 11, 2018) (FRL–9978–40). In March 2020, EPA released a draft risk evaluation for asbestos (EPA–HQ–OPPT–2019–0501–0002), and in December 2020, following public comment and peer review by the Science Advisory Committee on Chemicals (SACC), EPA finalized the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos (Ref. 1).

In the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos, EPA evaluated risks associated with the conditions of use involving six non-legacy use categories of chrysotile asbestos including: Chlor-alkali diaphragms, sheet gaskets in chemical production, other gaskets, oilfield brake blocks, aftermarket automotive brake/linings, and other vehicle friction products. EPA evaluated the conditions of use within these categories, including manufacture (including import), processing, distribution, commercial use, consumer use, and disposal (Ref. 1). Descriptions of these conditions of use are included in Unit II.C.2.

The risk evaluation identified potential adverse health effects associated with exposure to chrysotile asbestos, including the risk of mesothelioma, lung cancer, and other cancers from chronic inhalation. A further discussion of the chrysotile asbestos hazards is included in Unit II.C.1. The chrysotile asbestos conditions of use that EPA determined contribute to the chemical substance's unreasonable risk to health include processing and industrial use of diaphragms in the chlor-alkali industry; processing and industrial use of sheet gaskets used in chemical production; industrial use and disposal of brake blocks in the oil industry; commercial use and disposal of aftermarket automotive brakes/linings; commercial use and disposal of other vehicle friction products; commercial use and disposal of other gaskets; consumer use and disposal of aftermarket automotive brakes/linings; and consumer use and disposal of other gaskets. This determination includes unreasonable risk of injury to health to both workers and occupational non-users (ONUs) during occupational exposures, and to consumers and bystanders during exposures to consumer uses.

EPA determined that ongoing uses of chrysotile asbestos do not present unreasonable risk to the environment (Ref. 1).

As previously discussed, following the November 2019 decision of the Ninth Circuit Court of Appeals in *Safer Chemicals Healthy Families* v. *EPA,* 943 F.3d 397, the agency is also conducting a Part 2 of the Asbestos Risk Evaluation: Supplemental Evaluation Including Legacy Uses and Associated Disposals of Asbestos, which is occurring in parallel with its effort to pursue risk management to address unreasonable risk identified in the Risk Evaluation for Asbestos, Part 1. Legacy uses and associated disposals for asbestos are conditions of use for which manufacture (including import), processing, and distribution in commerce for a use no longer occur, but where use (*e.g.,* in situ building material) and disposal are still known, intended, or reasonably foreseen to occur.

The October 13, 2021, consent decree in the case *Asbestos Disease Awareness Organization et al* v. *Regan et al,* 4:21–cv–03716–PJH (N.D. Cal.) requires the agency to publish a final Part 2 asbestos risk evaluation on or before December 1, 2024. EPA published a draft scope for the Part 2 asbestos risk evaluation on December 29, 2021 (86 FR 74088) (FRL–9347–01–OCSPP), and a final scope for the Part 2 asbestos risk evaluation on June 29, 2022 (87 FR 38746) (FRL–9347–02–OCSPP).

As part of the problem formulation for the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos, EPA found that exposures to the general population may occur from the conditions of use considered. (Ref. 5). EPA determined, in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos, that exposure to the general population via surface water, drinking water, ambient air, and disposal pathways falls under the jurisdiction of other environmental statutes administered by EPA. The Agency, therefore, at that time explained that it was tailoring the scope of the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos using authorities in TSCA sections 6(b) and 9(b)(1). As such, EPA did not evaluate hazards or exposures to the general population, and the unreasonable risk determinations made in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos do not account for exposures to the general population. However, EPA expects that any potential exposures to the general population would be adequately addressed through the prohibition on the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos to address the unreasonable risk posed to workers, ONUs, consumers and bystanders. EPA does plan to evaluate exposures to the general population in the Risk Evaluation for Asbestos, Part 2: Supplemental Evaluation Including Legacy Uses and Associated Disposals of Asbestos.

EPA also concluded that, based on the reasonably available information in the published literature provided by industries using asbestos and reporting to EPA databases, there are minimal or no releases of asbestos to surface water associated with the conditions of use that EPA evaluated in Part 1. Therefore, EPA concluded that there is low or no risk to aquatic and sediment-dwelling organisms from exposure to chrysotile asbestos. Terrestrial pathways, including biosolids from wastewater treatment plants, were excluded from the analysis at the problem formulation stage (Ref. 1; Ref. 5). However, EPA

expects that any potential exposures to terrestrial species, as with the general population, would be adequately addressed through the prohibition on the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos.

1. Description of Unreasonable Risk

The health endpoint driving EPA's determination of unreasonable risk for chrysotile asbestos under the conditions of use is cancer from inhalation exposure (Ref. 1). This unreasonable risk includes the risk of mesothelioma and lung, ovarian, and laryngeal cancers from chronic inhalation exposure. Inhalation unit risk (IUR) is typically defined as a plausible upper bound on the estimate of cancer risk per micrograms per cubic meter ($\mu g/m^3$) air breathed for 70 years. For asbestos, the IUR is expressed as cancer risk per fibers per cubic centimeter (f/cc) (in units of the fibers as measured by Phase Contrast Microscopy (PCM)). The IUR represents the total cancer incidence risk from chronic inhalation exposure of chrysotile asbestos and was based on epidemiological studies on mesothelioma and lung cancer in cohorts of workers using chrysotile asbestos in commerce. The inhalation unit risk for mesothelioma and lung cancer were directly estimated from the selected epidemiologic studies reporting exposure-response relationships between exposure to chrysotile asbestos and those cancers. Since there was no exposure-response data for ovarian and laryngeal cancer effects in the epidemiological literature, a direct estimate of risk from ovarian and laryngeal cancer could not be made for the inhalation unit risk calculation. An adjustment factor for ovarian and laryngeal cancer effects was applied to risk value estimates to correct for the underestimated total cancer risk derived from only lung cancer and mesothelioma that yielded an IUR for total cancer risk encompassing all four cancers known to be caused by exposure to chrysotile asbestos. And, as discussed in Section 4.2.1 of the Risk Evaluation (Ref. 1), for workers and ONUs exposed in a workplace, EPA used as a benchmark extra risk of 1 cancer per 10,000 people, that is, a risk level of 1×10^{-4} (or 1E–4). In addition, because non-cancer effects of asbestosis and pleural thickening may also contribute to overall health risk resulting from workplace exposures to chrysotile asbestos, the quantified health risks of chrysotile asbestos are underestimates because they are based on cancer risk alone.

For processing and industrial use of chrysotile asbestos diaphragms in the chlor-alkali industry, EPA found unreasonable risk to workers and ONUs from chronic inhalation exposure to chrysotile asbestos, based on industry data including personal air monitoring (*i.e.,* worker breathing zone results) and area air monitoring (*i.e.,* fixed location air monitoring results) that led to the high-end risk estimates exceeding the 1×10^{-4} risk benchmark (Section 5.2.1 of the Risk Evaluation).

For both the processing (*i.e.,* gasket cutting) and industrial use activities of chrysotile asbestos-containing sheet gaskets for chemical production, EPA found unreasonable risk to workers and ONUs from chronic inhalation exposure to chrysotile asbestos based on monitoring data provided by industry and data in the published literature (Section 5.2.1 of the Risk Evaluation).

For the industrial use and disposal of chrysotile asbestos-containing oilfield brake blocks, EPA found unreasonable risk to workers and ONUs from chronic inhalation exposure to chrysotile asbestos based on a published literature (Section 5.2.1 of the Risk Evaluation).

For the commercial use and disposal of aftermarket automotive chrysotile asbestos-containing brakes/linings and other vehicle friction products (except for the NASA Super Guppy Turbine aircraft use), EPA found unreasonable risk to workers from chronic inhalation exposure to chrysotile asbestos based on published literature and OSHA data (Section 2.3.1.8.1 of the Risk Evaluation). EPA determined, based on exposure data provided by NASA to EPA (Section 2.3.1.8.2 of the Risk Evaluation), that the use and disposal of chrysotile asbestos-containing brakes for NASA's Super Guppy Turbine aircraft did not present an unreasonable risk of injury to health or the environment.

For the commercial use and disposal of other chrysotile asbestos-containing gaskets, EPA found unreasonable risk to workers and ONUs from chronic inhalation exposure to chrysotile asbestos based on exposure scenarios from occupational monitoring data for asbestos-containing gasket replacement activities in vehicles.

For consumer use and disposal of aftermarket automotive chrysotile asbestos-containing brakes/linings and other chrysotile asbestos-containing gaskets, EPA found unreasonable risk to consumers and bystanders from chronic inhalation exposure to chrysotile asbestos, using as a benchmark cancer risk level of $1x10^{-6}$ (1E–6) for consumers and bystanders.

EPA also noted in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos that it is possible for industrial workers or consumers working with aftermarket automotive products or other types of asbestos-containing gaskets to cause unintentional exposure to individuals in their residence due to take-home exposure from contaminated clothing or other items.

The provisions of the final rule are described in Unit VI. and the health effects of chrysotile asbestos and the magnitude of the exposures to chrysotile asbestos are described in Unit VII.B.1.

2. Description of Conditions of Use

This unit describes the conditions of use subject to this final action. Although EPA identified both industrial and commercial uses in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos for purposes of distinguishing scenarios, the Agency clarified then and clarifies now that EPA interprets the authority over ''any manner or method of commercial use'' under TSCA section 6(a)(5) to apply to both industrial and commercial uses identified in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos.

The conditions of use for this final action do not include any legacy uses or associated disposal for chrysotile asbestos or other asbestos fiber types. EPA will consider legacy uses and associated disposals in Part 2 of the risk evaluation for asbestos (Ref. 1).

a. *Processing and industrial use of chrysotile asbestos diaphragms in the chlor-alkali industry.*

Chrysotile asbestos historically has been imported and used by the chlor-alkali industry for the fabrication of semi-permeable diaphragms. The chrysotile asbestos diaphragms are used in an industrial process for the production of chlorine and sodium hydroxide (caustic soda). Asbestos is chemically inert and able to effectively separate chlorine and sodium hydroxide in electrolytic cells. The chlor-alkali chemical production process involves the separation of the sodium and chloride atoms of salt in saltwater (brine) via electricity to produce sodium hydroxide (caustic soda), hydrogen, and chlorine. The electrolytic cell contains two compartments separated by a semi-permeable diaphragm, which is made mostly of chrysotile asbestos. The diaphragm prevents the reaction of the caustic soda with the chlorine and allows for the separation of both materials for further processing. Diaphragms are typically used for 1–3 years before they must be replaced (Ref. 1).

b. *Processing and industrial use of chrysotile asbestos-containing sheet gaskets in chemical production.*

Sheet gaskets are used to form a leakproof seal between fixed components. Chrysotile asbestos-containing gaskets are used primarily in industrial applications with extreme operating conditions, such as high temperatures, high pressures, and the presence of chlorine or other corrosive substances. Such extreme operating conditions are found in many chemical manufacturing and processing operations, including: the manufacture of titanium dioxide and chlorinated hydrocarbons; polymerization reactions involving chlorinated monomers; and steam cracking at petrochemical facilities. Chrysotile asbestos-containing gaskets used for titanium dioxide production are fabricated from sheets composed of 80% (minimum) chrysotile asbestos fully encapsulated in styrene butadiene rubber. The chrysotile asbestos-containing sheets are articles which are imported into the U.S. in large rolls where they are cut to shape by a fabricator and subsequently used at titanium dioxide manufacturing facilities. Installed gaskets typically remain in use anywhere from a few weeks to three years (Ref. 1). In addition to the industrial uses specifically identified in the risk evaluation, the use of sheet gaskets in the processing of nuclear material is also covered by this condition of use because it involves processing chemicals under extreme operating conditions, in this case operations involving radioactive materials.

c. *Industrial use and disposal of chrysotile asbestos-containing brake blocks in oil industry.*

The rotary drilling rig of an oil well uses a drawworks hoisting machine to raise and lower the traveling blocks during drilling. The drawworks is a permanently installed component of a mobile drilling rig. The drawworks consists of a large-diameter steel spool, a motor, a main brake, a reduction gear, and an auxiliary brake. The brake of the drawworks hoisting machine is an essential component that is engaged when no motion of the traveling block is desired. Chrysotile asbestos-containing brake blocks are imported articles for use in some drawworks, reportedly most often on larger drilling rigs. Spent brake blocks must periodically be replaced by workers in the oilfield industry who maintain the rig (Ref. 1).

d. *Commercial use and disposal of aftermarket automotive chrysotile asbestos-containing brakes/linings.*

The two primary types of automobile brakes are drum brakes and disc brakes, and chrysotile asbestos has been found in both, in linings for drum brake assemblies and pads in disc brake assemblies. Disc brakes are much more common today than drum brakes, but many passenger vehicles have a combination of disc brakes for the front wheels and drum brakes for the rear wheels. Chrysotile asbestos fibers offer many properties that are desired for brake linings and brake pads, and up through the 1990s many new automobiles manufactured in the United States had brake assemblies with asbestos-containing components. By 2000, asbestos was no longer used in the brakes of virtually any original equipment manufacturer (OEM) automobiles sold domestically; however, asbestos-containing brake products continue to be imported and sold in the United States. The quantity of asbestos-containing brake part articles imported is unknown. Therefore, asbestos could be found in the United States: (1) In vehicles on the road that have asbestos-containing brakes, whether from older and vintage vehicles or aftermarket parts; and (2) In vehicles that have new replacement asbestos-containing brakes installed by establishments or individuals that use certain imported products. Brakes must be repaired and replaced periodically, which involves activities that create dust and potential occupational exposure to asbestos (Ref. 1).

e. *Commercial use and disposal of other chrysotile asbestos-containing vehicle friction products.*

While EPA has verified that U.S. automotive manufacturers are not installing asbestos-containing brakes on new cars for domestic distribution, EPA identified a company that claimed to import asbestos-containing brakes and then install them on cars in the United States for export only. Following completion of the risk evaluation, and during the risk management phase following publication of the final risk evaluation, this company disavowed this practice (Ref. 6).

In addition, there is a limited use of asbestos-containing brakes for a special, large transport plane, the ''Super-Guppy'' Turbine (SGT) aircraft, owned and operated by the National Aeronautics and Space Administration (NASA). The SGT aircraft is a specialty cargo plane that transports oversized equipment, and it is considered a mission-critical vehicle. Only one SGT aircraft is in operation today, and NASA acquired it in 1997. The SGT aircraft averages approximately 100 flights per year. When not in use, it is hangered and maintained at a NASA facility in El Paso, Texas. The SGT aircraft has eight landing gear systems, and each system has 32 brake blocks, which contain chrysotile asbestos. Potential worker exposures are associated with servicing the brakes. As explained in the risk evaluation, the following two conditions of use do not present unreasonable risk, and therefore do not require mitigation by this final rule: Use of chrysotile asbestos-containing brakes for a specialized, large NASA transport plane; and the disposal of chrysotile asbestos-containing brakes for a specialized, large NASA transport plane (Ref. 1).

f. *Commercial use and disposal of other asbestos-containing gaskets.*

EPA also identified the use of chrysotile asbestos-containing gaskets in the exhaust system of a specific type of utility vehicle manufactured and available for purchase in the United States. The utility vehicle manufacturer purported at the time to receive the pre-cut gaskets which are then installed during manufacture of the vehicle. The gaskets may be removed during servicing of the exhaust system at utility vehicle dealerships and other repair and maintenance shops. Exhaust gasket installation and repair activities create asbestos exposure. (Ref. 1).

g. *Consumer use and disposal of aftermarket automotive chrysotile asbestos-containing brakes/linings.*

Asbestos could be found in the United States: (1) In vehicles on the road that have asbestos-containing brakes, whether from original manufacturers (primarily for older and vintage vehicles) or aftermarket parts; and (2) In vehicles that have new replacement asbestos-containing brakes installed by establishments or individuals that use certain imported products. Brakes must be repaired and replaced periodically, activities which create dust and exposure to asbestos for consumers and bystanders who perform their own do-it-yourself automobile maintenance and repairs on asbestos-containing components (Ref. 1).

h. *Consumer use and disposal of other asbestos-containing gaskets.*

EPA also identified the use of chrysotile asbestos-containing gaskets in the exhaust system of a specific type of utility vehicle manufactured and available for purchase in the United States. The gaskets may be removed during servicing of the exhaust system. EPA determined that do-it-yourself consumers who may repair these vehicles and bystanders are exposed to asbestos (Ref. 1).

III. EPA's Proposed Rule Under TSCA Section 6(a) for Chrysotile Asbestos

A. Description of TSCA Section 6(a) Requirements

Under TSCA section 6(a), if the Administrator determines through 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 potentially exposed or susceptible subpopulation identified as relevant to the Agency's risk evaluation, under the conditions of use, EPA must by rule apply one or more requirements to the extent necessary so that the chemical substance no longer presents such risk.

The TSCA section 6(a) requirements can include one or more of the following actions alone or in combination:

- Prohibit or otherwise restrict the manufacturing (including import), 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 (TSCA 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 (TSCA 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 (TSCA 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 (TSCA 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 (TSCA section 6(a)(4)).
- Prohibit or otherwise regulate any manner or method of commercial use of the substance or mixture (TSCA 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 (TSCA 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 (TSCA section 6(a)(7)).

EPA analyzed how the TSCA section 6(a) requirements could be applied so that the unreasonable risk described in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos is no longer present. TSCA section 6(c)(2)(A) requires EPA, in proposing and promulgating TSCA section 6(a) rules, to include a statement of effects addressing certain issues, including the effects of the chemical substance on health and the environment; the magnitude of exposure of the chemical substance to humans and the environment; the benefits of the chemical substance for various uses; and the reasonably ascertainable economic consequences of the rule, including consideration of the likely effects of the rule on the national economy, small business, technological innovation, the environment and public health; and 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. As a result, EPA is finalizing a regulatory action and describing two primary alternative regulatory actions considered, which are discussed in Unit VI. and Unit VII.A., respectively.

Related to TSCA section 6(a) actions, TSCA section 6(c)(2)(C) requires that, in deciding whether to prohibit or restrict the chemical substance 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 a substitute when the prohibition or restriction takes effect. Unit VII.B.5. includes more information regarding EPA's consideration of alternatives.

Also as part of TSCA section 6(a) actions or separately, under the authority of TSCA section 6(g), EPA may consider granting by rule a time-limited exemption for a specific condition of use for which EPA finds: That 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; that compliance with the proposed requirement would significantly disrupt the national economy, national security, or critical infrastructure; or that the specific condition of use of the chemical substance, as compared to reasonably available alternatives, provides a substantial benefit to health, the environment, or public safety. EPA did not propose to grant and is not finalizing an exemption from the rule requirements under TSCA section 6(g).

B. Consultations and Other Stakeholder Outreach

EPA conducted consultations and outreach in preparing for the proposed regulatory action. The Agency held a federalism consultation on May 13, 2021, as part of this rulemaking process and pursuant to Executive Order 13132 (Ref. 7). On May 24, 2021, and June 3, 2021, EPA held tribal consultations for the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos (Ref. 8). EPA also conducted outreach to advocates of communities that might be subject to disproportionate exposure to chrysotile asbestos, such as communities with environmental justice concerns. EPA's environmental justice (EJ) consultation occurred from June 1 through August 13, 2021. On June 1 and 9, 2021, EPA held public meetings as part of this consultation. These meetings were held pursuant to Executive Orders 12898 and 14008 (Ref. 9). Units X.E., X.F., X.J. provide more information regarding the consultations.

In addition to the consultations described in Units X.E., X.F., and X.J. on February 3, 2021, EPA held a public webinar (Ref. 10) and also attended a Small Business Administration roundtable on February 5, 2021 (Ref. 11). Furthermore, EPA engaged in discussions with industry, non-governmental organizations, other national governments, asbestos experts and users of chrysotile asbestos. Summaries of external meetings held during the development of this rulemaking are in the docket.

C. Proposed Regulatory Action

On April 12, 2022, EPA issued a proposed rule under TSCA section 6(a) to regulate certain conditions of use, so that chrysotile asbestos does not present the unreasonable risk of injury to health as determined in the 2020 Risk Evaluation (87 FR 21706). EPA proposed pursuant to TSCA section 6(a) to prohibit manufacture (including import), processing, distribution in commerce, and commercial use of chrysotile asbestos in bulk form or as part of chrysotile asbestos diaphragms used in the chlor-alkali industry and chrysotile asbestos-containing sheet gaskets used in chemical production. EPA proposed that these prohibitions would take effect two years after the

effective date of the final rule. EPA also proposed pursuant to TSCA section 6(a) to prohibit manufacture (including import), processing, distribution in commerce, and commercial use of: chrysotile asbestos-containing brake blocks used in the oil industry, aftermarket automotive chrysotile asbestos-containing brakes/linings, other chrysotile asbestos-containing vehicle friction products and other chrysotile asbestos-containing gaskets. EPA proposed that these prohibitions would take effect 180 days after the effective date of the final rule. EPA further proposed pursuant to TSCA section 6(a) to prohibit manufacture (including import), processing, and distribution in commerce of: aftermarket automotive chrysotile asbestos-containing brakes/linings for consumer use, and other chrysotile asbestos-containing gaskets for consumer use. EPA proposed that these prohibitions would take effect 180 days after the effective date of the final rule. EPA also proposed disposal and recordkeeping requirements under which regulated parties would document compliance with the proposed disposal requirements. Disposal and recordkeeping requirements would take effect 180 days after the effective date of the final rule. EPA additionally proposed definitions of certain terms used in the proposed regulatory text.

D. Primary Alternative Regulatory Action Described in the Proposed Rule

As indicated by TSCA section 6(c)(2)(A), EPA must consider the cost and benefits and the cost effectiveness of the proposed regulatory action and one or more primary alternative regulatory actions. In the April 12, 2022, proposed rule (87 FR 21706), EPA's primary alternative regulatory action described in the proposed rule was to: prohibit manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos in bulk form or as part of: chrysotile asbestos diaphragms in the chlor-alkali industry and for chrysotile asbestos-containing sheet gaskets in chemical production, with prohibitions taking effect five years after the effective date of the final rule, and require, prior to the prohibition taking effect, compliance with an existing chemical exposure limit (ECEL) to reduce inhalation exposures for the processing and commercial use of chrysotile asbestos for these uses. The primary alternative regulatory action described in the proposed rule additionally included a prohibition on the manufacture (including import), processing, distribution in commerce, and commercial use of chrysotile asbestos-containing brake blocks in the oil industry; aftermarket automotive chrysotile asbestos-containing brakes/linings; and other vehicle friction products (with prohibitions taking effect two years after the effective date of the final rule and with additional requirements for disposal). The primary alternative regulatory action described in the proposed rule also included prohibitions on manufacture (including import), processing, and distribution in commerce of aftermarket automotive chrysotile asbestos-containing brakes/linings for consumer use and other chrysotile asbestos-containing gaskets for consumer use (with prohibitions taking effect two years after the effective date of the final rule). The primary alternative regulatory action described in the proposed rule also included a requirement to dispose of chrysotile asbestos-containing materials in a manner identical to the proposed regulatory action, with additional provisions for downstream notification and signage and labeling.

IV. Summary of Public Comments

A. Public Comments Regarding the Proposed Rule

EPA received a total of 10,847 public comments on the April 12, 2022, Proposed Rule titled ''*Asbestos Part 1: Chrysotile Asbestos; Regulation of Certain Conditions of Use Under Section 6(a) of the Toxic Substances Control Act (TSCA).*'' The comment period for the proposed rule was originally scheduled to end on June 13, 2022, but was extended until July 13, 2022, in response to public requests (87 FR 31814, FRL–8332–03–OCSPP). EPA received 158 unique comments from trade organizations, industry stakeholders, environmental groups, and non-governmental health advocacy organizations, among others. A separate document that summarizes all comments submitted and EPA's responses to those comments is available in the docket for this rulemaking (Ref. 12).

B. Notice of Data Availability and Request for Comment

After the close of the public comment period for the proposed rule, EPA received comments and held meetings with stakeholders, including affected industry and interested groups, related to the use of chrysotile asbestos diaphragms in the chlor-alkali industry and chrysotile asbestos-containing sheet gaskets used in chemical production. Topics of these comments and meetings included media reports regarding asbestos workplace practices in the chlor-alkali industry, the timing of any prohibition on the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos diaphragms and chrysotile asbestos-containing sheet gaskets, and the requirement, included in the primary regulatory alternative described in the preamble to the proposed rule, for processors and users of chrysotile asbestos diaphragms and chrysotile asbestos-containing sheet gaskets to comply with an ECEL as an interim inhalation exposure control measure prior to the effective date of a prohibition. Meetings were held with: ADAO (July 6 and October 13, 2022); Chlorine Institute (July 6, 2022); Dow Chemicals (October 28, 2022); Axial/Westlake (November 3, 2022); Olin Corporation (Olin) (November 14, 2022); OxyChem (November 16, 2022, December 7, 2022, and February 9, 2023), and Chemours (January 18, 2023). EPA received data as part of and following those stakeholder meetings and made the information available to the public in the rulemaking docket (EPA–HQ–OPPT–2021–0057) through a Notice of Data Availability (NODA) and Request for Comment (88 FR 16389, March 17, 2023) (FRL–8332–04–OCSPP).

In addition, EPA posted to the docket other information made available after the close of the public comment period, including several public comments submitted to EPA, including from state and local government officials, regarding the potential impacts of the proposed rule's compliance date for the prohibition on the commercial use of chrysotile asbestos diaphragms in the chlor-alkali industry on the supply of chlorine used for drinking water disinfection, wastewater treatment and potential impacts on state and local water supply systems; the timing of the prohibition on the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos-containing sheet gaskets in chemical production; and discussion of workplace monitoring strategies to comply with an asbestos ECEL during the interim period prior to a prohibition on the commercial use of chrysotile asbestos diaphragms.

EPA requested public comment on any data in the docket that was received during and after the proposed rule public comment period, and how EPA should consider it during the development of the final rule. EPA received 47 unique comments that were responsive to the Agency's request for

comments. Commenters included trade organizations, industry stakeholders, unions, and non-governmental health advocacy organizations. A separate document that summarizes all comments submitted regarding the NODA, and EPA's responses to those comments is available in the docket for this rulemaking (Ref. 13).

V. Changes From the Proposed Rule

This unit summarizes the main changes from the proposed rule to the final rule, based on the consideration of the public comments.

A. Chrysotile Asbestos Diaphragms for Use in the Chlor-Alkali Industry

TSCA section 6(d) requires EPA to specify mandatory compliance dates for all requirements of a TSCA section 6(a) rule. The mandatory compliance dates must be ''as soon as practicable'' and ''provide for a reasonable transition period.'' Except when EPA is imposing a ban or phase-out of a chemical substance, the mandatory compliance date for a requirement in a TSCA section 6(a) rule must be no later than five years after the date of promulgation of the final rule. If EPA is requiring a ban or phase-out of a chemical substance, EPA must specify a mandatory compliance date for the start of the ban or phase-out that is no later than five years after the date of promulgation of the final rule, and must specify mandatory compliance dates for full implementation of the ban or phase-out which are as soon as practicable. Pursuant to TSCA section 6(d)(2), EPA may establish different mandatory compliance dates for different persons.

EPA proposed to prohibit manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos for chrysotile asbestos diaphragms for use in the chlor-alkali industry, effective two years after the effective date of the final rule. In the proposed rule, EPA sought public comment ''to support or refute its assumption that [chlor-alkali] facilities using asbestos diaphragms will convert to non-asbestos technologies, and the timeframes required for such conversions,'' and as well as on a prohibition compliance date that would be both ''as soon as practicable'' and ''provide for a reasonable transition period'' (87 FR 21721, 21726). In the notice of data availability, EPA described comments and other information that the Agency had received regarding these issues and requested additional public comment on how EPA should consider this information in developing the final rule. 88 FR 16389, 16391. Based on public comments received in response to the proposed rule and notice of data availability, EPA concludes that the proposed mandatory compliance date for the prohibition on the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos for chrysotile asbestos diaphragms would not be ''as soon as practicable,'' and would not provide for a reasonable transition period, as required under TSCA section 6(d)(1). 15 U.S.C. 2605(d)(1). EPA is therefore finalizing mandatory compliance dates that differ from those in the proposed rule.

Specifically, EPA concludes that it is practicable to prohibit the manufacture (including import) of chrysotile asbestos for diaphragms in the chlor-alkali industry as of the effective date of the final rule. All chlor-alkali companies that currently use chrysotile asbestos already have a sufficient supply of chrysotile asbestos for foreseeable future operations prior to the prohibition compliance dates for processing, distribution in commerce and commercial use. The three chlor-alkali companies that use asbestos diaphragms provided comment to EPA that they all ceased importing raw asbestos and do not need or intend to resume importing raw asbestos. Therefore, EPA is prohibiting the manufacture (including import) of chrysotile asbestos for diaphragms for use in the chlor-alkali industry as of the effective date of the final rule.

With respect to the prohibition on the processing, distribution in commerce, and commercial use of chrysotile asbestos for chrysotile asbestos diaphragms, EPA concludes that five years after the effective date of this final rule is as soon as practicable for this prohibition to start. Additionally, EPA concludes that the date by which the full implementation of this prohibition is practicable varies for different persons affected by this prohibition. Therefore, as described in further detail below, EPA is finalizing multiple compliance dates for full implementation of this prohibition to provide a reasonable transition time.

EPA received significant comment on the timing of the proposed prohibition on use of chrysotile asbestos diaphragms in the chlor-alkali industry during the public comment period for the proposed rule, as well as in response to the notice of data availability. While EPA received comments supporting the proposed two-year prohibition timeline, many commenters argued the two-year timeline would not provide the chlor-alkali industry a reasonable transition period. Comments included information regarding the types of activities involved in the transition to non-asbestos diaphragms, the limited number of suppliers that are able to provide the necessary materials for the transition, the technical expertise needed and its scarcity, capital cost investments needed, projected chlorine production impacts from the expected transition, and time it generally takes to obtain permits, including environmental permits, required for the transition. Commenters requested that EPA provide additional time to allow the chlor-alkali industry to transition away from asbestos-containing diaphragms, and to allow for this transition to occur without causing economic disruptions or public health impacts resulting from potential disruption of drinking water disinfection and wastewater treatment supplies due to fluctuations in the production of chlorine and other chlor-alkali products. Other commenters also raised concerns of impacts to other chemical industries that use chlorine as their main feedstock for their processes. Some commenters also expressed concerns about the proposed alternative five-year timeline for similar reasons.

Regarding the timing of the prohibition on processing, distribution in commerce and commercial use of chrysotile asbestos for chrysotile asbestos-containing diaphragms, EPA concludes based on public comments that five years after the effective date of this final rule is as soon as practicable for this prohibition to begin, and that the practicable compliance dates for the full implementation of this prohibition vary for different affected persons and depend on the number of facilities a person is converting to membrane technology. Three companies own a total of eight chlor-alkali facilities in the United States that use chrysotile asbestos diaphragms; the number of facilities owned by each company varies from one to five, and the size of the asbestos diaphragm chlorine capacity at the eight facilities varies from 171 thousand metric tons to 981 thousand metric tons. Several factors affect the time needed for each individual chlor-alkali company to transition away from chrysotile asbestos diaphragm technology, including the number and size of facilities owned by the chlor-alkali company, the company's approach to transition away from asbestos (*e.g.,* a decision to either convert facilities to non-asbestos diaphragms or to membrane technologies), and technical differences in specific facility conversions. Comments received described the

different approaches to move away from chrysotile asbestos use given the different designs of chrysotile asbestos diaphragm technology, the type of intended conversion to a non-asbestos diaphragm technology or membrane technology, the limited availability of suppliers and technical expertise required for the conversion process, as well as differences regarding permits needed for the conversion of facilities and permitting timelines based on their location. In particular, comments explained that due to such issues, one company's conversion of multiple facilities to membrane technology cannot be performed simultaneously and can only be accomplished in a sequential conversion process. In the final rule, EPA is adopting an approach that can accommodate differences among facilities to provide a reasonable transition period for each remaining chlor-alkali facility still using chrysotile asbestos diaphragms, while ensuring the associated unreasonable risk is addressed as soon as practicable without anticipated disruption to the available supply of chlor-alkali chemicals needed to treat drinking water and wastewater.

The mandatory compliance dates for the prohibition on processing, distribution in commerce and commercial use of chrysotile asbestos for chrysotile asbestos diaphragms for use in the chlor-alkali industry included in this final rule are longer than the proposed regulatory action; however, the prohibition phase-in dates begin five years after the effective date of the final rule, which was the compliance date in the primary alternative regulatory option described in the proposed rule for this condition of use. The primary alternative regulatory option described in the proposed rule included a prohibition effective five years after the effective date of the final rule, as well as a requirement to comply with an existing chemical exposure limit (ECEL) before this prohibition would take effect and related monitoring and recordkeeping requirements. The final rule also includes a requirement to comply with interim controls before the prohibition takes effect. Unit V.B. describes the changes to these interim controls.

There are two main technologies that can be used to replace asbestos diaphragms in chlor-alkali production, non-asbestos diaphragm cells and membrane cells. Development of non-asbestos diaphragm cells began in the mid-1980s. Non-asbestos diaphragms operate in a similar manner to asbestos diaphragms. In a diaphragm cell, a diaphragm is placed between the anode and cathode of an electrolysis cell to separate the chlorine, hydrogen, and caustic soda products. The diaphragm ensures that the chlorine and hydrogen do not spontaneously ignite, and the chlorine and caustic soda do not form undesirable reactant products. Non-asbestos diaphragms generally last longer in service than asbestos diaphragms and can reduce energy consumption due to lower cell voltages. The process to convert a chlor-alkali facility from asbestos diaphragms to non-asbestos diaphragms is not as complex as the process to convert to membrane technology; it requires fewer design changes, less construction, and may be performed over several years without significant disruption of facility operations or product output. Significantly, the conversion to non-asbestos diaphragms can proceed concurrently at several facilities, subject to the availability of supplies of non-asbestos diaphragm cell components. Membrane cell technology was developed in the early 1970's; the membrane cell process is different from the diaphragm process in a number of significant ways and operates through the selective permeability of the membranes, which allow only specific components to pass through. Membrane technology conversions are more complicated than diaphragm technology conversions. Membrane technology conversions require new cells, as well as multiple other plant infrastructure changes, including changes to: brine processing, caustic soda handling, piping, storage tanks, and power supply. However, as compared to diaphragm technology, membrane technology uses less energy and produces a higher-quality product (containing less salt) for which there is greater market demand, and is therefore generally considered the current best available technology in the chlor-alkali industry.

Based on public comments and meetings with companies, EPA understands that at least four of eight chlor-alkali facilities, two operated by OxyChem and two operated by Olin, will be converted to non-asbestos diaphragm cell technology. A fifth facility, operated by Westlake, is being converted to an unspecified non-asbestos technology. As described in Unit IV.B., EPA issued a Notice of Data Availability (NODA) and Request for Comment (88 FR 16389, March 17, 2023), that, among other topics, provided additional information on and sought comment on the timing of any prohibition on the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos diaphragms. Based on this information, including public comment received in response to this notice, EPA concludes these five conversions to non-asbestos diaphragms (or alternative non-asbestos process) can be achieved in five years.

On April 4, 2023, during the public comment period for the March 2023 Notice of Data Availability, one chlor-alkali company, Olin, met with EPA and submitted a letter to EPA stating its support for ''an EPA action to ban the installation of any new or replacement asbestos-based diaphragms in two years, in combination with an additional five years to operate any existing asbestos-based diaphragm production cells.'' The comment suggested that this seven-year ban should apply to the entire chlor-alkali industry. The company also noted that during the proposed additional five-year window it ''would use an in-situ process to maintain the diaphragms which does not involve workers removing asbestos diaphragms from the closed process for repairs or constructing new asbestos diaphragms.'' (Ref. 14) No further written information was provided to support this comment during the public comment period, which ended April 17, 2023. In August 2023, Olin requested to meet again with EPA and provided a one-page slide with bullet-points on its plans to convert its two facilities using asbestos diaphragms to non-asbestos diaphragms within the seven-year timeline it had proposed in April. The company stated it has several thousand asbestos diaphragm cells and after an initial two-year period during which it would continue to install new asbestos diaphragms; it would require five additional years to replace all its asbestos diaphragms. (Ref. 15)

In the preamble to the proposed rule, EPA sought public comment on a compliance date for a prohibition on the use of chrysotile asbestos-containing diaphragms in chlor-alkali production, including ''specific and detailed timelines to build asbestos-free facilities or to convert existing asbestos-using facilities to asbestos-free technology'' and ''specific information regarding potential barriers to achieving the proposed prohibition date while considering the supply of chlor-alkali chemicals'' (87 FR 21726). Olin's comments do not provide EPA with adequate information to establish that seven years is as soon as practicable for the company to convert its two facilities to non-asbestos diaphragms or otherwise end the use of asbestos, or that this rule's five-year prohibition for non-membrane conversions does not provide the company with a reasonable transition period. For example, it is

unclear why two years are required for the company to continue installing new asbestos diaphragms before the company can begin converting cells, since the company did not provide supporting data to explain why waiting two years to start the conversion, is as soon as practicable for cell conversions. The company did not provide information indicating any difficulties with its expected ability to obtain replacement parts, including any information from or on suppliers; and no supporting information was provided to EPA to show that a higher conversion rate or beginning the conversion immediately rather than in two years could disrupt the company's ability to produce sufficient chlor-alkali chemicals for its customers. Additional information that would have been needed for EPA to assess whether the proposed seven-year compliance date is as soon as practicable includes: information regarding the types of activities involved in the transition to non-asbestos diaphragms, what suppliers provide the necessary materials, what type of technical expertise is needed and its availability, capital cost investments needed, projected chlorine production and impacts from the expected transition. In establishing the chrysotile asbestos diaphragm phase-out timeframes in the rule, EPA based its compliance timeframe on reasonably available information, including information provided in public comments, as well as in meetings with interested stakeholders. EPA took into consideration the technical differences in specific facility conversions and how those affect the time needed for each individual chlor-alkali company to transition away from chrysotile asbestos diaphragm technology, such as the different designs of chrysotile asbestos diaphragm technology, the type of intended conversion to a non-asbestos diaphragm technology or membrane technology, the limited availability of suppliers and technical expertise required for the conversion process, as well as differences regarding permits needed for the conversion of facilities and permitting timelines based on facility location.

Also, beyond a general description, Olin provided no additional information on its proposed chrysotile asbestos-containing slurry cell maintenance process, how it may or may not differ from previously described practices by the company, or to what extent this process would reduce exposure. Furthermore, EPA has no information on other companies' ability to implement such an asbestos-containing slurry process within two years, or its effect on national chlor-alkali production in the period after two years and before final phase-out.

While seven years was presented as being as soon as practicable to transition one company's operations to non-asbestos diaphragm technology, seven years was also presented to EPA as a chrysotile asbestos use ban date for the entire chlor-alkali industry. The proposal does not consider other companies' comments on their abilities to phase-out asbestos use as soon as practicable, or what is a reasonable transition time for those firms. Other companies have told EPA or provided information to EPA that leads EPA to conclude that they can complete all of their planned conversions to non-asbestos diaphragms within five years (Ref. 16; Ref. 17). Allowing all of the chlor-alkali companies seven years—an additional two years—to convert to non-asbestos diaphragms therefore would not be as soon as practicable given the information received from other companies.

Furthermore, EPA believes that Olin's suggested approach for conversion from asbestos diaphragms to non-asbestos diaphragms is not practical for other companies who are converting from diaphragm to membrane technology, and EPA believes that there would be adverse impacts on the availability of chlorine for drinking water should this approach be uniformly adopted. Regarding the plans of another company, OxyChem, to sequentially convert three facilities to membrane technology, EPA has received detailed information on the sequential conversion schedule. The company's first facility can be converted within five years; allowing seven years for its conversion would not be as soon as practicable. The second facility conversion is not scheduled to be complete for eight years. EPA has no basis to conclude this schedule could be shortened to seven years while still providing a reasonable transition period, given the limited global supply of essential metals, the limited capacity to produce electrode elements, the limited number of specialized electrochemical and technical experts for chlor-alkali facilities and the inability to concurrently schedule and procure for multiple, unique membrane facility conversions, as documented in extensive and detailed information provided to EPA by OxyChem. Finally, the third facility's membrane conversion will not be completed for 12 years; EPA has no basis to conclude seven years provides a reasonable transition period for this conversion; in fact, the conversion process is not scheduled to begin before eight years due to the need to complete the conversion of the second facility in advance of this third facility. A ban that is implemented in seven years would force the closure of this third facility for five years before chlor-alkali production could resume. EPA expects this forced closure would have deleterious impacts on the supply of chlor-alkali chemicals for water treatment as well as the chemicals industry, and also would have significant financial impacts for the company.

The issuance of this final rule does not preclude Olin from presenting additional information to EPA on its conversion plans in the future. For example, EPA has discretion under TSCA section 6(g) to grant an exemption from a requirement of a TSCA section 6(a) rule for a specific condition of use of a chemical substance, if EPA finds that, among other reasons, compliance with the requirement would significantly disrupt the national economy, national security, or critical infrastructure, or the condition of use provides a substantial benefit to health or public safety. EPA believes the provision of chlor-alkali chemicals for water treatment has potential implications for all these considerations. Information that would help EPA to evaluate an alternate transition time would include: Conversion plans and schedules; progress made; impediments to ending asbestos use in five years; impacts of the five-year end date on production output; impact on the company's customers; and the impact on the supply of chlor-alkali chemicals for water treatment. However, EPA currently has no basis to conclude that requiring compliance with the five-year period would significantly disrupt the national economy, national security, or critical infrastructure, or that a longer transition period for the conversion of asbestos diaphragms to non-asbestos diaphragms would provide a substantial benefit to public safety, such that a section 6(g) exemption may be appropriate. Similarly, EPA currently has no basis to conclude that the five-year period provided in this final rule is not as soon as practicable and does not provide a reasonable transition time for chlor-alkali companies to convert to non-asbestos diaphragms.

In regard to the remaining three chlor-alkali facilities, EPA has been provided detailed information on OxyChem's plans to sequentially convert all three facilities to membrane technology. Conversion work on one facility has

begun and is expected to be completed within five years; the other two facilities are planned to be converted in sequence to membrane technology after the first conversion project is finished. The final rule prohibits the processing, distribution in commerce, and commercial use of chrysotile asbestos for chrysotile asbestos diaphragms effective five years after the effective date of the final rule, but allows longer staggered phase-out periods of 8- and 12-years in order to provide companies with a reasonable transition period for the sequential conversion to membrane technology of up to three of their chlor-alkali facilities still using chrysotile asbestos diaphragms, provided certain conditions are met and progress toward initiating phase-out has been demonstrated. The 5-8-12 years staggered phase-out period allows for the required construction and required planning, permits and capital investment needed for the transition from chrysotile asbestos diaphragms to membrane technology. The final rule allows a company to continue to process, distribute in commerce and commercially use chrysotile asbestos for diaphragms in the chlor-alkali industry at no more than two of its facilities until eight years after the effective date of the final rule, to provide a reasonable period for sequential conversions of facilities from chrysotile asbestos diaphragm technology to membrane technology. In order to be eligible for this extended phase-out period under the final rule, a company must: own or operate more than one facility that uses chrysotile asbestos in chlor-alkali production as of the effective date of the final rule; be converting more than one of those facilities to membrane technology; have, by the date five years after the effective date of the final rule, ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at one (or more) facilities that are undergoing or have undergone such conversion; and certify to EPA compliance with these provisions. A company that does this may then also continue to process, distribute in commerce and commercially use chrysotile asbestos for diaphragms in the chlor-alkali industry at not more than one facility until 12 years after the effective date of the final rule, so that it may continue to produce chlor-alkali chemicals during conversion to membrane technology, subject to similar conditions and the submission of a second certification to EPA by eight years after the effective date of the final rule. This means that by eight years after the effective date of the rule, a company must certify: that they own or operate more than two facilities that uses chrysotile asbestos in chlor-alkali production as of the effective date of the final rule; be converting more than two of those facilities to membrane technology; and have, by the date eight years after the effective date of the final rule, ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at all facilities but one. In no situation may any facility continue to process, distribute in commerce or commercially use chrysotile asbestos for diaphragms in the chlor-alkali industry after 12 years after the effective date of the final rule.

B. Interim Controls

EPA's primary alternative regulatory action described in the proposed rule was to prohibit the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos in bulk form or as part of chrysotile asbestos diaphragms in the chlor-alkali industry and for chrysotile asbestos-containing sheet gaskets in chemical production (with prohibitions taking effect five years after the effective date of the final rule), which also included a requirement, prior to the prohibition taking effect, to comply with an ECEL for the processing and commercial use of chrysotile asbestos for these uses. The final rule includes interim control requirements developed from the ECEL provisions described in the preamble to the proposed rule with some modifications to address public comments regarding monitoring limitations which could impact the ability to implement an action level. The final rule does not include the ECEL action level of 0.0025 f/cc as an 8-hour time weighted average (TWA) described in the preamble to the proposed rule, in response to concerns raised in comments about the feasibility of accurately measuring to this level. Under the primary alternative regulatory action described in the proposed rule, the ECEL action level would have been used to determine how frequently periodic exposure monitoring would be required if initial exposure monitoring revealed concentrations of chrysotile asbestos below the ECEL: if exposure monitoring revealed concentrations of chrysotile asbestos below the ECEL action level, the owner or operator would be required to conduct periodic exposure monitoring every five years; however, if exposure monitoring revealed concentrations of chrysotile asbestos at or above the ECEL action level but below the ECEL, the owner or operator would be required to conduct periodic exposure monitoring every six months. Since an ECEL action level is not being included as part of the final rule due to concerns with accurately measuring down to the ECEL action level, EPA is requiring all persons subject to the interim control requirements to conduct exposure monitoring every six months if the most recent exposure monitoring shows exposure at or below the ECEL. This testing frequency is the same as the periodic exposure monitoring frequency under the primary alternative regulatory action described in the proposed rule where concentrations are at or above the ECEL action level but at or below the ECEL.

Some commenters proposed that an ECEL would be sufficient to eliminate the unreasonable risk, without a need for a ban on chrysotile asbestos. EPA considered all risk management approaches and the adverse health effects from chrysotile asbestos, including the risk of mesothelioma, lung cancer, and other cancers from chronic inhalation as well as who is exposed and how they are exposed to chrysotile asbestos and concluded that a prohibition is the only requirement that would ensure that chrysotile asbestos no longer presents an unreasonable risk. An ECEL is a requirement that can be used to minimize the exposure to the potentially exposed persons at the chlor-alkali facilities during the interim period before the prohibition takes effect, provided that a robust monitoring program and effective exposure controls, such as engineering controls, are in place. However, as explained in the proposed rule, and supported by public comment, monitoring to and below the ECEL, while achievable, may at times be problematic due to analytical and field sampling challenges, resulting in the modifications to the interim controls described earlier in this Unit. Therefore, owners or operators may be unable to reliably ensure with sufficient confidence that potentially exposed persons are not exposed to air concentrations above the ECEL. The feasibility of instituting additional engineering controls at chlor-alkali facilities is unlikely due to the nature of the tasks that require workers handling chrysotile asbestos. As such, compliance with the ECEL for workers is unlikely to be achieved without long-term reliance on the use of respirators. Respirators are the least effective means of ensuring worker protection in the hierarchy of controls, particularly in the case of protecting workers and ONUs against exposure to asbestos fiber

inhalation. As discussed in section 2.3.2.1 of the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos, based on studies investigating the performance of respirators, some workers and ONUs may have protection below the nominal applied protection factor for respirator use and would not be protected so that chrysotile asbestos does not present unreasonable risk. For these reasons, EPA believes that an ECEL cannot ensure that chrysotile asbestos does not present unreasonable risk to workers and, therefore, it is not a substitute for a ban as a long-term risk management solution.

C. Chrysotile Asbestos-Containing Sheet Gaskets in Chemical Production

EPA proposed to prohibit manufacture (including import), processing, distribution in commerce, and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for sheet gaskets in chemical production, with these prohibitions taking effect two years after the effective date of the final rule. EPA is finalizing these prohibitions with several modifications based on public comment received in response to the proposed rule and notice of data availability.

First, commenters noted the proposed ban would prohibit the ongoing use of previously installed chrysotile asbestos-containing sheet gaskets in chemical production, which presented several concerns. They noted that the number of sheet gaskets remaining in use in chemical plants and refineries could be in the hundreds of thousands and potentially millions. This is a much larger universe than the asbestos-containing gasket use that EPA characterized in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos. Comments noted it would be impossible for facilities to be certain which older gaskets contain asbestos, and therefore to ensure compliance with the prohibition as proposed, the facilities would have to remove all older gaskets on the assumption that they may contain chrysotile asbestos. Such a replacement program would be expensive, it would disrupt production, including prolonged plant shutdowns, and would be difficult to accomplish even in two years. Commenters also noted that the ongoing use of installed gaskets does not present unreasonable risk: rather the risk is present during asbestos gasket removal and recommended that the most effective and safest strategy would be to replace asbestos gaskets when they reach the end of their service life. These comments are consistent with EPA's evaluation of exposure to in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos. The worker activities most relevant to chrysotile asbestos exposure include receiving new gaskets, removing old gaskets, bagging old gaskets for disposal, and inserting replacement gaskets into flanges and other process equipment. Outside of these activities, EPA did not find the ongoing use of installed gaskets presented unreasonable risk. In response to these comments, EPA is specifying in the final rule that any chrysotile asbestos-containing sheet gaskets for chemical production which are already installed and in use prior to the compliance date for the prohibitions are not subject to the distribution in commerce and commercial use prohibitions. Allowing distribution in commerce of installed chrysotile asbestos-containing sheet gaskets will permit the sale of equipment and facilities that may contain such gaskets.

Second, EPA is finalizing a prohibition on the commercial use of chrysotile asbestos sheet gaskets for titanium dioxide production with a modified mandatory compliance date of five years after the effective date of the final rule. This provision responds to information provided by a titanium dioxide producer that it requires additional time to replace asbestos gaskets that are used in specialized equipment for titanium dioxide production. The company provided information that it is actively working on a transition to non-asbestos gaskets at its two large titanium dioxide production facilities in the United States; however, the replacement of asbestos gaskets in the oxidation reaction area of the process, which are subject to high temperature, pressure, and corrosive chemicals, is a complicated engineering project that will require the redesign and replacement of specialized reactor vessel flanges. (Ref. 18; Ref. 19) Due to the specialized nature of the project, the need to continue titanium dioxide production, and safety concerns, EPA has concluded that five years is as soon as practicable and provides a reasonable transition period for the implementation of a ban on the commercial use of asbestos gaskets for titanium dioxide production. Consistent with the proposed primary regulatory alternative, to address worker exposure to asbestos during this five-year period, interim workplace controls of chrysotile asbestos exposures will be required for the commercial use of sheet gaskets for titanium dioxide production. The titanium dioxide producer did not request additional time to import or process asbestos for this use, and the manufacture (including import), processing, and distribution in commerce of chrysotile asbestos sheet gaskets for titanium dioxide production has an unmodified mandatory compliance date of two years after the effective date of the final rule while use can continue until five years after the effective date of the final rule.

Finally, after publication of the proposed rule, EPA received a comment from a Department of Energy contractor, Savannah River Nuclear Solutions, stating that there is an ongoing use of chrysotile asbestos sheet gaskets in the processing of nuclear material at the Savannah River Site, which EPA has determined falls within the sheet gaskets in chemical production category of use, based on the information provided by the commenter (Ref. 20). The commenter states they have been unable to identify non-asbestos substitute materials that are as durable in the radioactive environment associated with the use. EPA met with the commenter and gathered additional information on the use, which also includes some use of chrysotile asbestos sheet gaskets for steam systems in low or no radiation areas at the nuclear facility.

The comment stated that the use of less durable, non-asbestos, gasket material would require more frequent gasket replacements, which in turn increases the frequency of radiation exposure for the workers who perform this task in radioactive areas. In addition, the comment indicated that the protective clothing, gloves, and respiratory equipment required to minimize exposure to the radiological hazards associated with the nuclear material also protects workers in radioactive areas from exposures to chrysotile asbestos. At this facility, there is also some use of asbestos gaskets in low or no radiation areas, but removal and replacement of asbestos gaskets is performed in compliance with OSHA 29 CFR 1926.1101 (Class III work) at a minimum. In addition, minimum respiratory protection used by workers for this task is a full-face air purifying respirator with a P–100 (HEPA) cartridge which has an APF of 50. In high radiation areas, respirators with APF of 1,000 or 10,000 are used, depending on the protective suit required.

In response to this comment, EPA reached out to the Department of Energy for additional information regarding any ongoing use of chrysotile asbestos sheet gaskets at its nuclear facilities and confirmed that additional DOE nuclear

facilities do still use such gaskets. EPA received additional information on use of chrysotile asbestos sheet gaskets in the processing of nuclear material from the Department of Energy during OMB interagency review, regarding DOE operations at its Savannah River Site. DOE explained that chrysotile asbestos sheet gaskets are used at SRS in the H-Canyon, F and H Tank Farms, Defense Waste Processing Facility, and at the Savannah River National Laboratory. DOE stated that the greatest impacts of this rule would be on the operations of H-Canyon; this facility is the sole nuclear separations facility in the nation and is integral to DOE's mission to safely dispose of nuclear materials from across the DOE complex. H-Canyon is used to help process certain materials for disposition, such as spent nuclear fuel—used fuel from nuclear reactors—some of which contains highly enriched uranium. DOE also explained that asbestos gaskets provide the most robust protection against potential leaks or radiological contamination events, they are the longest lasting material for these environments, and they continue to be the only usable gasket for some specialized infrastructure. Further, SRS was added to the National Priorities List (NPL) on December 21, 1989, and the site is subject to the SRS Federal Facility Agreement (FFA) signed by DOE, EPA, South Carolina Department of Health and Environmental Control (SCDHEC) in 1993 pursuant to Section 120 of CERCLA Section 120 and Sections 3008(h) and 6001 of RCRA (Ref. 21). Under the FFA, DOE, EPA Region 4 and the SCDHEC have entered into a *2022 High Level Waste Milestone Agreement* that specifies completion of the liquid waste program at SRS by the end of 2037 (Ref. 22). Even if a suitable replacement could be identified for this use of asbestos gaskets, DOE explained, the time required to replace the asbestos gaskets, incur an outage of waste processing, and restart facilities would result in a significant delay in the completion of the liquid waste program. Thus, EPA has determined that compliance with a two or five year prohibition on the use of chrysotile asbestos sheet gaskets at SRS is not practicable, and does not provide for a reasonable transition period, as required under TSCA section 6(d). Rather, in order to provide SRS with a reasonable transition period to move away from asbestos gaskets without disruption of its existing commitments to complete the liquid waste program, EPA has determined that 2037 is as soon as practicable for the full implementation of the ban on the use of chrysotile asbestos sheet gaskets in chemical processing at SRS.

EPA also contacted the Nuclear Energy Institute (NEI), which reported that some commercial nuclear facilities continue to use chrysotile asbestos sheet gaskets, while many do not. NEI also stated that its largest supplier of specialty gaskets for nuclear applications does not provide asbestos gaskets. EPA spoke to the commenter's supplier of asbestos gaskets, who informed EPA that, while there is ongoing difficulty finding suitable substitutes for asbestos in specific nuclear applications, they have been unable to find sources of asbestos cloth to produce new asbestos gaskets and are phasing out of this market.

Although the current workplace controls described by the commenter, Savannah River Nuclear Solutions, potentially reduce the risk posed to some workers, because the use of chrysotile asbestos sheet gaskets in the processing of nuclear material was first identified to EPA by public comment received after publication of the proposed rule, which followed publication of the Risk Evaluation, EPA was unable to evaluate this industry's specific work practices in the Risk Evaluation. Therefore, in the Risk Evaluation, EPA does not present information specific to risk to workers and ONUs for the use of chrysotile asbestos sheet gaskets in the processing of nuclear material; however, information received after the Risk Evaluation describes the current workplace controls for processing of nuclear material and the related challenges to transition to a substitute material. EPA does not have sufficient information to determine that unreasonable risk can be eliminated with PPE and current workplace controls alone; therefore, a prohibition is necessary to address the unreasonable risk. In consideration of the information received, EPA is providing additional time for the use of chrysotile asbestos-containing sheet gaskets for processing nuclear material. Under the final rule, persons may continue to manufacture (including import), process and distribute in commerce chrysotile asbestos-containing sheets gaskets for two years after the effective date of the final rule and commercially use chrysotile asbestos-containing sheet gaskets for processing nuclear material for five years after the effective date of the final rule, and until the end of 2037 for the Savanah River Site.

Similar to the primary alternative regulatory action described in the proposed rule, to address worker exposure to asbestos during this five-year period of commercial use, interim workplace controls of chrysotile asbestos exposures will be required for the commercial use of sheet gaskets. In the case of the chrysotile asbestos-containing sheet gaskets used in the processing of nuclear material, EPA is incorporating the current worker protection practices identified by the commenter as part of the interim controls for that use to reduce chrysotile asbestos exposures until the prohibition compliance date. This includes ongoing compliance with the OSHA Asbestos Safety and Health Regulations for Construction (29 CFR 1926.1101) and minimum respiratory protection of a full-face air purifying respirator with a P–100 (HEPA) cartridge with an APF of 50 for potentially exposed persons. A respirator with an APF 50 is a higher level of PPE than would be needed to reduce worker exposure to below the cancer benchmark for general sheet gasket use (replacing gaskets) in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos (Ref. 1). However, as discussed in section 2.3.2.1 of the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos, based on studies investigating the performance of respirators, some workers and ONUs may have protection below the nominal applied protection factor for respirator use and would not be protected; EPA would need additional information to determine if the unreasonable risk can be eliminated without a prohibition for the use of asbestos gaskets in the processing of nuclear material. The commenter also requested an exemption from the final rule since the asbestos gaskets are integral to the safe operation of the process. TSCA section 6(g)(2) requires EPA to analyze the need for the exemption, and to make public the analysis and statement on how the analysis was considered when proposing an exemption under TSCA section 6(g). EPA is considering a separate action to provide a future time-limited exemption under TSCA section 6(g) for the processing of nuclear material.

D. Other Conditions of Uses

EPA proposed to prohibit all persons from the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for commercial use of: (1) Oilfield brake blocks; (2) Aftermarket automotive brakes and linings; (3) Other vehicle friction products; and (4) Other gaskets, beginning 180 days after the effective date of the final rule. Public comments noted the difficulty in

identifying asbestos components previously installed in vehicles; that it is not possible to tell by visual inspection whether previously installed aftermarket brake pads or shoes contain asbestos, and that very few aftermarket brake pads and shoes contain asbestos. Without existing records, it may not be possible to establish that a vehicle's brakes do not contain asbestos unless they are replaced. This is also the situation for other vehicle friction products and gaskets in vehicles. Based on this information, EPA is finalizing the proposed prohibition, with modifications to specify that any aftermarket automotive brakes and linings, and other gaskets which are already installed and in use before the prohibition is effective are not subject to the distribution in commerce and commercial use prohibitions. Allowing the continued use of these installed products for their useful life will not increase repair and replacement worker activity or related exposure or risk for these uses.

EPA received similar comments regarding the proposed prohibition on the manufacturing (including importing), processing, and distribution in commerce of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for consumer use of aftermarket automotive brakes and linings and other gaskets; namely that it would be difficult to determine if previously installed components of a vehicle contain asbestos, as it is not possible to tell by visual inspection whether previously installed aftermarket brake pads or shoes contain asbestos or not. Therefore, EPA is finalizing the proposed prohibition, with modifications to specify that any aftermarket automotive brakes and linings, and other gaskets which are already installed and in consumer use by 180 days after the effective date of the final rule are not subject to this distribution in commerce prohibition. This will permit the resale of vehicles that contain already-installed asbestos brakes and linings, or other gaskets. This prohibition does not apply to the consumer use of any aftermarket automotive brakes and linings, and other gaskets, so it is not necessary to modify the proposal to permit the continued consumer use of these asbestos-containing components, including consumer use in vehicles that may contain these components. This modification will not increase repair and replacement workers' exposure or risk for these uses.

E. Recordkeeping

EPA is also finalizing modified recordkeeping provisions. The recordkeeping provisions included in the proposed rule addressed retention of disposal records. The final rule includes additional recordkeeping requirements to reflect additional provisions of the final rule. Specifically, EPA's final recordkeeping provisions include additional requirements to maintain records regarding interim workplace controls of chrysotile asbestos exposures, as well as records of certifications of compliance for the chlor-alkali industry. Full description of the recordkeeping requirements is in Unit VI.F.

F. Definitions

In the final rule, EPA is adding definitions in § 751.503 for ''Authorized person,'' ''Membrane technology,'' ''Nuclear material,'' ''Regulated area,'' and ''Savannah River Site.'' These new definitions are being added to address provisions that were not in the proposed regulatory text, such as the interim controls and phased-in compliance dates for the chlor-alkali industry prohibitions.

VI. Provisions of the Final Rule

This final rule sets certain restrictions on the manufacture (including import), processing, distribution in commerce, and commercial use and disposal of chrysotile asbestos to prevent unreasonable risk of injury to health in accordance with TSCA section 6(a), 15 U.S.C. 2605(a). Pursuant to TSCA section 12(a)(2), this rule applies to chrysotile asbestos even if being manufactured, processed, or distributed in commerce solely for export from the United States because EPA has determined that chrysotile asbestos presents an unreasonable risk to health within the United States or to the environment of the United States.

A. Manufacturing, Processing, Distribution in Commerce and Commercial Use of Chrysotile Asbestos Diaphragms in the Chlor-Alkali Industry

Provisions regulating the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos diaphragms in the chlor-alkali industry are specified in §§ 751.505 and 751.507. As of the effective date of the final rule, all persons are prohibited from the manufacture (including import) of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for diaphragms in the chlor-alkali industry. Additionally, beginning five years after the effective date of the final rule, all persons are prohibited from processing, distribution in commerce and commercial use of chrysotile asbestos for diaphragms in the chlor-alkali industry, except as provided in §§ 751.505(c) and (d).

Section 751.505(c) permits a person to process, distribute in commerce and commercially use chrysotile asbestos for diaphragms in the chlor-alkali industry at no more than two facilities until eight years after the effective date of the final rule, provided that: (1) On the effective date, the person owns or operates more than one facility that uses chrysotile asbestos in chlor-alkali production; (2) The person is converting more than one facility that the person owns or operates that, as of the effective date, uses chrysotile asbestos in chlor-alkali production from the use of chrysotile asbestos diaphragms to non-chrysotile asbestos membrane technology; (3) By the date five years after the effective date of the final rule, the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at one (or more) facility that is undergoing or has undergone such conversion; and (4) The person certifies to EPA compliance with the provisions of the paragraph, in accordance with certification provisions in § 751.507.

Section 751.505(d) permits a person who meets all of the criteria of that paragraph to process, distribute in commerce and commercially use chrysotile asbestos for diaphragms in the chlor-alkali industry at not more than one facility until 12 years after the effective date of the final rule, provided that: (1) On the effective date of the final rule, the person owns or operates more than two facilities that use chrysotile asbestos in chlor-alkali production; (2) The person is converting more than two facilities that the person owns or operates that, as of the effective date of the final rule, use chrysotile asbestos in chlor-alkali production, from the use of chrysotile asbestos diaphragms to non-chrysotile asbestos membrane technology; (3) By five years after the effective date of the final rule, the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at one (or more) facility that is undergoing or has undergone such conversion, and by eight years after the effective date of the final rule, the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at two (or more) facilities that are undergoing or have undergone such conversion; and (4) The person certifies to EPA compliance with the provisions

of the paragraph, in accordance with the certification provisions of § 751.507.

B. Certification of Compliance for Chlor-Alkali Industry

Requirements for certifications of compliance for the chlor-alkali industry are specified in § 751.507. A person who processes, distributes in commerce or commercially uses chrysotile asbestos for diaphragms in the chlor-alkali industry between five years and eight years after the effective date of the final rule must certify to EPA their compliance with all requirements of § 751.505(c) and provide the following information to EPA: (1) Identification of the facility (or facilities) at which, by five years after the effective date of the final rule, the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos, including the facility name, location, and mailing address; the name of facility manager or other contact, with title, phone number and email address; and the date the person ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at the facility; and (2) The identification of the one or two facilities (no more than two facilities) at which the person will after five years after the effective date of the final rule, continue to process, distribute in commerce and commercially use chrysotile asbestos diaphragms while the facility or facilities are being converted to non-chrysotile asbestos membrane technology, including for each facility, the facility name, location, and mailing address; and (3) The name of facility manager or other contact, with title, phone number and email address.

A person who processes, distributes in commerce or commercially uses chrysotile asbestos for diaphragms in the chlor-alkali industry between 8 and 12 years after the effective date of the final rule must certify to EPA their compliance with all requirements of § 751.505(d) and provide the following information to EPA: (1) Identification of the facility at which the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos after five years after the effective date of the final rule but no later than eight years after the effective date of the final rule, including the facility name, location, and mailing address; the name of facility manager or other contact, with title, phone number and email address; and the date the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at the facility; (2) The identification of the facility at which the person will between eight years after the effective date of the final rule and no later than 12 years after the effective date of the final rule, continue to process, distribute in commerce and commercially use chrysotile asbestos diaphragms while the facility is being converted to non-chrysotile asbestos membrane technology pursuant to § 751.505(d), including the facility name, location, and mailing address; and (3) The name of facility manager or other contact, with title, phone number and email address.

Such certification must be signed and dated by a responsible corporate officer, which means: a president, secretary, treasurer, or vice-president of the corporation in charge of chlor-alkali operations, or any other person who performs similar policy or decision-making functions for the corporation. The certification must include the statement:

> ''I certify under penalty of law that this document was prepared under my direction or supervision, and the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware it is unlawful to knowingly submit incomplete, false and/or misleading information and there are criminal penalties for such conduct.''

Certifications must be submitted to the Director of the Office of Pollution Prevention and Toxics in Washington, DC, no later than 10 business days after the date five years after the effective date of the final rule, or 10 business days after the date 8 years after the effective date of the final rule, as appropriate.

C. Other Prohibitions of, and Restrictions on the Manufacturing, Processing, Distribution in Commerce and Commercial Use of Chrysotile Asbestos

1. Prohibition on manufacture (including import), processing, distribution in commerce, and commercial use of chrysotile asbestos for chrysotile asbestos-containing sheet gaskets in chemical production.

Provisions regulating the manufacturing, processing, distribution in commerce and commercial use of chrysotile asbestos-containing sheet gaskets in chemical production are specified in § 751.509, specifically paragraphs (a) through (c), of this rule. Beginning two years after the effective date of the final rule, all persons are prohibited from manufacturing (including importing), processing, distributing in commerce, and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for use in sheet gaskets for chemical production, except as provided in § 751.509(b) and (c). However, any sheet gaskets for chemical production which are already installed and in use as of the applicable compliance date, are not subject to this distribution in commerce and commercial use prohibition.

Section 751.509(b) allows the commercial use of chrysotile asbestos sheet gaskets for titanium dioxide production past the general two-year prohibition; any person may use chrysotile asbestos sheet gaskets for titanium dioxide production until five years after the effective date of the final rule. This provision only applies to commercial use; manufacturing (including import), processing and distribution in commerce must cease after two years, pursuant to § 751.509(a).

Section 751.509(c) allows the commercial use of chrysotile asbestos sheet gaskets for processing of nuclear material past the general two-year prohibition: any person who meets the applicable criteria in the paragraph may commercially use chrysotile asbestos sheet gaskets for processing nuclear material until five years after the effective date of this final rule; at the Department of Energy's Savannah River Site, use may continue until the end of 2037. This provision only applies to commercial use; manufacturing (including import), processing and distribution in commerce must cease after two years, pursuant to § 751.509(a). Section 751.509(c) requires that, beginning 180 days after the effective date of the final rule, all persons commercially using chrysotile asbestos sheet gaskets for processing nuclear material must have in place exposure controls (*i.e.,* engineering controls, work practices, or a combination of both) expected to reduce exposure of potentially exposed persons to asbestos, and provide potentially exposed persons in the regulated area where chrysotile asbestos sheet gasket replacement is being performed with a full-face air purifying respirator with a P–100 (HEPA) cartridge (providing an assigned protection factor of 50), or other respirators that provide a similar or higher level of protection to the wearer.

EPA did not consider workplace practices in the nuclear industry during the development of the primary alternative interim workplace controls in the proposed rule, and EPA has concerns about unintended consequences were those controls to be imposed for this specific use. In the case of the processing of nuclear material, EPA is not adopting an ECEL to avoid imposing requirements that could

increase asbestos air monitoring beyond what is currently required under the OSHA Asbestos Safety and Health Regulations for Construction—(29 CFR 1926.1101). This is to ensure that this final rule does not have the unintended consequence of increasing persons exposure to radiation from nuclear material and the risk of any associated health effects. Aside from additional worker exposure to radiation that may result from additional sample collection activities (such as would be required under interim workplace controls with an ECEL under § 751.511), air sampling in radioactive environments presents special technical challenges: first, the equipment used to collect samples may become contaminated and unfit for further use, and second, the collected samples may be too radioactive for laboratories to accept for analysis.

EPA expects that during the interim period before the full-ban compliance date, existing measures under the OSHA asbestos standards, as well as radiological control protocols under Department of Energy regulations at 10 CFR part 835, will adequately mitigate asbestos risk in relation to the cancer benchmark. EPA notes that the OSHA requirements clearly delineate a regulated area in which the gasket replacement work is occuring that has strict access controls, while access is further restricted to radioactive areas, such that no one is permitted in the workspace without full PPE, which includes respirators of APF 50 or higher, in accordance with industry practices. Respirators with APF 50 is a higher level of PPE than would be needed to reduce exposure to workers below the cancer benchmark as identified in the TSCA risk evaluation for general sheet gasket use (replacing gaskets). (Table 4–19 in section 4.2.2.3. of the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos). However, as explained before, EPA also recognizes that respirators are the least effective means of ensuring worker protection in the hierarchy of controls, particularly in the case of protecting workers against exposure to asbestos fiber inhalation. As discussed in section 2.3.2.1 of the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos, some workers may have protection below the nominal applied protection factor for respirator use and would not be protected. Therefore, while respirators with APF of 50 reduce exposures to workers, only a prohibition on use ensures no unreasonable risk. By requiring facilities to continue using the current respiratory protection with an assigned protection factor of 50 or higher, EPA is reducing the risk to potentially exposed persons from the unreasonable risk presented by chrysotile asbestos while ensuring a reasonable transition period until the relevant prohibition goes into effect. During the development of any future TSCA section 6(g) exemption for this specific use of chrysotile asbestos sheet gaskets, should one be proposed, EPA could give more consideration to the need for a chrysotile asbestos monitoring program beyond asbestos monitoring that is already required by OSHA under the Asbestos Safety and Health Regulations for Construction at 29 CFR 1926.1101.

2. Prohibition on manufacture (including import), processing, distribution in commerce, and commercial use of: chrysotile asbestos-containing brake blocks in the oil industry; aftermarket automotive chrysotile asbestos-containing brakes/linings; asbestos-containing vehicle friction products; and other asbestos-containing gaskets.

Provisions regulating the manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos-containing brake blocks in the oil industry; aftermarket automotive chrysotile asbestos-containing brakes/linings; other asbestos-containing vehicle friction products; and other asbestos-containing gaskets are specified in § 751.509(d). Beginning 180 days after the effective date of the final rule, all persons are prohibited from manufacturing (including importing), processing, distribution in commerce and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for commercial use of: (1) Oilfield brake blocks; (2) Aftermarket automotive brakes and linings; (3) Other vehicle friction products; and (4) Other gaskets. However, any aftermarket automotive brakes and linings, other vehicle friction products and other gaskets which are already installed and in use as of 180 days after the effective date of the final rule, are not subject to this distribution in commerce and commercial use prohibition.

3. Prohibition on manufacture (including import), processing, and distribution in commerce for aftermarket automotive chrysotile asbestos-containing brakes/linings and other asbestos-containing gaskets for consumer use.

Provisions regulating the manufacture (including import), processing, and distribution in commerce for aftermarket automotive chrysotile asbestos-containing brakes/linings and other asbestos-containing gaskets for consumer use are specified in § 751.509(e). Beginning 180 days after the effective date of the final rule, all persons are prohibited from the manufacturing (including importing), processing, and distribution in commerce of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for consumer use of: aftermarket automotive brakes and linings; and other gaskets. However, any aftermarket automotive brakes and linings, and other gaskets which are already installed and in consumer use as of 180 days after the effective date of the final rule are not subject to this distribution in commerce prohibition.

This prohibition does not apply to the consumer use of any chrysotile asbestos-containing aftermarket automotive brakes and linings, and other gaskets. EPA's authority to regulate commercial use under TSCA section 6(a)(5) does not extend to consumer use of chemical substances or mixtures. The prohibition on the upstream manufacturing, processing and distribution of chrysotile asbestos aftermarket automotive brakes and linings, and other gaskets for consumer use will remove these products from the consumer market and over time eliminate their use as these products wear out and are replaced, or the vehicles in which they are components are retired from use.

D. Interim Workplace Controls of Chrysotile Asbestos Exposures

1. Overview

For most of the conditions of use where, pursuant to this final rule, the prohibition on processing and industrial use will take effect in five or more years after the effective date of this final rule, EPA is requiring that owners or operators comply with an eight-hour existing chemical exposure limit (ECEL), beginning six months after the effective date of the final rule. Specifically, this requirement applies to the following conditions of use: (1) Processing and industrial use of chrysotile asbestos in bulk form or as part of chrysotile asbestos diaphragms used in the chlor-alkali industry; and (2) Industrial use of chrysotile asbestos sheet gaskets for titanium dioxide production. Once a facility has completed the phase-out of chrysotile asbestos and no longer uses chrysotile asbestos in their operations, the interim requirements no longer apply.

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 chrysotile asbestos is present and who may be exposed to chrysotile asbestos under the conditions of use for which these interim workplace controls apply. EPA's intention is to require interim workplace controls that address the unreasonable risk from chrysotile asbestos to workers directly handling the chemical or in the area where the chemical is being used until the relevant prohibitions go into effect. The 2020 Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos did not distinguish between employers, contractors, or other legal entities or businesses that manufacture, process, distribute in commerce, use, or dispose of chrysotile asbestos. For this reason, EPA uses the term ''owner or operator'' to describe the entity responsible for implementing the interim workplace controls in any workplace where an applicable condition of use described in Units III.B.2.a. and III.B.2.b. and subject to the interim workplace controls is occurring. The term includes any person who owns, leases, operates, controls, or supervises such a workplace. EPA has proposed to amend 40 CFR 751.5 to add a definition of ''owner or operator'' consistent with this description as part of its proposed TSCA section 6(a) rules to regulate methylene chloride (88 FR 28284) and perchloroethylene (88 FR 39652). In this final rule, EPA is using the same definition of ''owner or operator'' to apply to where it appears in the regulatory text for chrysotile asbestos.

As mentioned in the proposed rule (87 FR 21706), TSCA risk management requirements could incorporate and reinforce requirements in OSHA standards. For chrysotile asbestos, EPA's approach for interim controls seeks to align, to the extent possible, with certain elements of the existing OSHA standard for regulating asbestos under 29 CFR 1910.1001 and 29 CFR 1926.1101. The OSHA PEL and ancillary requirements have established a long-standing precedent for exposure limit threshold requirements within the regulated community. However, EPA is applying a lower, more protective exposure limit or ECEL derived from the TSCA 2020 Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos. However, in this final rule, EPA is not establishing medical surveillance requirements based on the ECEL to align with those under 29 CFR 1910.1001. Companies must continue to follow the medical surveillance requirements established by OSHA at 0.1 fiber per cubic centimeter of air as an eight (8)-hour time-weighted average (TWA) level.

This unit includes a summary of the interim controls, including a description of the ECEL; and the implementation requirements such as monitoring and notification requirements; regulated area; exposure control plan; respiratory protection; and additional requirements for workplace information and training. The recordkeeping associated with the interim controls is included under the recordkeeping requirements (Unit VI.F). This Unit also describes compliance timeframes for these requirements.

2. Existing Chemical Exposure Limit (ECEL)

EPA calculated the ECEL to be 0.005 fibers (f)/cubic centimeter (cc), for inhalation exposure to chrysotile asbestos as an eight-hour time-weighted average (TWA) for use in workplace settings based on incidence of lung cancer, mesothelioma and other cancers. (Ref. 23).

As part of the primary regulatory alternative included in the proposed rule (87 FR 21706), EPA considered an ECEL-action level of 0.0025 f/cc as an eight-hour TWA, which would initiate certain required activities such as more frequent periodic monitoring of exposures to chrysotile asbestos. However, as discussed above in Unit V.B., after public comments regarding the difficulties of measuring asbestos at such low concentrations, EPA has decided not to finalize an ECEL-action level in this final rule. Instead, EPA is finalizing more frequent periodic monitoring requirements when exposure monitoring shows levels below the ECEL than those that were described in the primary regulatory alternative in the proposed rule. In the proposed rule, periodic exposure monitoring results below the ECEL but above the ECEL action-level would trigger an increase in periodic exposure monitoring to every six months. Due to the difficulties expressed in public comments of effectively measuring asbestos to the ECEL action level and to be health protective in the absence of reliable test results to the ECEL action level, the final rule will require periodic monitoring every six months when measurements are at or below the ECEL and periodic monitoring every three months when the ECEL is exceeded.

Commenters also expressed concerns with being able to effectively measure asbestos to the ECEL, citing complicating factors such analytical limitations, sample equipment, contributions from background sources, and typical worker task exposure scenarios. While EPA in this final rule will not include an ECEL action level due to the analytical concerns raised in public comment, EPA believes that current analytical methods and modern air sampling equipment allow for air monitoring with a detection limit that allows for comparison with the ECEL level, and the feasibility of the ECEL level is further demonstrated through the personal air monitoring data submitted to EPA by the chlor-alkali industry. However, for scenarios in which a sufficient limit of detection cannot be achieved for comparison to the ECEL, owners and operators may elect to use increased respiratory protection with an appropriate Assigned Protection Factor (APF) to demonstrate compliance with the ECEL as an interim workplace control, discussed more in Unit VI.D.6.

In addition, in the proposed rule, EPA indicated that implementation of an ECEL would require time and resources and therefore did not propose to include it for the two-year period prior to the proposed prohibition date. However, since this final rule's prohibition dates for the processing and industrial use of chrysotile asbestos in bulk form or as part of chrysotile asbestos diaphragms used in the chlor-alkali industry and processing and industrial use of chrysotile asbestos-containing sheet gaskets for titanium dioxide production are at least five years, or potentially longer for certain entities meeting EPA's requirements, EPA finds it necessary to issue interim controls to reduce worker exposures for the period prior to the prohibition taking effect. As part of an interim control measure, requirements to implement the ECEL start six months after the effective date of the rule. Specifically, owners or operators are required to ensure that no person in the workplace is exposed to an airborne concentration of chrysotile asbestos in excess of 0.005 f/cc as an eight-hour TWA beginning six months after the effective date of the final rule. EPA is also requiring owners or operators to comply with additional requirements that are needed to ensure successful implementation of the ECEL.

3. Monitoring

Monitoring requirements are a key component of implementing EPA's interim workplace controls. Initial monitoring for chrysotile asbestos is critical for establishing a baseline of exposure for potentially exposed persons; similarly, periodic exposure monitoring assures continued compliance over time so that potentially exposed persons are not exposed to levels above the ECEL. In some cases, a change in workplace conditions with

the potential to impact exposure levels would warrant additional monitoring, which is also described.

EPA is requiring that owners or operators determine the 8-hour TWA exposure of each potentially exposed person's exposure by taking one or more personal breathing zone air samples that are representative of the full-shift exposures for each potentially exposed person in each job classification in each work area. These requirements are a modification of the requirements described in the proposed regulation, which allowed for sampling only some of the potentially exposed persons. The requirements in this final rule align with the approach taken for characterization of employee exposure in the OSHA standard for asbestos (see 29 CFR 1910.1001(d)(1)(i) and (ii)) and allow for multiple samples to fully represent the exposures during a full shift, based on the job classification in each work area of the potentially exposed person.

Exposure samples must be analyzed using analytical methods described in Appendix A to 29 CFR 1910.1001, or as referenced in Appendix A to 29 CFR 1910.1001 (Appendix B to 29 CFR 1910.1001, OSHA method ID–160, or the NIOSH 7400 method). In the proposed rule, the primary regulatory alternative would have required use of a laboratory that complies with the Good Laboratory Practice Standards in 40 CFR part 792; however, in this final rule, and based on public comment, EPA is aligning the laboratory quality standards with the OSHA general asbestos standard. The OSHA method ID–160 and NIOSH 7400 analytical methods are the required methods in the OSHA general asbestos standard at 29 CFR 1910.1001 and the OSHA asbestos construction standard at 29 CFR 1926.1101. In addition, 29 CFR 1910.1001 Appendix A includes the quality control procedures that must be implemented by laboratories performing the analysis. Owners and operators subject to this final rule are already familiar with the use of these methods since they are used to comply with the OSHA asbestos standards. By incorporating the use of these standards in this final rule, EPA is aligning with existing analytical practice.

In the event that the owner or operator needs to use an equivalent method to the OSHA reference method, EPA also is allowing use of such equivalent method if the owner or operator ensures the equivalency of the method by ensuring that replicate exposure data used to establish equivalency are collected in side-by-side field and laboratory comparisons, and the comparison indicates that 90% of the samples collected in the range 0.5 to 2 times the ECEL have an accuracy range of plus or minus 25% of the OSHA reference method at 95% confidence level as demonstrated by a statistically valid protocol. These requirements align with the approach taken in the OSHA standard for asbestos (see 29 CFR 1910.1001(d)(6)(ii) and (iii)).

In addition, and as supported by commentors, the NIOSH 7402 analytical method may be applied to adjust the analytical result to include only chrysotile asbestos. PCM analysis does not differentiate between asbestos and other fibers. The NIOSH 7402 analytical method uses a TEM microscope to determine the fraction of fibers that are asbestos from a filter prepared and analyzed following NIOSH 7400. To ensure consistency across both methods, airborne fibers analyzed using TEM under the NIOSH 7402 analytical method align with those specified in the NIOSH 7400 PCM method. The NIOSH 7402 method is not designed for the quantification of the air concentration of asbestos fibers and therefore should be used in conjunction with NIOSH 7400 under this final rule for asbestos fiber identification.

a. *Initial exposure monitoring.*

In this final rule, each owner or operator of a facility engaged in one or more of the conditions of use listed earlier in Unit VI.D.1. is required to perform initial exposure monitoring no later than 180 days after the effective date of the final rule to determine the extent of exposure of potentially exposed persons to chrysotile asbestos. Initial monitoring will notify owners and operators of the magnitude of possible exposures to potentially exposed persons with respect to their work conditions and environments. Based on the magnitude of possible exposures in the initial exposure monitoring, the owner or operator may need to increase the frequency of future periodic monitoring, and/or adopt new exposure controls (such as engineering controls, administrative controls, and/or a respiratory protection program).

In the primary regulatory alternative included as part of the proposed regulation, EPA stated that if the regulated entity had existing monitoring data less than five years old that followed the initial exposure monitoring criteria described in the preamble to the proposed rule, and where a process change was not implicated, the owner or operator could choose to use this existing data as the initial exposure monitoring instead of conducting initial exposure monitoring. However, given the lower exposure limit set by the ECEL compared to the current monitoring practices, and given the expected changes at the chlor-alkali and chemical production facilities transitioning to non-asbestos technologies, EPA has decided to require all owners or operators to conduct new initial monitoring. Owners and operators may not use data collected before the publication of this final rule to comply with the initial monitoring requirement.

b. *Periodic exposure monitoring.*

EPA's final rule is aligned with elements of the existing OSHA asbestos standard (29 CFR 1910.1001(d)(3) through (5)) to the extent possible. Based on the results from the initial exposure monitoring, or the most recent monitoring, EPA is requiring the following periodic monitoring for owners or operators:

- If one or more samples representing full-shift exposures from the most recent exposure monitoring exceeds the ECEL (>0.005 f/cc 8-hour TWA), periodic exposure monitoring will be required within three months of the most recent exposure monitoring.
- Otherwise, periodic exposure monitoring will be required within six months of the most recent exposure monitoring.

In the primary alternative regulatory action described in the proposed rule, EPA based the exposure monitoring frequency on both the ECEL-action level and the ECEL. However, since EPA is not finalizing an ECEL action level due to the comments received regarding effectively measuring asbestos to the ECEL action level, the exposure monitoring frequency under the final rule is based only on the comparison of the monitoring results with the ECEL. Because EPA is not finalizing an ECEL action level, the final rule requires owners and operators to conduct periodic exposure monitoring every six months if the most recent exposure monitoring indicates airborne exposure is at or below the ECEL. This exposure monitoring frequency is consistent with the exposure monitoring described in the primary alternative regulatory action in the proposed rule associated with exposure monitoring results revealing a concentration of chrysotile asbestos above the ECEL action level but at or below the ECEL. Further, since EPA is not finalizing an ECEL action level, EPA could not finalize an option to terminate exposure monitoring if all samples taken during initial exposure monitoring were at or below the ECEL action level, as was described in the primary regulatory alternative action described in the proposed rule.

In addition, under the primary regulatory alternative described in the proposed regulation, if an owner or operator did not use chrysotile asbestos during an exposure monitoring period, the owner or operator would not need to conduct exposure monitoring until the next exposure monitoring period. Further, the proposed primary regulatory alternative provided that an owner or operator had to conduct exposure monitoring at minimum every five years. However, EPA expects continued use of chrysotile asbestos in the limited number of conditions of use subject to the interim workplace control requirements and, as discussed above, is requiring all persons engaged in these conditions of use to conduct exposure monitoring at least every six months. EPA has therefore concluded there is no need to include provisions in the final rule to suspend monitoring or conduct monitoring only every five years.

c. *Additional exposure monitoring.*

In addition to initial and periodic monitoring, EPA is requiring that the owner or operator complying with the interim workplace controls carry out additional exposure monitoring (analogous to those requirements outlined in 29 CFR 1910.1001(d)(5)) after any changes in production, process, control equipment, personnel, or work practices that may reasonably be anticipated to result in new or additional exposures above the ECEL, or when the owner or operator has any reason to suspect that the change may result in new or additional exposures above the ECEL. This additional exposure monitoring event may result in an increased frequency of periodic monitoring. The required additional exposure monitoring should be conducted within a reasonable timeframe after there has been a change to ensure that it is representative of the new procedures. In cases of malfunctions and other incidents, the monitoring should not delay implementation of any necessary corrective actions to restore malfunctioning processes, necessary emergency response, cleanup or other remedial action to reduce the exposures to potentially exposed persons.

d. *Notification of exposure monitoring results.*

In this final rule, EPA is requiring that the owner or operator must, within 15 working days after receipt of the results of any exposure monitoring, notify each potentially exposed person in writing, either individually to each potentially exposed person or by posting the information in an appropriate and accessible location, such as public spaces or common areas, consistent with 29 CFR 1910.1001(d)(7).

The notification is required to include a description of any action taken by the owner or operator to reduce inhalation exposures to or below the ECEL or refer to a document available to the potentially exposed persons which identifies the actions to be taken to reduce exposures. For example, the owner or operator may notify a worker (or other potentially exposed person) of the results as follows: ''Based on the monitoring conducted on [date], the exposure to chrysotile asbestos by workers installing gaskets was [0.03 f/cc]. This concentration is above the limit set by EPA of 0.005 f/cc as an 8-hour time weighted average to protect workers, and therefore the company is requiring use of half-mask supplied-air respirator (SAR), or airline respirator operated in a demand mode to ensure exposure prevention. Workers can access the exposure control plans, exposure monitoring records, and respiratory program implementation and documentation at the office during regular business hours.''

4. Regulated Areas

Analogous to the OSHA Standard (29 CFR 1910.1001(e)), EPA is requiring that 6 months after the effective date of the rule, the owner or operator demarcate any area where airborne concentrations of chrysotile asbestos are reasonably expected to exceed the ECEL. This regulated area must be demarcated in a manner that minimizes the number of persons who will be exposed to chrysotile asbestos, *e.g.,* establishing boundaries for the area, using highly visible signifiers, in multiple languages as appropriate, placed in conspicuous areas to clearly mark the boundary of such regulated area. The owner or operator is required to restrict access to the regulated area only to those authorized to enter.

EPA is also requiring that the owner or operator must supply a respirator that complies with the requirements described in Unit VI.D.6.5. and ensure that all persons within the regulated area are using the provided respirators whenever chrysotile asbestos exposures may exceed the ECEL. Finally, the owner or operator must ensure that, within a regulated area, persons do not engage in non-work activities which may increase chrysotile asbestos exposure, such as eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics.

5. Exposure Control Plan

EPA recommends and encourages the use of pollution prevention as a means of controlling 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), as described in the hierarchy of controls. In the proposed rule (87 FR 21706), EPA's primary alternative regulatory action included a requirement to document efforts to implement the hierarchy of controls, specifically, the use of elimination and substitution, followed by the use of engineering controls, administrative controls, or work practices prior to requiring the use of respirators as a means of controlling inhalation exposures to chrysotile asbestos below EPA's ECEL. In this final rule, EPA recognizes that the owners and operators subject to the requirements are already taking steps to eliminate the use of chrysotile asbestos, and therefore the requirement in this final rule is to institute and maintain engineering controls and work practices that reduce chrysotile asbestos to or below the ECEL. When the engineering controls and work practices (such as clean-up of accumulated asbestos) cannot reduce chrysotile asbestos exposures to or below the ECEL, owners and operators are required to reduce chrysotile asbestos exposures to the lowest level achievable by these controls and supplement them using respiratory protection. The respirators must be supplied in accordance with the requirements outlined in Unit VI.D.6.

The final requirements state that, as of one year after the effective date of the final rule, an owner or operator subject to the interim workplace control requirements has to demonstrate the consideration of engineering controls and/or work practices to reduce the airborne chrysotile asbestos concentrations to the lowest levels achievable. If the resulting chrysotile asbestos concentrations are not at or below the ECEL, adequate respiratory protection must be given to potentially exposed persons, in accordance with Unit VI.D.6. Owners or operators must not implement a schedule of personnel rotation as a means of compliance with the ECEL. Finally, owners and operators must document their exposure control strategy in an exposure control plan. The exposure control plan must be reviewed and updated as necessary, but at least annually, to reflect any significant changes in the approach taken to reduce the chrysotile asbestos airborne concentrations.

Similar to the primary regulatory alternative described in the proposed rule, in this final rule EPA is requiring

that owners or operators document their efforts in an exposure control plan. Such plan could be part of any existing documentation of the facility's safety and health program developed as part of meeting OSHA requirements or other safety and health standards. EPA is requiring that the owner or operator document in the exposure control plan the following:

- Identification of all engineering and work practices or administrative controls that were considered.
- For each engineering and administrative control identified, a rationale for why the control was selected or not selected, based on feasibility, effectiveness, and other relevant considerations;
- Any actions the owner or operator must take to implement the engineering and administrative controls selected, including proper installation, maintenance, training or other steps taken. In addition, the owner or operator must indicate the estimated timeline for implementing the controls selected.
- Descriptions of the activities conducted by the owner or operator during the review and annual update of the exposure control plan to ensure effectiveness of the exposure controls, identify any necessary updates to the exposure controls, and confirm that all persons are implementing the exposure controls correctly. These activities could consist of regular inspections or other type of evaluations of the exposure controls; and
- Description of procedures for responding to any change that may reasonably be expected to introduce additional exposures of chrysotile asbestos or result in increased exposures to chrysotile asbestos. The plan should also describe the corrective actions taken to mitigate the exposures to chrysotile asbestos.

6. Respiratory Protection

a. *In general.*

Six months after the effective date of this rule, EPA is requiring owners or operators to supply a respirator selected in accordance with the requirements of this Unit and ensure that all potentially exposed persons are using the provided respirators whenever chrysotile asbestos exposures exceed or can reasonably be expected to exceed the ECEL. EPA's requirements are compatible with OSHA's Respiratory Protection standard at 29 CFR 1910.134, and the respiratory protection provision of the OSHA Asbestos standard for general industry at 29 CFR 1910.1001(g).

In this final rule, EPA is requiring that owners or operators must provide, ensure use of, and maintain (in a sanitary, reliable, and undamaged condition) respirators that are of safe design and construction for the work to be performed. These requirements are consistent with the requirements of 29 CFR 1910.134(g) through (j), 1910.134 App. B–1 to B–2. Owners and operators must select respirators that properly fit each affected person and communicate respirator selections to each affected person. These requirements are consistent with the requirements of 29 CFR 1910.134(f), 1910.134 App. A.

EPA is also requiring that owners and operators provide training in accordance with 29 CFR 1910.134(k) to all persons required to use respirators prior to or at the time of initial assignment to a job involving potential exposure to chrysotile asbestos. Such training must be repeatedly 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 the respirator, or when changes in the workplace or in the required respirator render the previous training obsolete.

b. *Respirator selection.*

EPA is requiring that owners and operators select and provide all potentially exposed persons with respirators, based on the most recent monitoring results. The following represents the minimum respiratory protection that must be provided based on the most recent monitoring results, such that any respirator affording the same or higher degree of protection than the following requirements may be used.

- If the most recent exposure monitoring indicates that the exposure concentration is at or below 0.005 f/cc (the ECEL): no respiratory protection is required.
- If the most recent exposure monitoring indicates that the exposure concentration is above 0.005 f/cc (the ECEL) and less than or equal to 0.05 f/cc (10 times the ECEL): (i) a half-mask supplied-air respirator (SAR) or airline respirator operated in demand mode; or (ii) a half-mask self-contained breathing apparatus (SCBA) respirator operated in demand mode (APF 10).
- If the most recent exposure monitoring indicates that the exposure concentration is above 0.05 f/cc (10 times the ECEL) and less than or equal to 0.125 f/cc (25 times the ECEL): a loose fitting facepiece supplied-air respirator (SAR) or airline respirator operated in continuous flow mode (APF 25).
- If the most recent exposure monitoring indicates that the exposure concentration is above 0.125 f/cc (25 times the ECEL) and less than or equal to 0.25 f/cc (50 times the ECEL): (i) a full facepiece supplied-air respirator (SAR) or airline respirator operated in demand mode; or (ii) a half-mask supplied-air respirator (SAR) or airline respirator operated in continuous flow mode; or (iii) a half-mask supplied-air respirator (SAR) or airline respirator operated in pressure-demand or other positive-pressure mode; or (iv) a full facepiece self-contained breathing apparatus (SCBA) respirator operated in demand mode; or (v) a helmet/hood self-contained breathing apparatus (SCBA) respirator operated in demand mode (APF 50).
- If the most recent exposure monitoring indicates that the exposure concentration is above 0.25 f/cc (50 times the ECEL) and less than or equal to 5 f/cc (1,000 times the ECEL): a full-facepiece supplied-air respirator (SAR) or airline respirator operated in pressure-demand or other positive-pressure mode (APF 1,000).
- If the most recent exposure monitoring indicates that the exposure concentration is above 5 f/cc (1,000 times the ECEL) and less than or equal to 50 f/cc (10,000 times the ECEL): (i) a full-facepiece self-contained breathing apparatus (SCBA) respirator operated in pressure-demand or other positive-pressure mode; or (ii) a helmet/hood self-contained breathing apparatus (SCBA) respirator operated in pressure-demand or other positive-pressure mode (APF 10,000).

The respirator requirements have been updated from the primary regulatory alternative described in the proposed regulation to make them compatible with the OSHA's Asbestos standard for general industry at 29 CFR 1910.1001(g)(2)(i). The respiratory protection requirements in this final rule represent the minimum respiratory protection requirements; therefore, owners or operators may provide respirators affording a higher degree of protection than the required respirator. However, in situations where a sufficient limit of detection cannot be reached for comparison to the ECEL, owners and operators may elect to use the lowest measurable concentration possible as their basis for the selection of the respirators, and use an increased respiratory protection with an appropriate APF to demonstrate compliance with the ECEL as an interim control measure. For example, if the lowest measurable concentration possible is 0.1 f/cc, then, the owner or operator should assume that the measured exposure concentration is above 0.05 f/cc and less than or equal to 0.125 f/cc or 25 times the ECEL, and

provide a loose fitting facepiece supplied-air respirator (SAR) or airline respirator in continuous flow mode.

7. Workplace Information and Training

In the proposed rule primary regulatory alternative (87 FR 21706), EPA described requirements to ensure worker participation. In this final rule, EPA is requiring specific information to be provided to potentially exposed persons and associated training to ensure that potentially exposed persons are taking the necessary steps to reduce exposure to chrysotile asbestos.

Six months after the effective date of the final rule EPA is requiring that owners or operators provide information and training for each person prior to or at the time of potential exposure to chrysotile asbestos and repeat the training annually. The information and training must be presented in a manner that is understandable to each person required to be trained.

In this final rule, EPA is requiring that the information and training that must be provided to all persons potentially exposed to chrysotile asbestos is based on the most recent public information available from EPA, OSHA, NIOSH, and/or CDC, and include:

- The health effects associated with exposure to chrysotile asbestos;
- The quantity, location, manner of use, release, and storage of chrysotile asbestos and the specific operations in the workplace that could result in exposure to chrysotile asbestos, particularly noting where each regulated area is located;
- The specific procedures implemented by the owner or operator to protect persons potentially exposed to chrysotile asbestos, such as engineering controls, work practices and personal protective equipment to be used; and
- The requirements associated with the interim controls, as described in Unit VI.D., as well as how to access or obtain a copy of these regulations in the workplace.

The training must be conducted as necessary to ensure that each person maintains understanding of the principles of safe use and handling of chrysotile asbestos in the workplace, but at minimum, the training must be given annually. The owner or operator will need to develop a training program that is conducted in a manner that allows each person potentially exposed to understand the information, in an understandable manner (*i.e.,* plain language) and in multiple languages as appropriate (*e.g.,* based on languages spoken by potentially exposed persons). The owner or operator would consider factors such as the skills required to perform the work activity, the existing skill level of the staff performing the work. Finally, whenever there are changes in the workplace, such as modification of tasks or procedures, or institution of new tasks or procedures, or when airborne concentrations of chrysotile asbestos increase, or when the exposure control plan has been updated according to Unit VI.D.5, the owner or operator must update the training to reflect any additional steps that are needed to maintain the procedures implemented to reduce exposures to chrysotile asbestos in the workplace, and re-train each potentially exposed person.

E. Disposal

EPA is finalizing the disposal provisions in the proposed rule without significant changes. These disposal provisions at § 751.513 cross reference existing EPA and OSHA regulations that address asbestos-containing waste disposal. By following these existing regulations, worker and ONU exposure to chrysotile asbestos during disposal can be prevented. For this rule, EPA is requiring that for the chrysotile asbestos diaphragm condition of use, as well as oilfield brake blocks, other vehicle friction products, and any commercial use of other gaskets and aftermarket automotive brakes and linings conditions of use, regulated entities must adhere to waste disposal requirements described in OSHA's Asbestos General Industry Standard in 29 CFR 1910.1001, including 1910.1001(k)(6), which requires waste, scrap, debris, bags, containers, equipment, and clothing contaminated with asbestos that are consigned for disposal to be disposed of in sealed impermeable bags or other closed, impermeable containers. For the chrysotile asbestos sheet gaskets in chemical production condition of use, regulated entities must adhere to waste disposal requirements described in OSHA's Asbestos Safety and Health Regulations for Construction in 29 CFR 1926.1101.

Additionally, for the chrysotile asbestos diaphragm condition of use, as well as oilfield brake blocks, other vehicle friction products, and any commercial use of other gaskets and aftermarket automotive brakes and linings, EPA is cross-referencing the disposal requirements of Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR part 61, subpart M) at 40 CFR 61.150. The asbestos NESHAP reduces exposure to airborne asbestos by generally requiring sealing of asbestos-containing waste material from regulated activities in a leak-tight container and disposing of it in a landfill permitted to receive asbestos waste. EPA is not cross-referencing this same NESHAP waste disposal provision for the disposal of chrysotile asbestos-containing waste from sheet gasket processing and use because EPA did not find unreasonable risk for the disposal of sheet gaskets.

EPA is also requiring that each manufacturer (including importer), processor, and distributor of chrysotile asbestos, including as part of products and articles, for consumer uses subject to this proposed regulation, dispose of regulated products and articles in accordance with specified disposal provisions. These consumer uses are aftermarket automotive brakes and linings, and other gaskets. These consumer use supply chain disposal requirements are consistent with those for disposers of aftermarket automotive brakes and linings, and other gaskets, intended for commercial use. EPA does not generally have TSCA section 6(a) authority to directly regulate consumer use and disposal, but under TSCA section 6(a) EPA may nonetheless regulate the disposal activity of suppliers of these products, including importers, wholesalers and retailers of asbestos-containing aftermarket automotive brakes and linings, and other gaskets.

The disposal requirements at § 751.513 will take effect 180 days after the effective date of the final rule, as was proposed.

F. Recordkeeping

This final rule establishes recordkeeping provisions. A general records provision at § 751.515(a) of the final rule, requires that, beginning 180 days after the effective date of the final rule, all persons who manufacture (including import), process, or distribute in commerce or engage in industrial or commercial use of chrysotile asbestos must maintain ordinary business records, such as invoices and bills-of-lading related to compliance with the prohibitions, restrictions, and other provisions of this rulemaking and must make them available to EPA for inspection.

Section 751.515(b) of the final rule addresses recordkeeping for certifications of compliance for the chlor-alkali industry required under § 751.507 of the rule: persons must retain records for five years to substantiate certifications required under that provision and must make them available to EPA for inspection.

Section 751.515(c) of the final rule requires retention of records for interim workplace controls of chrysotile asbestos exposures. For each monitoring event, owners or operators subject to the exposure monitoring provisions of § 751.511(c) must document and retain records of:

(1) The dates, duration, and results of each sample taken;

(2) The quantity, location(s) and manner of chrysotile asbestos use at the time of each monitoring event;

(3) All measurements that may be necessary to determine the sampling conditions that may have affected the monitoring results, such as humidity or ventilation rates, based on the expertise of the person conducting the sampling;

(4) The name, address, work shift, job classification, work area, and type of respiratory protection (if any) of each person monitored;

(5) Sampling and analytical methods used and compliance with the Good Laboratory Practice Standards or laboratory quality standards required under the OSHA general asbestos standard described in § 751.511(c)(5)(i); and

(6) Notification of monitoring results as required by § 751.511(c)(6).

Additionally, § 751.515(c) of the final rule requires that owners or operators subject to the interim workplace controls described in § 751.511 must retain records of:

(1) The exposure control plan and its implementation as required by § 751.511(e), which must be available to persons exposed to chrysotile asbestos;

(2) Respiratory protection used and program implementation as described in § 751.511(f); and

(3) Information and training provided by the owner or operator as required by § 751.511(g).

Section 751.515(d) of the final rule requires the retention of disposal records. It specifies that each person, except a consumer, who disposes of any chrysotile asbestos and any chrysotile asbestos-containing products or articles subject to § 751.513, beginning 180 days after the effective date of the final rule, must retain in one location at the headquarters of the company, or at the facility for which the records were generated: any records related to any disposal of chrysotile asbestos and any chrysotile asbestos-containing products or articles generated pursuant to, or otherwise documenting compliance with, regulations specified in § 751.513. All records under this rule must be retained for five years from the date of generation.

VII. Other TSCA Considerations

A. Primary Alternative Regulatory Actions Considered

Pursuant to TSCA section 6(c)(2)(A), EPA considered the cost and benefits and the cost effectiveness of the final regulatory action and one or more primary alternative regulatory actions. EPA considered two primary alternative regulatory actions for chrysotile asbestos diaphragms in the chlor-alkali industry. One is to prohibit manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos in bulk form or as part of: chrysotile asbestos diaphragms in the chlor-alkali industry, with prohibitions taking effect five years after the effective date of the final rule, without exception, and require, prior to the prohibition taking effect, compliance with an existing chemical exposure limit (ECEL) for the processing and commercial use of chrysotile asbestos for this use. The other was to prohibit manufacture (including import), processing, distribution in commerce and commercial use of chrysotile asbestos in bulk form or as part of: chrysotile asbestos diaphragms in the chlor-alkali industry, with prohibitions taking effect twelve years after the effective date of the final rule, without exception, and require, prior to the prohibition taking effect, compliance with an ECEL for the processing and commercial use of chrysotile asbestos for this use.

The primary alternative regulatory action for sheet gaskets used in chemical production is to prohibit manufacture (including import), processing, distribution in commerce and commercial use, with prohibitions taking effect five years after the effective date of the final rule, and require, prior to the prohibition taking effect, compliance with an ECEL for the processing and commercial use of chrysotile asbestos for this use.

The primary alternative regulatory action additionally includes a prohibition on the manufacture (including import), processing, distribution in commerce, and commercial use of chrysotile asbestos-containing brake blocks in the oil industry; aftermarket automotive chrysotile asbestos-containing brakes/linings; and other vehicle friction products, with prohibitions taking effect two years after the effective date of the final rule. The primary alternative regulatory action also included prohibitions on manufacture (including import), processing, and distribution in commerce of aftermarket automotive chrysotile asbestos-containing brakes/linings for consumer use and other chrysotile asbestos-containing gaskets for consumer use, with prohibitions taking effect two years after the effective date of the final rule.

The primary alternative regulatory actions also include recordkeeping and disposal requirements identical to those in the final action.

B. TSCA Section (c)(2) Considerations

The following is EPA's statement of effects, as required by TSCA section 6(c)(2)(A), with respect to this final rule.

1. Effects of chrysotile asbestos on health and the magnitude of the exposure of human beings to chrysotile asbestos under TSCA section 6(c)(2)(A)(i).

EPA's analysis of the health effects of and magnitude of exposure to chrysotile asbestos is in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos (Ref. 1). A summary is presented here. Many authorities have established causal associations between asbestos exposures and lung cancer and mesothelioma in humans based on epidemiologic studies. EPA identified in the literature a causal association between exposure to asbestos and cancer of the larynx and cancer of the ovary and suggestive evidence of a positive association between asbestos and cancer of the pharynx, stomach, and colorectum. EPA also identified increases in lung cancer and mesothelioma mortality in both workers and residents exposed to various asbestos fiber types, including chrysotile asbestos, as well as fiber mixtures. Mesothelioma tumors arise from the thin membranes that line the chest and abdominal cavities and surround internal organs.

Asbestos exposure is known to cause various non-cancer health outcomes as well, including asbestosis, non-malignant respiratory disease, deficits in pulmonary function, diffuse pleural thickening, and pleural plaques. Various immunological and lymphoreticular effects are suggested but not well-established.

For the conditions of use that contribute to unreasonable risk, populations exposed to chrysotile asbestos (including potentially exposed or susceptible subpopulations) include workers, ONUs, consumer users, and bystanders to consumers using products containing chrysotile asbestos. For these conditions of use EPA estimates that, annually, at least 256 workers and 222 ONUs are exposed to chrysotile asbestos at over 49 operations either processing or using products containing chrysotile asbestos. Additional workers and ONUs are exposed to oilfield brake blocks and

may potentially be exposed to other vehicle friction products and other gaskets. Each year, approximately 400 consumers are potentially exposed to asbestos through the use of products containing chrysotile asbestos subject to this rule. The number of exposed bystanders is unknown to EPA. The breakdown by category of use is as follows:

- Diaphragms—80 workers and 80 ONUs at 8 sites;
- Sheet gasket stamping—at least 4 workers and 8 ONUs at 4 sites;
- Sheet gasket use (non-nuclear)—at least 18 workers and 119 ONUs at 4 sites;

Sheet gasket use (nuclear)—up to 139 workers at 1 site; number of workers and ONUs at approximately 20 additional sites is unknown;

- Oilfield brake blocks—Unknown;
- Aftermarket automotive brakes—15 to 1,400 workers and 15 to 1,400 ONUs at 12 to 1,400 sites;
- Other vehicle friction products—Unknown;
- Other gaskets—Unknown; and
- DIY mechanics—400 consumers and unknown bystanders.

More information on the derivation of these estimates is provided in the Economic Analysis for this rulemaking that can be found in the rulemaking docket (Ref. 2).

As discussed in Unit II.C., EPA did not evaluate hazards or exposures to the general population in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos.

2. Effects of the chrysotile asbestos on the environment and the magnitude of the exposure of the environment under TSCA section 6(c)(2)(A)(ii).

EPA's analysis of the environmental effects of and the magnitude of exposure of the environment to chrysotile asbestos are in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos (Ref. 1). A summary is presented here.

Chrysotile asbestos may be released to the environment through industrial or commercial activities, such as processing raw chrysotile asbestos, fabricating/processing asbestos-containing products, or the dispersing of friable chrysotile asbestos during use, disturbance and disposal of asbestos-containing products.

Although this action is focused on chrysotile asbestos fiber type, some of the information in this unit pertains to asbestos fibers in general. Asbestos is a persistent mineral fiber that can be found in soil, sediments, in the air and windblown dust, surface water, ground water and biota. Asbestos fibers are largely chemically inert in the environment. They may undergo minor physical changes, such as changes in fiber length or leaching of surface minerals, but do not react or dissolve in most environmental conditions.

In water, chrysotile asbestos will eventually settle into sediments (or possible biosolids) and can enter wastewater treatment plants. EPA's review of aquatic vertebrate and invertebrate studies indicated that chronic exposure to waterborne chrysotile asbestos at a concentration range of 10^4–10^8 fibers/L, which is equivalent to 0.01 to 100 million fibers per liter (MFL), may result in reproductive, growth and/or sublethal effects to fish and clams. In addition, acute exposure of clams to waterborne chrysotile asbestos at a concentration range of 10^2–10^8 fibers/L demonstrated reduced siphoning activity.

EPA has determined that there are minimal or no releases of asbestos to surface water associated with the conditions of use that EPA evaluated in the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos and that are the subject of this action.

3. Benefits of chrysotile asbestos for various uses under TSCA section 6(c)(2)(A)(iii).

The only form of asbestos manufactured (including imported), processed, or distributed for use in the United States today is chrysotile asbestos. The United States Geological Survey (USGS) estimated that 152 metric tons of raw chrysotile asbestos were imported into the United States in 2022 (Ref. 3). This raw asbestos is used exclusively by the chlor-alkali industry, and imported amounts between 2018 and 2022 ranged from 41 to 681 metric tons during a given year (Ref. 3).

In addition to the use of raw imported chrysotile asbestos by the chlor-alkali industry, EPA is also aware of imported asbestos-containing products; however, the imported volumes of those products are not fully known. The asbestos-containing products that EPA has identified as potentially being imported and used are sheet gaskets (which are imported in large sheets and cut to size domestically by a fabricator), oilfield brake blocks, aftermarket automotive brakes/linings, other vehicle friction products, and other gaskets. Chrysotile asbestos is chemically inert, durable, and able to effectively separate the anode and cathode chemicals in the electrolytic cells used in the chlor-alkali process. Asbestos-containing gaskets have been used in chemical production because they are resistant to cyclical high temperatures and immense pressure. During the manufacture of titanium dioxide, temperatures can exceed 1850 degrees Fahrenheit and pressures can be greater than 50 pounds per square inch. For processing of nuclear material, asbestos-containing sheet gaskets are preferred for their durability in radioactive environments. The physical properties of chrysotile asbestos including heat resistance make asbestos a useful material for uses where friction is produced and extreme heat is generated, including its application in brakes, gaskets and other vehicle friction product uses considered in this rule.

4. Reasonably ascertainable economic consequences of the rule under TSCA section 6(c)(2)(A)(iv).

The reasonably ascertainable economic consequences of this rule include several components, all of which are described in the economic analysis for this rule and summarized here (Ref. 2).

a. *The likely effect of this Part 1: Chrysotile Asbestos rule on the national economy, small business, technological innovation, the environment, and public health (TSCA section 6(c)(2)(A)(iv)(I)).*

With respect to the anticipated effects of this rule on the national economy, the economic impact of a regulation on the national economy generally only becomes measurable if the economic impact of the regulation reaches 0.25 percent to 0.5 percent of Gross Domestic Product (GDP) (Ref. 24). Given the current GDP of $27.62 trillion, this is equivalent to a cost of $69 billion to $138 billion which is considerably higher than the estimated cost of this rule. EPA considered the number of businesses and workers that would be affected and the costs and benefits to those businesses and workers and society at large and did not find that there would be a measurable effect on the national economy. In addition, EPA considered the employment impacts of this rule. While EPA assumes that chlor-alkali facilities currently using asbestos diaphragms will convert to non-asbestos technologies, some facilities may not do so before the effective prohibition date in the rule. As a result, even with the extended compliance dates in the final action, it is possible that the rule may result in facility closures and job losses, at least temporarily, at some chlor-alkali facilities as well as at facilities that use chlorine, caustic soda, or their derivatives as intermediates, and may result in shortages or price increases for chlorine, caustic, and their derivatives. There may be similar employment effects at chemical facilities using asbestos gaskets. However, the extended compliance dates in the final rule reduce the likelihood and potential magnitude of such impacts compared to the proposed rule. There may also be

increased temporary employment associated with new construction as firms convert their facilities to replace asbestos diaphragms and asbestos gaskets with substitute technologies. There may also be increases in employment at facilities that currently use asbestos-free technologies (Ref. 2).

EPA has determined that the rule will not have a significant impact on a substantial number of small entities; EPA estimates that the rule will affect 11 to 1,369 small businesses supplying aftermarket brakes, incurring costs between $20 and $14,000 per firm (depending on the number of brake replacements they perform). At the low-end estimate of the number of affected brake replacement firms, approximately 85% of firms would have cost impacts of less than 1% of their annual revenues, about 10% would have cost impacts between 1% and 3%, and around 6% would have cost impacts of greater than 3%. At the high-end estimate of the number of affected brake replacement firms, 100% of firms would have a cost impact of less than 1% of the annual revenue. An additional three small entities that do not supply aftermarket brakes are estimated to be affected by the rule; two are assumed to manufacture sheet gaskets for titanium dioxide production, and one imports oilfield brake blocks. EPA did not have the information necessary to estimate the cost impacts on these other four small entities (Ref. 2).). EPA found no literature that described the costs of converting to asbestos-free products for either sheet gaskets used in titanium dioxide production or oilfield brake blocks. Moreover, there were no public comments in response to the proposed rule or the subsequent notice of data availability that provided information on the costs for these use categories.

The uses of asbestos subject to the rule are all in mature industries and the amount of asbestos consumed in them has been declining for some time. There is no evidence of innovative applications of asbestos in these uses in recent years, nor is there any expectation that such innovations would occur in the future in the absence of a prohibition on these uses of asbestos.

The effects of this rule on public health are estimated to be positive, due to the avoided incidence of adverse health effects attributable to asbestos exposure, including lung cancer, mesothelioma, and cancers of the larynx and ovary (Ref. 2). Despite the uncertainties about possible greater use and release of PFAS discussed in Unit VII.B.5., EPA believes the benefits of removing chrysotile asbestos, a known human carcinogen that causes cancer (mesothelioma, lung, ovarian, and laryngeal cancers), from continued use in the United States, are significant enough to outweigh the potential additional exposure to PFAS that might result from this action.

Converting chlor-alkali diaphragm cells to non-asbestos technology is expected to reduce total electricity consumption by the chlor-alkali industry and thus the level of air pollution associated with electric power generation. This reduction in air pollution would provide environmental benefits as well as health benefits (Ref. 2).

b. *Costs and benefits of the regulatory action and of the primary alternative regulatory actions considered by the Administrator.*

i. *Regulatory action.*

EPA was able to quantify the costs of the rule for the chlor-alkali industry and the aftermarket automotive brake industry, as well as a portion of the costs for firms using sheet gaskets. Nearly all of the quantified costs are due to the requirements for the chlor-alkali industry. The rule is predicted to require an investment of $2.8 billion to $3.4 billion to convert chlor-alkali facilities using asbestos diaphragm cells to cells using non-asbestos diaphragms or membranes. The rule accelerates existing trends in the industry to transition away from asbestos diaphragms, and EPA expects that these conversions would eventually occur in the baseline even without the rule, although more slowly than with the prohibition deadlines in the rule. For a number of these facilities the non-asbestos technologies are more energy efficient than asbestos diaphragm cells, resulting in cost savings that would accrue over the lifetimes of the facilities. Membrane cells also produce a higher grade of caustic soda that has historically commanded a higher price than the product from asbestos diaphragm cells; that price differential may or may not continue in the future. If some facilities are unable to complete their conversions to non-asbestos technology by the mandatory compliance dates in the rule, the unconverted portions of those facilities would need to close until the conversions are completed. Such temporary closures would result in lost producer surplus (as well as lost consumer surplus, which EPA was unable to quantify) until the conversions are completed. The incremental net annualized costs of the rule to the chlor-alkali industry are calculated by combining conversion costs, changes in energy usage, potential revenue gains from increased production of membrane-grade caustic soda, and the lost producer surplus from possible temporary facility closures (all compared to the baseline), and annualizing the results over the 35-year expected lifetime of new chlor-alkali facility equipment.

Compared to this baseline trend, the net cost of the rule to the chlor-alkali industry over a 35-year period using a 3 percent discount rate is estimated to range from an annualized cost of $7 million per year (if the additional membrane grade caustic soda that is produced sells for the same price as diaphragm grade caustic soda) to an annualized savings of $1 million per year (if the higher grade of caustic soda produced by membrane cells continues to command a premium price, as it has in the past). Using a 7 percent discount rate, the incremental net cost of the rule to the chlor-alkali industry ranges from a cost of $34 million per year (if there is a premium for membrane-grade caustic soda) to $43 million per year (if there is no premium for membrane-grade caustic soda).

EPA also estimates that approximately 1,800 sets of automotive brakes or brake linings containing asbestos may be imported into the U.S. each year, representing 0.002% of the total U.S. market for aftermarket brakes. The cost of a prohibition would be minimal due to the ready availability of alternative products that are only slightly more expensive (an average cost increase of about $5 per brake). The rule is estimated to result in total annualized costs for aftermarket automotive brakes of approximately $300,000 per year using a 3% discount rate and $200,000 per year using a 7% discount rate.

EPA estimated a lower bound of the cost of the ECEL and disposal requirements for titanium dioxide producers using sheet gaskets containing asbestos. These annualized costs are estimated at approximately $44,000 per year using a 3% discount rate or $65,000 per year using a 7% rate. However, EPA was unable to estimate the potential cost to sheet gasket users of substituting non-asbestos products.

EPA also did not have information to estimate all of the costs of prohibiting asbestos in brake blocks in the oil industry, and any other vehicle friction products or other gaskets. (EPA believes that the use of these asbestos-containing products has declined over time, and that they are now used in at most small segments of the relevant industries.) Since EPA could not quantify all of the costs of the rule for all of the use categories, the quantified estimates of the total costs of the rule are an upper

bound estimate of total cost savings and a lower bound estimate of total costs. Thus, the total net incremental costs of the rule are estimated to range from an annualized cost of greater than $7 million per year to an annualized savings of less than $1 million per year using a 3 percent discount rate. Using a 7 percent discount rate, these costs range from greater than $34 million per year to more than $43 million per year.

EPA quantified the benefits from avoided cases of cancer due to reduced asbestos exposures attributable to the rule's requirements for chlor-alkali diaphragms and aftermarket brakes, and sheet gaskets used for titanium dioxide production. The combined total national quantified benefits of avoided cancer cases associated with these use categories are approximately $6,000 per year using a 3% discount rate and $3,000 per year using a 7% discount rate. EPA did not estimate the avoided cancer benefits of the requirements for sheet gaskets used for other forms of chemical production, oilfield brake blocks, other vehicle friction products or other gaskets, in part because the Agency did not have sufficient information to accurately characterize the number of individuals whose exposures are likely to be affected by the rule. To the extent that products in these use categories are still manufactured, processed, distributed in commerce, used, or disposed of, the rule will generate additional benefits from reducing the exposures associated with these uses.

There are also unquantified benefits due to other avoided adverse non-cancer health effects associated with asbestos exposure, such as respiratory effects (*e.g.,* asbestosis, non-malignant respiratory disease, deficits in pulmonary function, diffuse pleural thickening and pleural plaques). The rule will also generate unquantified benefits from other exposure pathways and life cycle stages for which exposures were not estimated in the risk evaluation.

In addition to the benefits of avoided adverse health effects associated with chrysotile asbestos exposure, the rule is expected to generate benefits from reduced air pollution associated with electricity generation. Chlor-alkali production is one of the most energy-intensive industrial operations. Converting asbestos diaphragm cells to non-asbestos technologies will reduce overall electricity consumption and thus the total level of pollutants resulting from electric power generation, including carbon dioxide, particulate matter, sulfur dioxide, and nitrogen oxides. Converting asbestos diaphragm cells to non-asbestos technology could yield millions of dollars per year in environmental and health benefits from reduced emissions of criteria air pollutants and greenhouse gases (Ref. 2). The decreased air pollution resulting from the rule was not the driver for the decision making under TSCA section 6(a).

EPA's Economic Analysis, which can be found in the rulemaking docket (Ref. 2), contains more information on the estimated costs and benefits of the regulatory action.

ii. *Primary alternative regulatory actions.*

EPA considered two primary regulatory alternatives to the requirements that are being finalized in this action for chrysotile asbestos diaphragms in the chlor-alkali industry. Under one alternative, the prohibitions on the processing, distribution in commerce and commercial use of asbestos diaphragms at chlor-alkali facilities would take effect at all facilities after five years; the prohibitions on sheet gaskets for chemical production would take effect after two years for sheet gaskets used to produce titanium dioxide or to process nuclear materials, and two years for all other sheet gaskets used for chemical production; and after 180 days for the remaining use categories subject to the rule. Under the other alternative, these prohibitions would take effect at all chlor-alkali facilities after 12 years; after 5 years for all sheet gaskets used in chemical production; and after 2 years for the remaining use categories.

Under the alternative regulatory action with a 5-year prohibition on asbestos diaphragms for all chlor-alkali facilities, the total cost of the rule using a 3 percent discount rate is estimated to range from an annualized costs of more than $14 million per year (if the additional membrane-grade caustic soda that is produced sells for the same price as diaphragm grade caustic soda) to an annualized cost of more than $5 million per year (if the higher grade of caustic soda produced by membrane cells continues to command a premium price, as it has in the past). Using a 7 percent discount rate, the estimates range from a cost of more than $42 million per year (if there is a premium for membrane-grade caustic soda) to a cost of more than $51 million per year (if there is no premium for membrane-grade caustic soda).

Under the alternative regulatory action with a 12-year prohibition on asbestos diaphragms for all chlor-alkali facilities, the total cost of the rule using a 3 percent discount rate ranges from a savings of less than $1 million per year (if the higher grade of caustic soda produced by membrane cells continues to command a premium price) to a cost of greater than $7 million per year (if the additional membrane grade caustic soda that is produced receives the same price as diaphragm grade caustic soda). Using a 7 percent discount rate, the cost ranges from more than $31 million per year (if there is a premium for membrane-grade caustic soda) to more than $38 million per year (if there is no premium for membrane-grade caustic soda).

The alternative option with a 12-year prohibition deadline for all chlor-alkali facilities has estimated annualized incremental costs that are similar to those for the final rule, and are slightly lower than the final rule when using a 7% discount rate. These differences are due to how the timing of expenditures affects the annualized cost estimates. The vast majority of the quantified costs of the rule are associated with the chlor-alkali industry. Converting all eight plants using asbestos diaphragm cells to non-asbestos technologies is predicted to require an investment of approximately $2.8 billion to $3.4 billion, and these costs are assumed to be the same regardless of how quickly the conversions occur. Where the incremental cost of a 12-year prohibition deadline is less than the incremental cost of the final rule, part of the reason is that the rate of conversion to non-asbestos technologies under the alternative option is closer to the baseline conversion rate. (The incremental cost estimate compares the costs and savings associated with conversions under each option to the costs and savings that would be incurred each year in the absence of the rule). This means that the chlor-alkali companies are incurring the same actual costs under both options (since the conversions have the same costs and savings per ton of chlorine and caustic soda produced under all of the options), but under the 12-year option some of those costs are not attributed to the rule. In addition, some of the compliance costs are incurred at later points in time under the 12-year option than under the final rule, and expenditures that occur at later dates result in smaller annualized costs than those that occur sooner. These factors can make the alternative option with a 12-year prohibition deadline for all chlor-alkali facilities appear slightly less costly than the final rule, despite the fact that same facility conversions eventually occur under all the regulatory alternatives.

c. *Cost effectiveness of the regulatory action and primary alternative regulatory actions considered by the Administrator.*

The regulatory action reflected in the final rule and the alternative regulatory actions all reduce risks to the extent necessary such that unreasonable risk would no longer be present after such actions were implemented. The estimated costs of achieving this result differ across the possible regulatory actions and can be compared in terms of their cost-effectiveness. The measure of cost-effectiveness considered is the annualized net incremental cost of each regulatory option per micro-risk reduction in cancer cases estimated to occur as a result of the option, where a micro-risk refers to a one in one million reduction in the risk of a cancer case. The estimated cost-effectiveness of the final rule ranges from a cost of $185 to a savings of $35 per micro-risk reduction at a 3% discount rate, and a cost of $860 to $1,075 per micro-risk reduction at a 7% discount rate (where a micro-risk represents a one in a million chance of the adverse health outcome, which in this case is cancer). The estimated cost-effectiveness of the alternative regulatory action with a 5-year prohibition on asbestos diaphragms for all chlor-alkali facilities ranges from a cost of $128 to $348 per micro-risk reduction at a 3% discount rate, and a cost of $1,044 to $1,259 per micro-risk reduction at a 7% discount rate. The estimated cost-effectiveness of the alternative regulatory action with a 12-year prohibition on asbestos diaphragms for all chlor-alkali facilities ranges from a cost of $172 to a savings of $13 per micro-risk reduction at a 3% discount rate, and a cost of $779 to $953 per micro-risk reduction at a 7% discount rate.

The alternative option with a 12-year prohibition deadline for all chlor-alkali facilities appears to be somewhat more cost effective than the final rule when using a 7 percent discount rate. But as noted previously, these differences are due to how the timing of expenditures affects the annualized cost estimates.

5. Consideration of alternatives under TSCA section 6(c)(2)(C).

Under TSCA section 6(c)(2)(C), and based on the information published under TSCA section 6(c)(2)(A), 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 also consider, to the extent practicable, whether technically and economically feasible alternatives that benefit health or the environment will be reasonably available as a substitute when the prohibition or other restriction takes effect.

a. *Health and environmental effects of the chemical alternatives or substitute methods.*

In considering the potential chemical alternatives or substitute methods for chrysotile asbestos for the conditions of use evaluated in the risk evaluation, EPA notes that chrysotile asbestos is not currently the primary substance most commonly used in these conditions of use, nor has it been for the last decade. Chlor-alkali asbestos diaphragms, sheet gaskets for chemical production, aftermarket automotive breaks, oilfield brake blocks, other gaskets and other friction products containing chrysotile asbestos are relatively uncommon in the market space, as described in the risk evaluation. There are a number of alternatives to asbestos in these conditions of use that make up the majority of the market share and have been preferentially used for some time, in part as a result of the known severe and adverse health effects related to asbestos exposure. Based on the information published under TSCA section 6(c)(2)(A), EPA does not expect any adverse impacts to human health and the environment to result from the further reduction of asbestos in these conditions of use when compared to the continued use of asbestos.

EPA acknowledges that substitute technologies for asbestos-containing diaphragms in chlor-alkali production use an increased concentration of per- and polyfluoroalkyl substances (PFAS) relative to the amount of PFAS compounds contained in asbestos-containing diaphragms. As discussed in the Economic Analysis, the three types of chlor-alkali production technologies commonly used in the United States vary in their use of PFAS. Non-asbestos diaphragms have a higher concentration of polytetrafluoroethylene (PTFE, a polymeric perfluorinated substance) than asbestos-containing diaphragms, and non-asbestos membranes are made of PTFE, perfluorinated carboxylic acids and perfluorosulfonic acids. However, the impact of the transition away from asbestos-containing diaphragms on the quantities of PFAS compounds used and released is uncertain. Although they contain a higher concentration of PFAS compounds than diaphragms made with asbestos, non-asbestos diaphragms and membranes have a typical lifespan that can be several times longer than that for asbestos diaphragms. Therefore, it is unclear how increased use of non-asbestos technologies will affect the total production, usage, or releases of PFAS compounds, or exposures to such compounds. Despite these uncertainties about the use and release of PFAS, EPA believes the benefits of removing chrysotile asbestos from continued use in the United States are significant even though there are uncertainties regarding the potential changes in exposure to PFAS that might result from this action. Still, when possible, EPA recommends a transition to safer alternatives. Additional information on PFAS, including Agency guidance, is available at *https://www.epa.gov/*.

To the extent that alternative technologies are more energy efficient, converting asbestos diaphragm cells to non-asbestos technologies reduces overall electricity consumption and thus the total level of pollutants associated with electric power generation, including carbon dioxide, particulate matter, sulfur dioxide, and nitrogen oxides.

b. *Technically and economically feasible and reasonably available chemical alternatives or substitute methods.*

As mentioned, there are a number of alternatives to asbestos in these conditions of use that make up the majority of the market share and have been preferentially used for some time. EPA received input from stakeholders regarding their concerns about alternatives to chrysotile asbestos. EPA expects non-asbestos diaphragms and membrane cells will be the likely substitutes to asbestos diaphragms. Prior to the proposed rule, the chlor-alkali industry expressed concerns to EPA about the economic feasibility of transitioning to asbestos free technology in general (Ref. 25; Ref. 26; Ref. 27; Ref. 28; Ref. 29) and indicated that it would take a significant amount of time. Subsequent public comments and information from the chlor-alkali industry obtained after the proposed rule was published indicates that conversion to asbestos-free technology is commercially viable, but that the conversion can take a significant amount of time, depending on the technology adopted and the number of facilities to be converted (Ref. 12; Ref. 13).

Several stakeholders provided feedback on alternatives to chrysotile asbestos for the sheet gasket use in chemical production. Generally, these stakeholders described how the transition from asbestos use for titanium dioxide production would require modifications to the facilities that would be time consuming. One stakeholder noted in 2021 that they had a titanium dioxide production facility located in Taiwan that uses asbestos-free gaskets. The stakeholder, however, stated at that time that the technology used in the Taiwan facility would not suit certain domestic titanium dioxide

facilities because the large diameter flanges in the domestic facilities result in performance issues with the asbestos-free gaskets (Ref. 25). The same stakeholder subsequently informed EPA in 2023 that they could transition to the use of non-asbestos gaskets in their domestic facilities by re-engineering the flanges, although that process will require several years to complete (Ref. 18). Non-asbestos technologies already dominate the market for other gaskets, oilfield brake blocks, brakes and other friction products. Although, stakeholders indicated the advantages of using asbestos (*e.g.,* asbestos in automotive drum brakes advantages include thermal stability, flexibility, resistance to wear, and low cost), and limitations of the non-asbestos replacements (*e.g.,* non-asbestos replacements in brake blocks have a useful life half that of products containing asbestos, are more expensive than asbestos-containing products, and are subject to sudden failure) (Ref. 2). Non-asbestos aftermarket automotive brakes are estimated to cost an average of $4 more than brakes containing asbestos. EPA was unable to identify any companies currently supplying or using other gaskets or other friction products containing asbestos, so the Agency does not have information on the cost differentials between products that contain asbestos and those that are asbestos-free. Additional information is available in the risk evaluation (Ref. 1) and economic analysis (Ref. 2).

6. Replacement parts under TSCA section 6(c)(2)(D).

TSCA section 6(c)(2)(D) states that EPA shall exempt from TSCA section 6(a) rules replacement parts for complex durable goods and complex consumer goods that are designed prior to the publication of a final risk management rule, unless such replacement parts contribute significantly to the risk, identified in a risk evaluation conducted under TSCA section 6(b)(4)(A), to the general population or to an identified potentially exposed or susceptible subpopulation. TSCA section 6(c)(2)(D) defines complex consumer goods as electronic or mechanical devices composed of multiple manufactured components, with an intended useful life of three or more years, where the product is typically not consumed, destroyed, or discarded after a single use, and the components of which would be impracticable to redesign or replace. The term ''complex durable goods'' means manufactured goods composed of 100 or more manufactured components, with an intended useful life of five or more years, where the product is typically not consumed, destroyed or discarded after a single use. Several of the conditions of use addressed by this final rule impact these replacement part categories. Aftermarket automotive brakes/linings are replacement parts for automobiles and other vehicles. Other asbestos-containing gaskets may be available as both new and replacement parts on utility and other vehicles. Oilfield brake blocks are replacement parts for the drilling rigs used in the oil industry. These vehicles and drilling rigs are composed of numerous components, manufactured separately and assembled together into a machine designed for a useful life of at least three years if properly maintained. By their nature, EPA believes these meet the TSCA definition of complex durable goods. In the Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos, however, EPA found unreasonable risk from use and disposal of chrysotile asbestos-containing brake blocks in the oil industry; aftermarket automotive chrysotile asbestos-containing brakes/linings; and other asbestos-containing gaskets. EPA's risk evaluation evaluated scenarios involving these replacement parts, and EPA finds that the replacement parts contribute significantly to the identified unreasonable risk for these conditions of use to the potentially exposed or susceptible subpopulations identified in the risk evaluation. Accordingly, EPA is not exempting replacement parts from regulation in this final rule.

7. Article considerations under TSCA section 6(c)(2)(E).

Under this final rule, EPA is regulating the manufacture, processing, and distribution in commerce of articles containing chrysotile asbestos. TSCA section 6(c)(2)(E) states: ''In selecting among prohibitions and other restrictions, the Administrator shall apply such prohibitions or other restrictions to an article or category of articles containing the chemical substance or mixture only to the extent necessary to address the identified risks from exposure to the chemical substance or mixture from the article or category of articles so that the substance or mixture does not present an unreasonable risk of injury to health or the environment identified in the risk evaluation conducted in accordance with section 6(b)(4)(A).'' TSCA does not define ''article,'' but EPA proposed to define ''article'' and is now finalizing that definition. Based on this definition, the conditions of use subject to this regulation include articles, *e.g.,* sheet gaskets, brake blocks, brake/linings, other gaskets and other vehicle friction products.

Except for bulk chrysotile asbestos imported for use in asbestos diaphragms, all of the other conditions of use that are the subject of this regulation involve the use and/or disposal of products or articles containing chrysotile asbestos. For each condition of use, the article is subject to circumstances during use that change or alter the article as a direct result of the use. Releases of chrysotile asbestos, and the associated unreasonable risk from exposure to chrysotile asbestos identified in the risk evaluation, result from use of the articles. The articles themselves include sheet gaskets, other gaskets, brake blocks, brakes and linings, which wear down during use and release asbestos fibers. The risk evaluation determined that exposure to workers, ONUs, consumers and bystanders can occur when these items are replaced or repaired, resulting in harmful exposures. These identified risks from articles containing asbestos could result from exposure of any kind and, as a result, EPA had no feasible option to prevent these risks other than a complete prohibition. In particular, without effective respiratory protection to reduce asbestos exposure, no other restriction EPA researched could sufficiently prevent unreasonable risk to ONUs, consumers, and bystanders who were not expected to wear respiratory protection. For example, EPA does not assume consumers who replace their own automobile brakes will consistently use appropriate respiratory protection, nor can EPA in this rule require respirator use for consumers. Accordingly, EPA's final regulatory action sets requirements for articles only to the extent necessary to address the identified risks from exposure to chrysotile asbestos from the article so that chrysotile asbestos does not present an unreasonable risk to health.

C. TSCA Section 9 Analysis

1. TSCA section 9(a) analysis.

Section 9(a) of TSCA 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. TSCA section 9(a) describes additional procedures and requirements to be followed by EPA and the other federal agency after submission of the report. As discussed in this Unit, the Administrator does not determine that unreasonable risk from the conditions of use of chrysotile

asbestos may be prevented or reduced to a sufficient extent by an action taken under a Federal law not administered by EPA.

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 burden of duplicative requirements. For this rule, EPA has consulted with other appropriate Federal executive departments and agencies including OSHA and NIOSH.

OSHA requires that employers provide safe and healthful working conditions by setting and enforcing standards and by providing training, outreach, education and assistance. OSHA has three separate health standards for asbestos covering employers in General Industry (29 CFR 1910.1001); Shipyards (29 CFR 1915.1001); and Construction (29 CFR 1926.1101). These standards include a permissible exposure limit (PEL) for asbestos of 0.1 fibers per cubic centimeter (cc) of air as an eight-hour time weighted average (TWA), and an excursion limit of 1.0 asbestos fibers per cubic centimeter over a 30-minute period. The standards apply to all occupational exposures to asbestos and require exposure monitoring to determine employee exposure. Exposure monitoring includes both initial monitoring of employees who are, or may reasonably be expected to be, exposed to airborne concentrations at or above the TWA PEL or excursion limit, as well as additional monitoring. Monitoring frequency depends on work classification exposure while additional monitoring may be required based on changes in the workplace environment that may result in new or additional exposures above the TWA PEL or excursion limit.

This rule addresses risk from exposure to chrysotile asbestos in both workplace and consumer settings (*e.g.,* do-it-yourself automobile maintenance). With the exception of TSCA, there is no Federal law that provides authority to prevent or sufficiently reduce these cross-cutting exposures. No other Federal regulatory agency can evaluate and address the totality of the risk that EPA is addressing in this rule. For example, 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 (while EPA does not regulate consumer use directly under TSCA 6(a)(5), it has authority to regulate the upstream supply of chemicals for consumer uses). Further, OSHA does not have direct authority over state and local employees, and it has no authority at all over the working conditions of state and local employees in states that have no OSHA-approved State Plan under 29 U.S.C. 667. Other individuals that may not be covered by OSHA requirements include university students, volunteers, and self-employed persons. CPSC is charged with protecting the public from unreasonable risks of injury or death associated with the use of the thousands of types of consumer products under the agency's jurisdiction, CPSC has the authority to regulate chrysotile asbestos in such consumer products, but not in automobiles, trucks and motorcycles, which are not under its jurisdiction.

Moreover, the 2016 amendments to TSCA, Public Law 114–182, alter both the manner of identifying unreasonable risk under TSCA and EPA's authority to address unreasonable risk under TSCA, such that risk management under TSCA is increasingly distinct from analogous provisions of the Consumer Product Safety Act (CPSA), the Federal Hazardous Substances Act (FHSA), or the OSH Act. These changes to TSCA reduce the likelihood that an action under the CPSA, FHSA, or the OSH Act would sufficiently prevent or reduce the unreasonable risk of chrysotile asbestos. In a TSCA section 6 rule, following an unreasonable risk determination, EPA must apply risk management requirements to the extent necessary so that the chemical no longer presents unreasonable risk and only consider costs to the extent practicable, 15 U.S.C. 2605(a) and (c)(2), subject to time-limited conditional exemptions, 15 U.S.C. 2605(g). By contrast, 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). 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 FHSA relative to action EPA may take under TSCA. 15 U.S.C. 1262. Gaps also exist between OSHA's authority to set workplace standards under the OSH Act and EPA's obligations to sufficiently address chemical risks under TSCA. To set PELs for chemical exposure, OSHA must first establish that the new standards are economically feasible and technologically feasible (79 FR 61387, October 10, 2014). But under TSCA, EPA's substantive burden under TSCA section 6(a) is to demonstrate that, as regulated, the chemical substance no longer presents an unreasonable risk, with unreasonable risk being determined under TSCA section 6(b)(4).

EPA therefore concludes that: TSCA is the only regulatory authority able to prevent or reduce risks of chrysotile asbestos to a sufficient extent across the range of conditions of use, exposures and populations of concern; these risks can be addressed in a more coordinated, efficient and effective manner under TSCA than under different laws implemented by different agencies, and there are key differences between the finding requirements of TSCA and those of the OSH Act. For these reasons, in the Administrator's discretion, the Administrator does not determine that unreasonable risk from the conditions of use of chrysotile asbestos may be prevented or reduced to a sufficient extent by an action taken under a Federal law not administered by EPA.

More than 10 comments were received regarding issues generally related to TSCA section 9. Some commenters supported EPA's decision to not make a determination and submit a report to another agency under TSCA section 9(a). Other commenters contended that the OSHA regulation that relates to reducing worker exposure sufficiently mitigates the unreasonable risk and that EPA lacks authority to regulate worker exposures because OSHA is better positioned to enforce both safety measures and occupational exposures. EPA's response to these comments is available in the docket for this rulemaking (Ref. 12).

2. 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 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 have been used to limit chrysotile asbestos exposure (Ref. 4), regulations under those EPA statutes have limitations because they largely regulate releases to the environment, rather than direct human exposure. The Clean Air Act generally focuses on releases of asbestos to the ambient air. Under the Resource Conservation and Recovery Act (RCRA) Subtitle D, the disposal of chrysotile asbestos is regulated as a non-hazardous solid waste; RCRA does not address exposures during manufacturing, processing, distribution and use of products containing chrysotile asbestos. Only TSCA provides EPA the authority to regulate the manufacture (including import), processing, distribution in commerce, commercial use and commercial disposal of chemicals substances to be able to address chrysotile asbestos direct exposure to humans.

For these reasons, the Administrator does not determine that unreasonable risk from the conditions of use of chrysotile asbestos could be eliminated or reduced to a sufficient extent by actions taken under other Federal laws administered in whole or in part by EPA.

D. TSCA Section 26(h) 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. The unreasonable risk determination was based on a risk evaluation, which was subject to peer review and public comment, was developed in a manner consistent with the best available science and based on the weight of the scientific evidence. The extent to which the various information, procedures, measures, methods, protocols, methodologies or models, as applicable, used in EPA's decision have been subject to independent verification or peer review is adequate to justify their use, collectively, in the record for this rule. In particular, the ECEL value incorporated into the interim workplace controls is derived from the analysis in the 2020 Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos; it likewise represents decisions based on the best available science and the weight of the scientific evidence (Ref. 23). The ECEL value of 0.005 f/cc as an 8-hour TWA is based incidence of lung cancer, mesothelioma and other cancers. 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–2019–0501 (Ref. 30).

E. TSCA Section 14 Requirements

EPA is also providing notice to manufacturers, processors, and other interested parties about potential impacts to confidential business information that may occur with this final rule. 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 confidential business information 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). 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 rule would prohibit. 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).

F. TSCA Section 18(c)(3) Federal Preemption

TSCA section 18(c)(3) defines the scope of federal preemption with respect to any final rule EPA issues under TSCA section 6(a). That provision provides that federal preemption of ''statutes, criminal penalties, and administrative actions'' applies to ''the hazards, exposures, risks, and uses or conditions of use of such chemical substances included in any final action the Administrator takes pursuant to [TSCA section 6(a)].'' With respect to this final TSCA section 6(a) rule for chrysotile asbestos, federal preemption applies to the COUs evaluated in the TSCA Risk Evaluation for Asbestos, Part 1. Federal preemption as a result of this section 6(a) rule does not apply to COUs that are being evaluated in EPA's Risk Evaluation for Asbestos, Part 2, including legacy uses and associated disposals, other types of asbestos fibers in addition to chrysotile, and conditions of use of asbestos-containing talc.

VIII. Severability

EPA intends that each provision of this rulemaking be severable. In the event of litigation staying, remanding, or invalidating all or a portion of EPA's risk management approach for one or more conditions of use (COUs) in this rule, EPA intends to preserve the risk management approach in the rule for all other portions of the risk management approach for a COU and all other COUs to the fullest extent possible. The Agency evaluated the risk management options in TSCA section 6(a)(1) through (7) for each COU and generally EPA's regulation of a COU to address the unreasonable risk from chrysotile asbestos functions independently from EPA's regulation of other COUs, which may have different characteristics leading to EPA's risk management decisions. Further, the Agency crafted this rule so that different risk management approaches are reflected in different provisions or elements of the rule that are capable of operating independently. Accordingly, the Agency has organized the rule so that if any provision or element of this rule is determined by judicial review or operation of law to be invalid, that partial invalidation will not render the remainder of this rule invalid.

There are many permutations of the above. Accordingly, rather than walking through each one, EPA is providing the following two representative examples for illustrative purposes. The first example of how the regulation of one COU is independent of another COU is based on the following COU examples of: the commercial use of chrysotile asbestos for use in sheet gaskets for chemical production, which EPA prohibited in § 751.509(a), and the commercial use of chrysotile asbestos for oilfield brake blocks, which EPA prohibited in § 751.509(d)(1). To the extent that a court were to find EPA lacked substantial evidence to support its prohibition of the commercial use of chrysotile asbestos for use in sheet gaskets for chemical production or otherwise found flaw with EPA's approach to that COU, it would have no bearing on other COUs, such as the commercial use of chrysotile asbestos for oilfield brake blocks, unless the specific flaw also applies to the particular facts associated with the commercial use of chrysotile asbestos for oilfield brake blocks. This is reflected in the structure of the rule, which does not intertwine the prohibitions for commercial use of chrysotile asbestos for use in sheet

gaskets for chemical production and the commercial use of chrysotile asbestos for oilfield brake blocks, but rather separately prohibits each of these COUs.

Another example of how different risk management approaches are reflected in different provisions or elements of the rule that are capable of operating independently is the regulatory provisions for the commercial use of chrysotile asbestos sheet gaskets for titanium dioxide production. EPA's risk management approach includes two elements: (1) a prohibition on the commercial use of chrysotile asbestos sheet gaskets for titanium dioxide production under § 751.509(b) and (2) interim workplace controls to reduce risk to workers until the prohibition takes effect under § 751.511. To the extent that a court were to find that EPA lacked substantial evidence to support the interim workplace controls for the commercial use of sheet gaskets for titanium dioxide production, or otherwise found flaw with EPA's approach with respect to this aspect of the risk management for this COU, it would have no bearing on EPA's decision to prohibit the commercial use of sheet gaskets for titanium dioxide production. This is reflected in the structure of the rule, which does not make the prohibition of the commercial use of sheet gaskets for titanium dioxide production contingent on the application of interim workplace controls.

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 referenced within the documents that are included in the docket, even if the referenced document is not physically located in the docket. For assistance in locating these other documents, please consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

1. EPA. Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos. December 2020. Office of Chemical Safety and Pollution Prevention. Washington, DC. December 2020. (EPA Docket Document Number EPA–HQ–OPPT–2021–0057–0007). *https://www.regulations.gov/document/EPA-HQ-OPPT-2021-0057-0007.*
2. EPA. 2023. Economic Analysis of the TSCA Section 6 Final Rule for Asbestos Risk Management, Part 1. March 2024.
3. U.S. Geological Survey. (2023). Minerals Yearbook. *Asbestos. 2022 tables-only release.*
4. EPA. Regulatory History of Asbestos. March 2024.
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13. EPA. Asbestos Part 1: Chrysotile Asbestos; Regulation of Certain Conditions of Use Under Section 6(a) of the Toxic Substances Control Act (TSCA); Notice of Data Availability and Request for Comment EPA–HQ–OPPT–2021–0057. Response to Comments. March 2024.
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31. EPA. Information Collection Request (ICR) for the Regulation of Part 1: Chrysotile Asbestos under TSCA Section 6(a) (Final Rule). EPA ICR No. 2707.02; OMB No. 2070–0220. March 2024.
32. EPA. Unfunded Mandates Reform Act Statement. Asbestos Part 1: Chrysotile Asbestos; Regulation of Certain Conditions of Use under TSCA Section 6(a). March 2024.
33. Asbestos Disease Awareness Organization. Comments submitted at the Environmental Justice Webinar. June 1, 2021. EPA–HQ–OPPT–2021–0057–0005. *https://www.regulations.gov/document/EPA-HQ-OPPT-2021-0057-0005.*

X. Statutory and Executive Order Reviews

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

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

This action is a ''significant regulatory action'' as defined under section 3(f)(1) of 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 the Office of Management and Budget (OMB) for Executive Order 12866 review. Documentation of any changes made in response to Executive Order 12866 review is available in the docket.

As summarized in Unit I.E., EPA prepared an analysis of the potential costs and benefits associated with this action (Ref. 2), a copy of which is available in the docket and discussed in Unit VII.B.

B. Paperwork Reduction Act (PRA)

The information collection requirements in this final rule have been submitted to OMB for approval under the PRA, 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR No. 2707.02 and OMB Control No. 2070–0220. You can find a copy of the ICR in the docket for this rule (Ref. 31), and it is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The information collection activities required under this rule include reporting and recordkeeping requirements. As explained in Unit VI.F. and specified at § 751.511, companies that manufacture (including import), process, distribute in commerce and use chrysotile asbestos would be required to retain certain information at the company headquarters for five years from the date of generation. These information collection activities are necessary to provide EPA with information upon inspection. EPA believes that these information collection activities would not significantly impact the regulated entities. As further explained in the ICR document:

- Four (4) titanium dioxide manufacturing facilities that use sheet gaskets and 8 chlor-alkali facilities are estimated to incur costs associated with the ECEL (specifically, developing the exposure control plan, conducting exposure monitoring, and the associated notifications and recordkeeping). Each firm is predicted to an incur an average burden of 182.98 hours per year.
- Five (5) chemical manufacturing facilities that use sheet gaskets and 12 to 1,400 companies installing aftermarket automotive brakes are estimated to incur additional recordkeeping costs associated with their disposal activities. Firms are predicted to incur a burden of ranging from 0.03 hours to 4.42 hours per year.
- For the remaining industry sectors and recordkeeping activities required by the rule, records that comply with the requirements are assumed to already be maintained as part of ordinary business records. Therefore, EPA estimates that such respondents would incur no additional incremental paperwork burdens due to the rule.

Respondents/affected entities: Chrysotile asbestos manufacturers (including importers), processors, distributors, and users.

Respondent's obligation to respond: Mandatory. TSCA section 6(a) and the final rule.

Estimated number of respondents: 721.

Frequency of response: On occasion.

Total estimated burden: 2,269 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $370,973 (per year), includes $233,425 annualized capital or operation & 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. When OMB approves this ICR, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA, 5 U.S.C. 601 *et seq.* The small entities subject to the requirements of this action manufacture (including import), process, distribute in commerce and use chrysotile asbestos in the conditions of use covered by this rule. As described in more detail in section 6.2 of the Economic Analysis (Ref. 2), EPA has determined that 14 to 1,372 small entities would be subject to the rule. The available information about the magnitude of the small entity impacts for each use category are summarized below:

Chlor-alkali facilities: None of the three affected firms are small businesses.

Sheet gasket manufacturing for chemical production: EPA does not have the information to calculate the costs of the rule to small businesses in this sector, so small business impacts have not been estimated. EPA is aware of the identity of a small business that manufactures sheet gaskets containing asbestos for chemical production (including titanium dioxide production), and the Agency assumes that there may be a second small business providing sheet gaskets containing asbestos for similar uses. While EPA lacks the information to estimate the compliance cost and the resulting impact on firms in this sector, the one firm EPA is aware of supplying this sector sells a diverse line of products (including non-asbestos gaskets and many products other than gaskets) serving several different industries, and it operates several sites that do not manufacture gaskets containing asbestos. This suggests that asbestos-containing gaskets are not a primary source of revenue for the firm. EPA assumes that if there is another manufacturer of asbestos gaskets for similar uses, that it also sells non-asbestos gaskets. Since asbestos gaskets are such a niche portion of the gasket industry, EPA believes this is a reasonable assumption. If the customers using gaskets containing asbestos are able to convert entirely to asbestos-free gaskets, the affected gasket manufacturers could likely provide the

substitute products. These customers consist of chemical manufacturers that are all large businesses as far as EPA is aware. To the extent that asbestos-free gaskets do not last as long as those containing asbestos, the rule could potentially increase revenues for the affected gasket manufacturers. Asbestos-free products in these applications reportedly require more frequent replacement than items containing asbestos. As a result, the rule could increase revenues for the affected small business suppliers if they sell a larger volume of non-asbestos products to the end users as replacements.

Sheet gasket end users (chemical production): None of the 4 firms known to be affected are small businesses. It is possible there may be other unknown small businesses that may be affected.

Oilfield brake block importer: EPA does not have the information to calculate the costs of the rule to small businesses in this sector, so small business impacts have not been estimated. There is one firm known to import and distribute oilfield brake blocks containing asbestos and it is a small business. While EPA was not able to estimate the compliance cost and its impact on this firm, if the customers (which may include other small businesses) with older drilling rigs currently using brake blocks containing asbestos continue to use those rigs, the importer could likely provide the asbestos-free brake blocks used as substitutes. To the extent that asbestos-free brake blocks are more expensive and do not last as long as those containing asbestos, the rule could potentially increase revenues for the affected brake block importer. A less durable product might be less profitable for the customers, but selling a product that has to be replaced more often could increase revenues for the importer if it sells a larger volume of non-asbestos products to the end users as replacements.

Oilfield brake block—end users: EPA has not identified any small businesses using oilfield brake blocks containing asbestos. If there are such small businesses, EPA does not have the information needed to calculate the costs of the rule to them. Industry sources have indicated that the use of asbestos-containing brake blocks has declined over time because the type of drilling rigs that use them have been replaced by equipment that does not require the use of brake blocks containing asbestos, or that do not use brake blocks at all. Since there is only one known importer and it is small, there are likely few companies still using asbestos-containing brake blocks.

Aftermarket automotive brakes: 11 to 1,369 small businesses are estimated to be affected by the rule. The estimate of 11 affected small entities assumes that each affected business performs between 40 and 700 brake replacements per year using asbestos brake linings or pads. The estimate of 1,369 affected small entities assumes that each affected business installs a single set of asbestos brake linings or pads per year. Affected firms are expected to incur a cost of approximately $18 per brake replacement job for the additional expense of a set of four non-asbestos brake linings or pads, and about $1 for recordkeeping for their waste disposal activities. This results in annual costs between $20 and $14,000 per firm (depending on the number of brake replacements they perform). At the low-end of 11 affected brake replacement firms, approximately 85% would have cost impacts of less than 1% of their annual revenues, about 10% would have cost impacts between 1% and 3%, and roughly 6% would have cost impacts over 3%. At the high-end estimate of 1,369 affected brake replacement firms affected, 100% of firms would have a cost impact of less than 1% of their annual revenue. As described in the Economic Analysis (Ref. 2), aftermarket automobile brakes containing asbestos are estimated to have a very small share (0.002%) of the total market. EPA did not estimate any costs for these businesses associated with finding suppliers of non-asbestos brakes because EPA assumes that these businesses already sell non-asbestos brakes as well as brakes containing asbestos.

Other gaskets: EPA is not aware of any firms that would be affected for this use category, since the one firm that previously indicated that it used these products subsequently stated that it does not do so. Therefore, no impacts are predicted on this use category as a result of the rule.

Other vehicle friction products: EPA is not aware of any firms impacted for this use category because the one firm that previously indicated to EPA that it used products in this use category subsequently stated that it does not do so. Therefore, no impacts are predicted on this use category as a result of the rule. To the extent there are ongoing uses, it is likely that the effects of the rule would be similar to those for aftermarket auto brakes (a few firms facing a small cost increase for asbestos-free products that probably can be passed on to consumers).

Details of this analysis are presented in the Economic Analysis (Ref. 2).

D. Unfunded Mandates Reform Act (UMRA)

This action contains a federal mandate under UMRA, 2 U.S.C. 1531–1538, that may result in expenditures of more than the inflation-adjusted UMRA threshold of $100 million or more for state, local and tribal governments, in the aggregate, or the private sector in any one year. Accordingly, the EPA has prepared a written statement required under UMRA section 202. The statement is included in the docket for this action and briefly summarized here. (Ref. 32)

Total annual net compliance costs per year over the first 12 years of this rule are estimated to range from a cost of $342 million to a savings of $126 million, depending on the year. (This does not include costs for sheet gaskets used in chemical production, brake blocks in the oil industry, other vehicle friction products, or other gaskets, which were not quantified). Thus, the cost of the rule in any one year can exceed $177 million, the inflation-adjusted UMRA threshold. When longer term savings in the chlor-alkali industry are accounted for over a 35-year period (the estimated useful lifespan of facilities in the chlor-alkali industry), the quantified incremental costs of the rule using a 3% discount rate range from savings of less than $1 million per year to costs of more than $7 million per year. Using a 7% discount rate, the incremental costs range from more than $34 million per year to greater than $43 million per year.

The economic impact of a regulation on the national economy is generally considered to be measurable only if the economic impact of the regulation reaches 0.25 percent to 0.5 percent of Gross Domestic Product (GDP) (Ref. 24). Given the current GDP of $27.62 trillion, this is equivalent to a cost of $69 billion to $138 billion. Therefore, EPA has concluded that this rule is highly unlikely to have any measurable effect on the national economy.

The quantified benefits of avoided cancer incidence due to the requirements for chlor-alkali facilities, sheet gaskets in chemical production, and aftermarket automobile brakes total approximately $6,000 per year using a 3% discount rate and $3,000 per year using a 7% discount rate. There are also benefits due to the reduction in pollutants generated by electric utilities that supply power to the chlor-alkali facilities, as well as various unquantified benefits.

UMRA section 205 requires that before promulgating any rule for which a written statement is required under

UMRA section 202, the agency shall identify and consider a reasonable number of regulatory alternatives and from those alternatives select the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule, unless the head of the affected agency publishes with the final rule an explanation of why the least costly, most cost-effective or least burdensome method of achieving the objectives of the rule was not adopted; or the provisions are inconsistent with law.

EPA considered two primary regulatory alternatives to the requirements that are being finalized in this action for chrysotile asbestos diaphragms in the chlor-alkali industry. Under one alternative the prohibitions on the processing, distribution in commerce and commercial use of asbestos diaphragms at chlor-alkali facilities would take effect at all facilities five years after the effective date of the final rule. Under the other alternative these prohibitions would take effect at all facilities after 12 years. The 12-year option has slightly lower estimated annualized costs than the final rule in EPA's Economic Analysis (Ref. 2) when using a 7 percent discount rate. However, as described in Unit VII.B.4.b.ii., this is an artifact of how the time at which costs are incurred affects the incremental annualized cost estimates of the rule. Moreover, neither alternative option is consistent with the statute or the objectives of the rule.

EPA has concluded that the regulatory alternatives it considered are not consistent with the statute or the objectives of the rule. TSCA requires that EPA specify mandatory compliance dates for all requirements of a TSCA section 6(a) rule, and that the dates be ''as soon as practicable'' and ''provide for a reasonable transition period.'' As described in Unit V., given the differences among chlor-alkali facilities, EPA has concluded that a compliance deadline of five years for the processing, distribution in commerce and commercial use at all facilities would not provide a reasonable transition period without anticipated disruption to the available chlorine supply for water treatment. But allowing the processing, distribution in commerce and commercial use of asbestos diaphragms to continue for 12 years at all facilities would not be as soon as practicable, since some facilities will be able to complete their conversion to non-asbestos technology in less than 12 years. Therefore, neither of the alternative options considered would be consistent with the statute or the objectives of the rule. Instead, EPA is finalizing requirements that provide longer staggered phase-out periods to provide a reasonable period for companies to sequentially convert some facilities from chrysotile asbestos diaphragm technology to membrane technology that is still as quickly as is practicable.

Additional information on EPA's estimates of the benefits and costs of this action are provided in Units I.E. and VII.B.4. and in the Economic Analysis (Ref. 2). Information on the authorizing legislation is provided in Unit I.B. Information on prior consultations with affected State, local, and Tribal governments is provided in Units X.E and X.F.

This action is not subject to the requirements of UMRA section 203 because it contains no regulatory requirements that might significantly or uniquely affect small governments.

E. Executive Order 13132: Federalism

As discussed in Unit I.E.7., EPA has concluded that this action has federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999) because regulation under TSCA section 6(a) may preempt state law. EPA provides the following federalism summary impact statement. The Agency consulted with state and local officials early in the process of developing the proposed action to facilitate their meaningful and timely input into its development. EPA invited the following national organizations representing state and local elected officials to a meeting on May 13, 2021, in Washington, DC: National Governors Association, National Conference of State Legislatures, Council of State Governments, National League of Cities, U.S. Conference of Mayors, National Association of Counties, International City/County Management Association, National Association of Towns and Townships, County Executives of America, and Environmental Council of States. A summary of the meeting with these organizations, including the views that they expressed, is available in the docket (Ref. 7). 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). This rulemaking would not have substantial direct effects on tribal government because chrysotile asbestos is not manufactured, processed, or distributed in commerce by tribes and would not impose substantial direct compliance costs on tribal governments. Thus, Executive Order 13175 does not apply to this action. EPA nevertheless consulted with tribal officials during the development of this action, consistent with the EPA Policy on Consultation and Coordination with Indian Tribes.

EPA met with tribal officials via teleconferences on May 24, 2021, and June 3, 2021, concerning the prospective regulation of chrysotile asbestos under TSCA section 6 (Ref. 8). Tribal officials were given the opportunity to meaningfully interact with EPA risk managers concerning the current status of risk management. EPA received questions during both meetings held during the consultation period concerning potential risks to workers, consumers, and general population. Participants in the consultations expressed interest in the conditions of use where EPA found unreasonable risk and how EPA would address that unreasonable risk. EPA responded by providing the suite of options provided the agency under TSCA section 6 to address the unreasonable risk (Ref. 8).

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. This action is subject to Executive Order 13045 because it is a significant regulatory action under section 3(f)(1) of Executive Order 12866, and, as discussed in Unit I.E.6., EPA believes that the environmental health or safety risk addressed by this action has a disproportionate effect on children. The health effects of concern related to exposures to chrysotile asbestos are mesothelioma, lung and other cancers, all of which have long latency periods following exposure. Accordingly, we have evaluated the environmental health or safety effects of asbestos on children.

The Risk Evaluation for Asbestos, Part 1: Chrysotile Asbestos (Ref. 1) demonstrated in sensitivity analyses that age at first exposure affected risk estimates, with earlier exposures in life resulting in greater risk. For children, exposures can be anticipated (1) as bystanders for consumer uses such as aftermarket brakes and (2) in consumer uses and occupational uses given that

the risk evaluation presented information indicating that children 16 years of age may engage in these activities.

The results of EPA's evaluation are contained in the risk evaluation (Ref. 1) and the Economic Analysis (Ref. 2). Copies of these documents have been placed in the public docket for this action.

This action is preferred over other regulatory options analyzed because this action prohibits the manufacture (including import), processing, commercial use, and distribution in commerce of chrysotile asbestos for the regulated conditions of use as soon as practicable while providing for a reasonable transition period.

Furthermore, as discussed in Unit I.E.6., EPA's Policy on Children's Health also applies to this action. Information on how the Policy was applied is available under ''Children's Environmental Health'' in the **SUPPLEMENTARY INFORMATION** unit of this preamble.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution in Commerce, 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. The action is predicted to reduce energy use and is not expected to reduce energy supply or increase energy prices.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards under NTTAA, 15 U.S.C. 272.

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

In accordance with Executive Orders 12898 (59 FR 7629, February 16, 1994) and 14096 (88 FR 25251, April 26, 2023), EPA considered the environmental justice (EJ) conditions that exist prior to this action, and the likely effects of this action. EPA believes that the human health or 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 EJ concerns. As summarized in Unit I.E.5. and described more fully in the Economic Analysis (Ref. 2), the firms that will be subject to regulation, particularly for the chlor-alkali and sheet gasket use categories, are often located in areas with a high concentration of industrial activities that pose a variety of environmental hazards to surrounding populations. It is not possible to separate potential EJ concerns currently posed by the use categories being regulated from other risks in the community that are unrelated to chrysotile asbestos. Although data are not available on the worker demographics at specific companies, chemical workers in communities with chlor-alkali facilities are more likely to be Hispanic, less likely to be a race other than White or Black, and have higher incomes on average than chemical workers nationally. Workers in communities with other affected chemical producers are more likely to be Black and less likely to be Hispanic or a race other than White or Black than chemical workers nationally.

EPA believes that this action is likely to reduce existing disproportionate and adverse effects on communities with EJ concerns. Any disproportionate impacts related to the conditions of use that are subject to this rule will be reduced, and ultimately eliminated once all of the prohibitions in the rule take effect. Thus, EJ concerns will be mitigated compared to the baseline.

EPA conducted outreach to advocates of communities with EJ concerns that might be subject to disproportionate exposure to chrysotile asbestos. EPA's EJ consultation occurred from June 1 through August 13, 2021. On June 1 and 9, 2021, EPA held public meetings as part of this consultation (Ref. 9). See also Unit III.A.1. These meetings were held pursuant to and in compliance with Executive Order 12898 and Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad* (86 FR 7619, February 1, 2021). EPA received several comments following the EJ meetings. Commenters expressed concerns that consumers who live near chlor-alkali facilities and Do-It-Yourself (DIY) auto workers could be exposed unless chrysotile asbestos is banned (Ref. 33). EPA also acknowledges that there are pre-existing EJ concerns in communities surrounding some of the affected chlor-alkali facilities and one other chemical manufacturer in Louisiana and Texas due to high levels of polluting industrial activities and high proportions of residents who are people of color (described in more detail in the Economic Analysis (Ref. 2)). This rule is not expected to affect all of these pre-existing EJ concerns, since some of the EJ concerns in these communities result from pollutants other than chrysotile asbestos from facilities that are not affected by this rule.

K. Congressional Review Act (CRA)

This action is subject to the CRA, 5 U.S.C. 801 *et seq.,* and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action meets the criteria set forth in 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 751

Environmental protection, Chemicals, Export certification, Hazardous substances, Import certification, Recordkeeping.

Michael S. Regan,

Administrator.

Therefore, for the reasons set forth in the preamble, 40 CFR chapter I is amended 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. Add a subpart F, consisting of §§ 751.501 through 751.515, to read as follows:

Subpart F—Chrysotile Asbestos

Sec.

751.501 General.
751.503 Definitions.
751.505 Manufacturing, processing and commercial use of chrysotile asbestos diaphragms in the chlor-alkali industry.
751.507 Certification of compliance for the chlor-alkali industry.
751.509 Other prohibitions and restrictions of the manufacturing, processing and commercial use of chrysotile asbestos.
751.511 Interim workplace controls of asbestos exposures.
751.513 Disposal.
751.515 Recordkeeping.

§ 751.501 General.

This subpart sets certain restrictions on the manufacture (including import), processing, distribution in commerce, and commercial use and disposal of chrysotile asbestos (CASRN 132207–32–0) to prevent unreasonable risk of injury to health in accordance with TSCA section 6(a), 15 U.S.C. 2605(a).

§ 751.503 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:

Aftermarket automotive brakes and linings means any automotive friction brake articles sold in the secondary market as replacement parts (*e.g.,* brake pads, linings and shoes) used in disc and drum brake systems on automobiles and trucks.

Article means a manufactured item:

(1) Which is formed to a specific shape or design during manufacture;

(2) Which has end use function(s) dependent in whole or in part upon its shape or design during end use; and

(3) Which 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 and particles are not considered articles regardless of shape or design.

Authorized person means any person specifically authorized by the owner or operator to enter, and whose duties require the person to enter, a regulated area.

Chrysotile asbestos is the asbestiform variety of a hydrated magnesium silicate mineral, with relatively long and flexible crystalline fibers that are capable of being woven.

Disposal means to discard, throw away, or otherwise complete or terminate the useful life of chrysotile asbestos, including any chrysotile asbestos-containing products or articles.

Distribution in commerce has the same meaning as in section 3 of the Act, but the term does not include distribution of chrysotile asbestos waste solely for purposes of disposal in accordance with this Subpart.

Diaphragms means semipermeable diaphragms, which separate the anode from the cathode chemicals in the production of chlorine and sodium hydroxide (caustic soda).

Gasket means an article used to form a leakproof seal between fixed components.

Membrane technology means a chlor-alkali production technology that uses chlorine production cells in which the anode and the cathode are separated by an ion-exchange membrane that is designed to allow only sodium ions and some water to pass through it.

Nuclear material means any source material, special nuclear material, or byproduct material (as such terms are defined in the Atomic Energy Act of 1954, as amended, and regulations issued under such Act).

Oilfield brake blocks means the friction brake blocks component in drawworks used in the hoisting mechanism for oil well drilling rigs.

Other gaskets means gaskets other than *sheet gaskets in chemical production,* to include gaskets used in the exhaust systems of utility vehicles.

Other vehicle friction products means friction articles such as brakes and clutches, other than *aftermarket automotive brakes and linings,* installed on any vehicle, including on off-road vehicles, trains, planes, etc. *Other vehicle friction products* does not include articles used in the NASA Super Guppy Turbine aircraft, a specialty cargo plane used for the transportation of oversized equipment that is owned and operated by the National Aeronautics and Space Administration (NASA).

Owner or operator means any person who owns, leases, operates, controls, or supervises a workplace covered by this subpart.

Potentially exposed person means any person who may be occupationally exposed to a chemical substance or mixture in a workplace as a result of a condition of use of that chemical substance or mixture.

Processing has the same meaning as in section 3 of the Act, but the term does not include processing of chrysotile asbestos waste solely for purposes of disposal in accordance with this subpart.

Regulated area means an area established by the regulated entity to demarcate where airborne concentrations of a specific chemical substance exceed, or there is a reasonable possibility they may exceed, the ECEL.

Savannah River Site means the Department of Energy's nuclear waste management and related national defense operations at its Savannah River Site in Aiken, Barnwell and Allendale counties in South Carolina, including operations at H-Canyon, F and H Tank Farms, Defense Waste Processing Facility, Savannah River National Laboratory and any on-site facility managed by Savannah River Nuclear Solutions.

Sheet gaskets in chemical production means gaskets cut from sheeting, including asbestos-containing rubberized sheeting, that are used in facilities for extreme condition applications such as titanium dioxide manufacturing, or processing nuclear material.

§ 751.505 Manufacturing, processing, distribution in commerce and commercial use of chrysotile asbestos diaphragms in the chlor-alkali industry.

(a) After May 28, 2024, all persons are prohibited from manufacture (including import) of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for diaphragms in the chlor-alkali industry.

(b) After May 28, 2029, all persons are prohibited from processing, distribution in commerce and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for diaphragms in the chlor-alkali industry, except as provided in paragraphs (c) through (d) of this section.

(c) Any person who meets all of the criteria of this paragraph (c) may process, distribute in commerce and commercially use chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for diaphragms in the chlor-alkali industry at no more than two facilities until May 25, 2032:

(1) On May 28, 2024, the person owns or operates more than one facility that uses chrysotile asbestos in chlor-alkali production;

(2) The person is converting more than one facility that the person owns or operates that as of May 28, 2024 uses chrysotile asbestos in chlor-alkali production from the use of chrysotile asbestos diaphragms to non-chrysotile asbestos membrane technology, and by May 28, 2029, the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at one (or more) facility undergoing or that has undergone conversion to non-chrysotile asbestos membrane technology; and

(3) The person certifies to EPA compliance with the provisions of this paragraph, in accordance with § 751.507.

(d) Any person who meets all of the criteria of this paragraph (d) may process, distribute in commerce and commercially use chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for diaphragms in the chlor-alkali industry at not more than one facility until May 26, 2036:

(1) On May 28, 2024, the person owns or operates more than two facilities that use chrysotile asbestos in chlor-alkali production; and

(2) The person is converting more than two facilities that the person owns or operates that as of May 28, 2024 use chrysotile asbestos in chlor-alkali production from the use of chrysotile

asbestos diaphragms to non-chrysotile asbestos membrane technology:

(i) By May 28, 2029, the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at one (or more) facility undergoing or that has undergone such conversion; and

(ii) By May 25, 2032 the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at two (or more) facilities undergoing or that have undergone conversion to non-chrysotile asbestos membrane technology; and

(3) The person certifies to EPA compliance with the provisions of this paragraph, in accordance with § 751.507.

§ 751.507 Certification of compliance for the chlor-alkali industry.

(a) In addition to meeting the requirements of §§ 751.505(c), any person who processes, distributes in commerce or commercially uses chrysotile asbestos for diaphragms in the chlor-alkali industry between May 28, 2029 and May 25, 2032 must:

(1) Certify to EPA their compliance with all requirements of § 751.505(c); and

(2) Provide the following information to EPA to support their compliance with the requirements of § 751.505(c):

(i) Identification of the facility for which, by May 28, 2029, the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos, pursuant to § 751.505(c)(2), including:

(A) facility name, location, and mailing address;

(B) name of facility manager or other contact, title, phone number and email address; and

(C) date the person ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at the facility.

(ii) Identification of the facility or facilities (no more than two facilities) for which the person will after May 28, 2029, continue to process, distribute in commerce and commercially use chrysotile asbestos diaphragms while the facility or facilities are being converted to non-chrysotile asbestos membrane technology, pursuant to § 751.505(c), including for each facility:

(A) facility name, location, and mailing address; and

(B) name of facility manager or other contact, title, phone number and email address.

(b) In addition to meeting the requirements of paragraph (a) of this section and §§ 751.505(d), any person who processes, distributes in commerce or commercially uses chrysotile asbestos for diaphragms in the chlor-alkali industry between May 25, 2032 and May 26, 2036 must:

(1) Certify to EPA their compliance with all requirements of § 751.505(d); and

(2) Provide the following information to EPA to support their compliance with the requirements of § 751.505(d):

(i) Identification of the facility identified in § 751.505(d)(2)(ii) at which as of May 25, 2032, the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos, including:

(A) facility name, location, and mailing address;

(B) name of facility manager or other contact, title, phone number and email address; and

(C) date the person has ceased all processing, distribution in commerce and commercial use of chrysotile asbestos at the facility.

(ii) Identification of the facility at which the person will between May 25, 2032 and no later than May 26, 2036, continue to process, distribute in commerce and commercially use chrysotile asbestos diaphragms while the facility is being converted to non-chrysotile asbestos membrane technology pursuant to § 751.505(d), including:

(A) facility name, location, and mailing address; and

(B) name of facility manager or other contact, title, phone number and email address.

(c) The certification required by paragraphs (a) and (b) of this section must be signed and dated by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: a president, secretary, treasurer, or vice-president of the corporation in charge of chlor-alkali operations, or any other person who performs similar policy or decision-making functions for the corporation.

(d) Any person signing a document under paragraph (c) of this section shall also make the following certification:

''I certify under penalty of law that this document was prepared under my direction or supervision, and the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware it is unlawful to knowingly submit incomplete, false and/or misleading information and there are criminal penalties for such conduct.''

(e) This certification must be submitted to the Director, Office of Pollution Prevention and Toxics (OPPT), using the address specified at 40 CFR 700.17(a).

(1) The certification under paragraph (a) of this section must be submitted no later than 10 business days after May 28, 2029; and

(2) The certification under paragraph (b) of this section must be submitted no later than 10 business days after May 25, 2032.

§ 751.509 Other prohibitions and restrictions on the manufacturing, processing, distribution in commerce and commercial use of chrysotile asbestos.

(a) After May 27, 2026, all persons are prohibited from manufacturing (including importing), processing, distributing in commerce, and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for use in sheet gaskets for chemical production, except as provided in paragraphs (b) and (c) of this section. Any sheet gaskets for chemical production which are already installed for use on May 27, 2026 are not subject to the distribution in commerce and commercial use prohibitions.

(b) Any person may commercially use chrysotile asbestos sheet gaskets for titanium dioxide production until May 28, 2029.

(c)(1)(i) Any person may commercially use chrysotile asbestos sheet gaskets for processing nuclear material until May 28, 2029.

(ii) Any person may commercially use chrysotile asbestos sheet gaskets for processing nuclear material at the Savannah River Site until December 31, 2037.

(2) After November 25, 2024, any person commercially using chrysotile asbestos sheet gaskets for processing nuclear material pursuant to (c)(1)(i) and (ii) must have in place exposure controls expected to reduce exposure of potentially exposed persons to asbestos, and provide potentially exposed persons in the regulated area where chrysotile asbestos sheet gasket replacement is being performed a full-face air purifying respirator with a P–100 (HEPA) cartridge (providing an assigned protection factor of 50), or other respirator that provides a similar or higher level of protection to the wearer.

(3)(i) Any sheet gaskets for processing nuclear material which are already installed for use on May 28, 2029 are not subject to the distribution in commerce and commercial use prohibitions in paragraphs (a) of this section.

(ii) Any sheet gaskets for processing nuclear material at the Savannah River Site which are already installed for use on December 31, 2037, are not subject

to the distribution in commerce and commercial use prohibitions in paragraphs (a) of this section.

(d) After November 25, 2024, all persons are prohibited from manufacturing (including importing), processing, distribution in commerce and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for commercial use of:

(1) Oilfield brake blocks;

(2) Aftermarket automotive brakes and linings;

(3) Other vehicle friction products; and

(4) Other gaskets.

(e) After November 25, 2024, all persons are prohibited from the manufacturing (including importing), processing, and distribution in commerce of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for consumer use of:

(1) Aftermarket automotive brakes and linings; and

(2) Other gaskets.

(f) On November 25, 2024:

(1) Any aftermarket automotive brakes and linings, other vehicle friction products, and other gaskets which are already installed for commercial use are not subject to the prohibitions on distribution in commerce and commercial use under paragraph (d) of this section.

(2) Any aftermarket automotive brakes and linings, and other gaskets which are already installed for consumer use are not subject to the distribution in commerce prohibition under paragraph (e) of this section.

§ 751.511 Interim workplace controls of chrysotile asbestos exposures.

(a) *Applicability.* This section applies to processing and commercial use of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for chrysotile asbestos diaphragms in the chlor-alkali industry; and to the commercial use of chrysotile asbestos sheet gaskets for titanium dioxide production.

(b) *Interim Existing Chemical Exposure Limit (ECEL).* Beginning November 25, 2024, the owner or operator must ensure that no person is exposed to an airborne concentration of chrysotile asbestos in excess of the interim ECEL for chrysotile asbestos of 0.005 fibers (f)/cubic centimeter (cc) as an eight (8)-hour time-weighted average (TWA). Where an owner or operator cannot demonstrate exposure at or below the ECEL, including through the use of all technically feasible engineering controls or work practices as described in paragraph (e)(1) of this section, and has not demonstrated that it has appropriately supplemented with respiratory protection that complies with the requirements of paragraph (f) of this section, this will constitute a failure to comply with the ECEL.

(c) *Exposure monitoring*—(1) *In general.* (i) Owners or operators must determine each potentially exposed person's exposure from personal breathing zone air samples that are representative of the 8-hour TWA exposure of each potentially exposed person.

(ii) Representative 8-hour TWA of a potentially exposed person's exposure must be determined on the basis of one or more samples representing full-shift exposures for each shift for each potentially exposed person in each job classification in each work area.

(2) *Initial exposure monitoring.* No later than November 25, 2024 each owner or operator covered by paragraph (a) of this section as of May 28, 2024, must perform initial exposure monitoring of all potentially exposed persons.

(3) *Periodic exposure monitoring.* The owner or operator must establish an exposure monitoring program for periodic monitoring of exposure to chrysotile asbestos. If one or more samples representing full-shift exposures from the most recent exposure monitoring exceeds the ECEL (>0.005 f/cc 8-hour TWA), periodic exposure monitoring is required within three months of the most recent exposure monitoring. Otherwise, periodic exposure monitoring is required within six months of the most recent exposure monitoring.

(4) *Additional exposure monitoring.* The owner or operator must conduct additional exposure monitoring within a reasonable timeframe after there has been a change in the production, process, control equipment, personnel or work practices that may result in new or additional exposures above the ECEL or the owner or operator has any reason to suspect that a change may result in new or additional exposures above the ECEL.

(5) *Method of monitoring.* (i) Exposure monitoring samples must be personal breathing zone samples collected and analyzed using methods and quality control procedures described in Appendix A to 29 CFR 1910.1001, or as referenced in Appendix A to 29 CFR 1910.1001 (Appendix B to 29 CFR 1910.1001, OSHA method ID–160, or the NIOSH 7400 method).

(ii) Owners or operators must use exposure monitoring methods that conform with the OSHA Reference Method specified in Appendix A of 29 CFR 1910.1001 or an equivalent method. If an equivalent method is used, the owner or operator must ensure that the method meets the following criteria:

(A) Replicate exposure data used to establish equivalency are collected in side-by-side field and laboratory comparisons; and

(B) The comparison indicates that 90% of the samples collected in the range 0.5 to 2.0 times the ECEL or the lowest concentration possible have an accuracy range of plus or minus 25 percent of the OSHA Reference Method specified in Appendix A of 29 CFR 1910.1001 at a 95 percent confidence level as demonstrated by a statistically valid protocol. The NIOSH 7402 analytical method may be applied to adjust the analytical result to include only chrysotile asbestos.

(6) *Notification of exposure monitoring results.* (i) The owner or operator must, within 15 business days of receipt of monitoring results, notify each potentially exposed person of these results either individually in writing or by posting the results in an appropriate location that is accessible to all potentially exposed persons. The notice must be in plain language and understandable to all potentially exposed persons.

(ii) The written notification required by paragraph (c)(6)(i) of this section must include the corrective action being taken by the owner or operator to reduce exposure to or below the ECEL, wherever monitoring results indicated that the ECEL had been exceeded.

(d) *Regulated areas*—(1) *Establishment.* Beginning November 25, 2024 the owner or operator must establish regulated areas wherever airborne concentrations of chrysotile asbestos exceed, or there is a reasonable possibility that they may exceed, the ECEL.

(2) *Demarcation.* The owner or operator must demarcate regulated areas from the rest of the workplace in a manner that minimizes the number of persons who will be exposed to chrysotile asbestos.

(3) *Access.* The owner or operator must limit access to regulated areas to authorized persons or other persons required by work duties to be present in regulated areas.

(4) *Provision of respirators.* The owner or operator must supply a respirator selected in accordance with paragraph (f) of this section to each person entering a regulated area and must require the use of such respirator.

(5) *Prohibited activities.* The owner or operator must ensure that persons do

not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the regulated area.

(e) *Exposure Control Procedures and Plan*—(1) *Exposure Controls.* (A) The owner or operator must institute engineering controls and work practices to reduce and maintain airborne chrysotile asbestos concentrations to or below the ECEL, except to the extent that the owner or operator can demonstrate that such controls are not feasible.

(B) Wherever the feasible engineering controls and work practices that can be instituted are not sufficient to reduce airborne chrysotile asbestos concentrations to or below the ECEL, the owner or operator must use them to reduce exposures to the lowest levels achievable by these controls. If the feasible engineering controls and work practices cannot reduce exposures to or below the ECEL, the owner or operator must supplement the controls by providing and requiring the use of respiratory protection that complies with the requirements of paragraph (f) of this section.

(2) *Exposure Control Plan Requirements.* (i) Beginning March 28, 2025, when the airborne chrysotile asbestos concentrations exceed the ECEL, or are reasonably expected to exceed the ECEL, owners and operators must establish and implement an exposure control plan to reduce exposures to all potentially exposed persons to or below the ECEL by means of engineering controls and work practices, and by the use of respiratory protection where required under paragraph (e)(1)(B) of this section. The exposure control plan must be available to persons exposed to chrysotile asbestos.

(ii) The exposure control plan must be reviewed and updated as necessary, but at least annually, to reflect any significant changes in the status of the owner or operator's compliance with the requirements of this section.

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

(iv) The exposure control plan must include:

(A) An explanation of the exposure controls considered, a rationale for why exposure controls were selected or not selected, based on feasibility, effectiveness, and other relevant considerations;

(B) Descriptions of actions the owner or operator must take to implement the exposure controls selected, including proper installation, maintenance, training, or other actions, and the estimated timeline for implementing such controls;

(C) Description of activities conducted by the owner or operator to review and update the exposure control plan 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; and

(D) An explanation of the procedures for responding to any change that may reasonably be expected to introduce additional sources of exposure to chrysotile asbestos, or otherwise result in increased exposure to chrysotile asbestos, including procedures for implementing corrective actions to mitigate exposure to chrysotile asbestos.

(f) *Respiratory protection*—(1) *Method of Compliance.* Beginning November 25, 2024, if an owner or operator is required to provide respiratory protection pursuant to paragraphs (d)(4) or (e)(1)(B) of this section, the owner or operator must provide each potentially exposed person with a respirator according to the requirements of this section.

(2) *Respirator program.* For purposes of this paragraph (f)(2), the cross-referenced provisions in 29 CFR 1910.134 applying to an ''employee'' also apply equally to potentially exposed persons, and provisions applying to an ''employer'' also apply equally to owners or operators.

(i) 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) and 1910.134 App. A.

(ii) 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) and 1910.134 App. B–1 to B–2.

(iii) Prior to or at the time of initial assignment to a job involving potential exposure to chrysotile asbestos, owners and operators must provide training and retraining to all persons required to use respiratory protection consistent with 29 CFR 1910.134(k).

(3) *Respirator selection.* Owners or operators must select and provide appropriate respirators based on the most recent exposure monitoring. The minimum respiratory protection that must be provided is as follows:

(i) If the most recent exposure monitoring indicates that the exposure concentration is at or below the 0.005 f/cc (ECEL): no respiratory protection is required.

(ii) If the most recent exposure monitoring indicates that the exposure concentration is above 0.005 f/cc (ECEL) and less than or equal to 0.05 f/cc (10 times the ECEL):

(A) A half-mask supplied-air respirator (SAR) or airline respirator operated in demand mode; or

(B) A half-mask self-contained breathing apparatus (SCBA) respirator operated in demand mode (Assigned Protection Factor 10).

(iii) If the most recent exposure monitoring indicates that the exposure concentration is above 0.05 f/cc (10 times the ECEL) and less than or equal to 0.125 f/cc (25 times the ECEL): A loose fitting facepiece supplied-air respirator (SAR) or airline respirator operated in continuous flow mode (Assigned Protection Factor 25).

(iv) If the most recent exposure monitoring indicates that the exposure concentration is above 0.125 f/cc (25 times the ECEL) and less than or equal to 0.25 f/cc (50 times the ECEL):

(A) A full facepiece supplied-air respirator (SAR) or airline respirator operated in demand mode; or

(B) A half-mask supplied-air respirator (SAR) or airline respirator operated in continuous flow mode; or

(C) A half-mask supplied-air respirator (SAR) or airline respirator operated in pressure-demand or other positive-pressure mode; or

(D) A full facepiece self-contained breathing apparatus (SCBA) respirator operated in demand mode; or

(E) A helmet/hood self-contained breathing apparatus (SCBA) respirator operated in demand mode (Assigned Protection Factor 50).

(v) If the most recent exposure monitoring indicates that the exposure concentration is above 0.25 f/cc (50 times the ECEL) and less than or equal to 5 f/cc (1,000 times the ECEL): A full-facepiece supplied-air respirator (SAR) or airline respirator operated in pressure-demand or other positive-pressure mode (Assigned Protection Factor 1,000).

(vi) If the most recent exposure monitoring indicates that the exposure concentration is above 5 f/cc (1,000 times the ECEL) and less than or equal to 50 f/cc (10,000 times the ECEL):

(A) A full-facepiece self-contained breathing apparatus (SCBA) respirator operated in pressure-demand or other positive-pressure mode; or

(B) A helmet/hood self-contained breathing apparatus (SCBA) respirator operated in pressure-demand or other positive-pressure mode (Assigned Protection Factor 10,000).

(vii) The respiratory protection requirements in paragraph (f)(3) of this section represent the minimum respiratory protection requirements, such that any respirator affording a higher degree of protection than the required respirator may be used.

(g) *Workplace information and training.* (1) By November 25, 2024, the owner or operator must institute a training program and ensure that persons potentially exposed to chrysotile asbestos participate in the program according to the requirements of this paragraph (g).

(2) The owner or operator must train each potentially exposed person prior or at the time of a potential exposure to chrysotile asbestos and at least annually thereafter.

(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 chrysotile asbestos:

(i) The health effects associated with exposure to chrysotile asbestos, based on the most recent publication by EPA, OSHA, NIOSH, and/or CDC;

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

(iii) The specific procedures implemented to control exposures and manage occupational risks to persons potentially exposed to chrysotile asbestos, such as engineering controls, work practices and personal protective equipment to be used; and

(iv) The requirements of this section, as well as how to access or obtain a copy of these regulations.

(5) Whenever there are workplace changes, such as modifications of tasks or procedures or the institution of new tasks or procedures, or when the airborne concentration of chrysotile asbestos increases, or when the exposure control plan is updated according to paragraph (e)(2)(ii) of this section, the owner or operator must update the training and re-train each potentially exposed person.

§ 751.513 Disposal.

(a) After November 25, 2024, all persons disposing of chrysotile asbestos and any chrysotile asbestos-containing products or articles subject to § 751.505, must dispose of chrysotile asbestos and any chrysotile asbestos-containing products or articles, as applicable:

(1) In accordance with the Asbestos General Industry Standard—(29 CFR 1910.1001(k)).

(2) In conformance with the asbestos waste disposal requirements at 40 CFR 61.150.

(b) After November 25, 2024, all persons disposing of chrysotile asbestos and any chrysotile asbestos-containing products or articles subject to paragraphs (a) through (c) of § 751.509 must dispose of chrysotile asbestos and any chrysotile asbestos-containing products or articles, as applicable:

(1) In accordance with the Asbestos Safety and Health Regulations for Construction—(29 CFR 1926.1101)

(2) [Reserved]

(c) After November 25, 2024, all persons disposing of chrysotile asbestos and any chrysotile asbestos-containing products or articles subject to § 751.509(d) must dispose of chrysotile asbestos and any chrysotile asbestos-containing products or articles, as applicable:

(1) In accordance with the Asbestos General Industry Standard—(29 CFR 1910.1001).

(2) In conformance with the asbestos waste disposal requirements at 40 CFR 61.150.

(d) After November 25, 2024, each manufacturer (including importer), processor, and distributor of chrysotile asbestos, including any chrysotile asbestos-containing products or articles, for consumer use, disposing of chrysotile asbestos and any chrysotile asbestos-containing products or articles subject to § 751.509(e), must dispose of chrysotile asbestos and any chrysotile asbestos-containing products or articles, as applicable:

(1) In accordance with the Asbestos General Industry Standard at 29 CFR 1910.1001(k).

(2) In conformance with the asbestos waste disposal requirements at 40 CFR 61.150.

§ 751.515 Recordkeeping.

(a) *General records.* After November 25, 2024, all persons who manufacture (including import), process, or distribute in commerce or engage in commercial use of chrysotile asbestos 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) *Certification of compliance for chlor-alkali industry records.* Persons required pursuant to § 751.507 to certify compliance with § 751.505 must:

(1) Retain records of certifications prepared to comply with § 751.507 and records to substantiate such certifications; and

(2) Make the records retained pursuant to paragraph (b)(1) of this section available to EPA for inspection.

(c) *Interim workplace controls of chrysotile asbestos exposures records—* (1) *Exposure monitoring.* For each monitoring event, owners or operators subject to the exposure monitoring required by § 751.511(c) must document, retain records of the following and make them available to EPA for inspection:

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

(ii) The quantity, location(s) and manner of chrysotile asbestos use at the time of each monitoring event;

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

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

(vi) Sampling and analytical methods used and documentation of compliance with the quality control procedures described in § 751.511(c)(5)(i) and (ii); and

(vii) Notification of exposure monitoring results in accordance with § 751.511(c)(6).

(2) *Other requirements.* Owners or operators subject to the interim workplace controls described in § 751.511 must retain records and make them available to EPA for inspection of:

(i) The exposure control plan and its implementation as required by § 751.511(e).

(ii) Respiratory protection used and program implementation as described in § 751.511(f); and

(iii) Information and training provided by the owner or operator as required by § 751.511(g).

(d) *Disposal records.* Each person, except a consumer, who disposes of any chrysotile asbestos and any chrysotile asbestos-containing products or articles subject to § 751.513, after November 25, 2024 must retain in one location at the headquarters of the company, or at the facility for which the records were generated, documentation showing any records related to any disposal of chrysotile asbestos and any chrysotile asbestos-containing products or articles generated pursuant to, or otherwise documenting compliance with, regulations specified in § 751.513.

(e) *Retention.* The documentation in this section must be retained for 5 years from the date of generation.

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