Economic Analysis for the Significant New Use Rule for Asbestos

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Notice

This is not an official guidance document and should not be relied upon to determine applicable regulatory requirements. This document was prepared to provide economic information for the rulemaking process, and to meet various administrative and legislative requirements. Due to the nature of the information available to EPA, the document contains various assumptions that may not reflect the regulatory determinations that an individual firm would make were it to apply the rule's requirements to its specific circumstances. Persons seeking information on regulatory requirements as they would apply to specific facilities should consult the final rule.

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Executive Summary

This report estimates the costs of a Significant New Use Rule (SNUR) being finalized by the U.S. Environmental Protection Agency (EPA) for asbestos. The term "asbestos," as defined in TSCA Title II (§202(7): 15 U.S.C. §2642) means asbestiform varieties of chrysotile (serpentine), crocidolite (riebeckite), amosite (cummingtonite-grunerite), anthophyllite, tremolite, or actinolite. EPA is promulgating a SNUR under the Toxic Substances Control Act (TSCA) section 5(a)(2). The significant new use of asbestos (including as part of an article) is manufacturing (including importing) or processing for uses that are neither ongoing nor already prohibited under TSCA. The Agency has found no information indicating that the following uses are ongoing, and therefore, the following uses are subject to this SNUR: adhesives, sealants, and roof and non-roof coatings; arc chutes; beater-add gaskets; cement products, extruded sealant tape and other tape; filler for acetylene cylinders; friction materials (with certain exceptions), high-grade electrical paper; millboard; missile liner; packings; pipeline wrap; reinforced plastics; roofing felt; separators in fuel cells and batteries; vinyl-asbestos floor tile; woven products (other than brake blocks uses in oilfield drawworks); any other building material, and any other use of asbestos not identified in § 763.165 the manufacture, importation or processing of which had been initiated prior to August 25, 1989 (other than chrysotile asbestos diaphragms; sheet gaskets; oilfield brake blocks; aftermarket automotive brakes/linings; other vehicle friction products; and other gaskets). For this rule, the general SNUR article exemption will not apply for persons who import or process asbestos for a significant new use identified above.

The SNUR requires manufacturers (including importers) or processors of asbestos to notify EPA at least 90 days prior to the occurrence of any significant new use. A firm intending to engage in these activities is required to submit a Significant New Use Notice (SNUN), incurring an estimated submission cost of $10,052 for small businesses and $23,252 for other businesses, as well as potentially other minor costs such as consumer notification costs. These costs are listed in Table ES-1. The required notification initiates EPA's evaluation of the conditions of use associated with the intended use within the applicable review period.

In addition to any firms that may make a SNUN submission, the SNUR may also affect firms that do not make a submission. By avoiding a significant new use, a firm can avoid submission and testing costs but may incur other compliance costs. The firm may also incur "hidden" costs; for example, it could forego profitable opportunities to use the chemical in an application that would be a significant new use, or limit production volume to avoid a significant new use.

Costs are estimated at the firm level and reflect the burden of a SNUR on the firms that make a submission. The hidden costs to the firms that do not make a submission are not quantified. EPA's experience to date is that, in response to the promulgation of SNURs covering over 1,000 chemical substances, EPA receives fewer than ten SNUNs per year. The number of firms affected by not making submissions to EPA is not known; therefore, costs are not aggregated across the affected entities.

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Table ES-[SEQ Table_ES- * ARABIC]: Compliance Options and Associated Costs Incurred by a Firm Due to the SNUR

	Option	Costs [1]	Average Quantified Costs per Chemical (2018$)
1.	Electronic submission of a Significant New Use Notice (SNUN), indicating to EPA that the firm would like to manufacture, import, or process the chemical for a Significant New Use as defined in the SNUR.	Costs of submitting a SNUN, including rule familiarization, CDX registration (for companies that are first-time submitters), form completion, user fee, and any test costs.	$65 rule familiarization cost; $23,252 SNUN submission and recordkeeping cost for large businesses (including $16,000 fee) and $10,052 for small businesses (including $2,800 fee[2]). First time submitters would incur $123 for CDX registration and associated activities. Companies manufacturing, importing, or processing a chemical currently used in commerce in the United States will incur a cost of $79 for notifying consumers of SNUR regulatory activities.
2.	Manufacture, import, or process in a way that avoids a Significant New Use.	Cost of the profit foregone as a result of not engaging in the commercial activity originally planned (opportunity costs), and recordkeeping.	Opportunity costs are not quantified. Other costs including rule familiarization ($65), recordkeeping ($5), and customer notification ($79) may apply. Costs associated with article importation may include activities such as article identification ($157 to $1,887), supplier identification ($1,144), recordkeeping ($5), collecting data from suppliers ($6 to $629 per article), and testing ($130 per article tested).

Notes:

[1] SNURs typically trigger export notification requirements at an estimated cost of $95 per notification. However, asbestos is already subject to export notification, and this rulemaking does not require export notification for products containing asbestos. Therefore there is no additional cost for export notification for this rule.

[2] On October 17, 2018 EPA published a rule raising the fee for SNUNs to $2,800 for small businesses and $16,000 for other businesses (83 FR 52694).

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1. Introduction

EPA is concerned that commencement of the manufacture (including import) or processing for significant new uses of asbestos could significantly increase the magnitude and duration of exposure to asbestos and that such an increase should not occur without an opportunity for EPA to review any intended significant new use before such use could occur. The SNUR requires manufacturers (including importers) or processors of asbestos, including as part of an article, to notify EPA at least 90 days prior to the occurrence of any significant new use. A firm intending to engage in these activities is required to submit a Significant New Use Notice (SNUN). The required notification initiates EPA's evaluation of the conditions of use associated with the intended use within the applicable review period. 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. For this rule, the general SNUR article exemption at 40 CFR 721.45(f) does not apply.

1.1 Statutory Authority

Section 5(a)(2) of the Toxic Substances Control Act (TSCA) (15 U.S.C. 2604(a)(2)) authorizes EPA to determine that a use of a chemical substance is a "significant new use." EPA must make this determination by rule after considering all relevant factors, including those listed in TSCA section 5(a)(2):

- The projected volume of manufacturing and processing of the chemical substance;
- The extent to which a use changes the type or form of exposure of human beings or the environment to a chemical substance;
- The extent to which a use increases the magnitude and duration of exposure of human beings or the environment to a chemical substance; and
- The reasonably anticipated manner and methods of manufacturing, processing, distribution in commerce, and disposal of a chemical substance.

Once EPA determines that a use of a chemical substance is a significant new use, TSCA section 5(a)(1)(B) requires persons to submit a SNUN to EPA at least 90 days before manufacturing (including importing) or processing the chemical substance for that use (15 U.S.C. 2604(a)(1)(B)).

1.2 Significant New Uses under the SNUR

The general SNUR provisions are found at 40 CFR Part 721, Subpart A. EPA may promulgate a SNUR for a substance when potential use could result in significant changes in human exposure or environmental release levels and/or concern exists about the substance's health or environmental effects (40 CFR §721.170).

The significant new use of asbestos (including as part of an article) as defined under this SNUR is manufacturing (including importing) or processing for uses that are neither ongoing nor already prohibited under TSCA. The Agency has found no information indicating that the following uses are ongoing, and therefore, the following uses are subject to this SNUR: adhesives, sealants, and roof and non-roof coatings; arc chutes; beater-add gaskets; cement products, extruded sealant tape and other tape;

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filler for acetylene cylinders; friction materials (with certain exceptions), high-grade electrical paper; millboard; missile liner; pipeline wrap; reinforced plastics; roofing felt; separators in fuel cells and batteries; vinyl-asbestos floor tile; woven products (other than brake blocks used in oilfield drawworks), any other building material, and any other use of asbestos not identified in § 763.165 the manufacture, importation or processing of which had been initiated prior to August 25, 1989 (other than chrysotile asbestos diaphragms; sheet gaskets; oilfield brake blocks; aftermarket automotive brakes/linings; other vehicle friction products; and other gaskets and packing).

1.3 Summary of Methodology

This analysis quantifies, to the extent possible, the costs to society of the rule by identifying the costs to industry associated with performing the required reporting and recordkeeping, and the costs to EPA for administering the rule. Industry costs consist of rule familiarization; registration with the Central Data Exchange (CDX) electronic reporting tool; collection, compilation, and submission of required information for significant new uses of the subject chemical; and recordkeeping. Agency costs include reviewing and processing the data received as a result of the rule. Data sources for this analysis include burden estimates derived from previous information collection requests and economic analyses for related rules, compensation data acquired from government publications, and supplementary market research.

In addition to costs, this report qualitatively discusses the benefits of the rule based on the value of the information it will provide. The benefits analysis was undertaken to address the requirements of Executive Order 12866.

Note that all dollar amounts in this analysis are reported in 2018 dollars.

1.4 Organization of This Report

The remainder of this report presents EPA's economic analysis in support of the final rule. A description of asbestos market information is provided in Chapter [REF _Ref507586716 \r \h]. Chapter [REF _Ref507586727 \r \h] contains estimates of the industry costs to comply with the rule, and Chapter [REF _Ref259449206 \r \h] shows estimates of the government costs associated with the administration of the rule. Chapter [REF _Ref469436320 \r \h] addresses the benefits of the rule. Several additional impact analyses are presented in Chapter [REF _Ref242608476 \r \h], including: small entity impact analysis, as mandated by the Regulatory Flexibility Act (RFA); a burden hour analysis that responds to the requirements of the Paperwork Reduction Act (PRA); an analysis of unfunded mandates that pertains to the Unfunded Mandates Reform Act (UMRA); an analysis of environmental justice implications that addresses the requirements of Executive Order 12898; and an analysis of children's health pertinent to Executive Order 13045.

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2. Regulated Substance: Uses and Manufacturers

Asbestos is a mineral fiber that occurs naturally in rock and soil. Asbestos is a "generic commercial designation for a group of naturally occurring mineral silicate fibers of the serpentine and amphibole series" (IARC, 2012). The Chemical Abstract Service (CAS) definition of asbestos is "a grayish, non-combustible fibrous material. It consists primarily of impure magnesium silicate minerals."

TSCA Title II (added to TSCA in 1986), Section 202 defines asbestos as the "*asbestiform varieties of six fiber types – chrysotile (serpentine), crocidolite (riebeckite), amosite (cummingtonite-grunerite), anthophyllite, tremolite or actinolite*." EPA uses this definition of asbestos for the SNUR. The most common form of asbestos used in the United States is chrysotile, which is found in serpentine rock formations (chrysotile content average 5%, with a maximum 50%) (WHO, 2014). Chrysotile was the predominant type of asbestos used in the United States and is currently the only type of raw asbestos imported.

2.1 Chemical Uses

To determine the current uses of asbestos, EPA conducted extensive research and outreach. This included EPA's review of published literature and online databases including EPA's Chemical Data Reporting program (CDR), Safety Data Sheets (SDSs), the United States Geological Survey's Mineral Commodities Summaries and Minerals Yearbook, the U.S. International Trade Commission's Dataweb, the U.S. Customs and Border Protection's Automated Commercial Environment (ACE) System, and commercial trade databases. EPA also reviewed the company websites of potential manufacturers, importers, distributors, retailers, or other users of asbestos. EPA received comments on the *Scope of the Risk Evaluation for Asbestos* (EPA, 2017a), the *Preliminary Information on Manufacturing, Processing, Distribution, Use, and Disposal: Asbestos* (EPA 2017c) and the *Problem Formulation of the Risk Evaluation for Asbestos* (EPA 2018) that were used to help determine the current conditions of use. In addition, prior to the June 2017 publication of the scope document, EPA convened meetings with companies, industry groups, chemical users, and other stakeholders to aid in identifying conditions of use and verifying conditions of use identified by EPA. And EPA sought and received public comment on the proposed Asbestos SNUR. This process is described in more detail in the preamble for the notice of proposed rulemaking for this SNUR (83 FR 26922, June 11, 2018). Furthermore, EPA is separately conducting a risk evaluation of asbestos under its conditions of use, pursuant to TSCA section 6(b)(4)(A), as described in the preamble for this SNUR rulemaking.

2.1.1 Historical Uses

Asbestos has not been mined or otherwise produced in the United States since 2002 (Flanagan, 2016).

In developing the *Scope of the Risk Evaluation for Asbestos* (EPA 2017a), EPA identified uses including pre-existing materials currently in place within buildings (e.g., insulation materials, flooring, etc.) and also within pre-existing non-building equipment. Many asbestos products fall into this category. These materials were installed in the past, and EPA's *Scope of the Risk Evaluation for Asbestos* indicated that there was no evidence at that time to suggest that manufacturing, processing, or distribution for such activities was intended, known, or reasonably foreseen. The Scope document concluded that legacy asbestos-containing products include:

- Asbestos arc chutes
- Asbestos pipeline wrap
- Asbestos separators in fuel cells and batteries
- Asbestos-cement flat sheet
- Asbestos-cement shingles
- Asbestos-reinforced plastics
- Beater-add gaskets
- Corrugated asbestos-cement sheet
- Extruded sealant tape
- Filler for acetylene cylinders
- High-grade electrical paper
- Millboard
- Missile liner
- Roofing felt
- Vinyl-asbestos floor tile

EPA received no public comments on the scope document for asbestos providing information to indicate these uses are ongoing. However, upon further investigation during problem formulation, EPA determined that seven asbestos product categories (asbestos packings, asbestos protective clothing, automatic transmission friction components, clutch facings, asbestos-cement flat sheet, asbestos-cement shingles, and corrugated asbestos-cement sheet) that were listed as legacy uses in the Scope document fell under broader categories that EPA had identified (other gaskets and packing, woven products, automotive friction materials, and asbestos cement products).

EPA found limited evidence of asbestos-containing products currently used in the United States. EPA believes that imports of certain asbestos products listed by harmonized tariff schedule (HTS) code in government and commercial trade databases are likely misreported and are not current uses. EPA contacted several suspected users of asbestos-containing products to determine that those particular products are no longer imported or used in the United States.

Because EPA's research indicates that cement products, woven products (other than brake blocks uses in oilfield drawworks) and packings are not in fact ongoing uses, this significant new use rule includes them as significant new uses.

EPA requested public comment on the proposed SNUR for information regarding any ongoing uses not identified by the Agency as well as additional uses not identified as no longer ongoing. The Agency did not receive any comments providing additional information regarding the ongoing uses or discontinued uses of asbestos.

The manufacture, processing, and distribution for a number of additional uses of asbestos were banned under TSCA in 1989 as part of the *Asbestos: Manufacture, Importation, Processing, and Distribution in Commerce Prohibitions; Final Rule* (40 CFR Part 763) (also known as Asbestos Ban and Phase-out Rule (Remanded), 1989). The uses of asbestos covered by the ban include:

- Corrugated paper

- Rollboard
- Commercial paper
- Specialty paper
- Flooring felt
- Commercial uses of asbestos not identified in 40 CFR § 763.165 the manufacture, importation or processing of which would be initiated for the first time after August 25, 1989

In addition to the asbestos product categories that EPA identified in the proposed SNUR where manufacturing (including importing) and processing for the use is no longer ongoing, the Agency has determined that the product category "friction materials" is also a significant new use of asbestos. While this product category was in the *Regulatory Impact Analysis of Controls on Asbestos and Asbestos Products* for the 1989 Asbestos Ban and Phaseout final rule, it was not included in the proposed SNUR because the broad category definition could be viewed as contradictory to uses not subject to the rule – brake blocks in particular. However, in response to public comments, the Agency is including friction materials (except for specifically identified ongoing uses) within the significant new use for asbestos, in order to encompass all uses that the Agency has determined to be neither ongoing in the United States nor already prohibited under TSCA. With the addition of the exception for certain friction products that are ongoing uses (i.e., oil field brake blocks), the Agency believes it is appropriate to include the product category of "friction materials" in the scope of this SNUR and doing so will not create confusion or potentially overlapping definitions.

2.1.2 Ongoing Uses

EPA is separately conducting a risk evaluation of asbestos under its conditions of use, pursuant to TSCA section 6(b)(4)(A). Through scoping and subsequent research for the asbestos risk evaluation, EPA identified several conditions of use of asbestos to include in the risk evaluation, and since publication of the proposed Asbestos SNUR (83 FR 26922, June 11, 2018) and problem formulation document in June 2018 (EPA, 2018), the Agency has further refined the conditions of use of asbestos. The conditions of use of asbestos include imported raw bulk chrysotile asbestos for the fabrication of diaphragms for use in chlorine and sodium hydroxide production and several imported chrysotile asbestos-containing materials, including sheet gaskets for use in titanium dioxide chemical production, brake blocks for use in oil drilling, aftermarket automotive brakes/linings and other vehicle friction products, and other gaskets.

All asbestos used in the United States is imported. According to the U.S. Geological Survey (USGS), the only form of asbestos currently imported into the United States is chrysotile, all of which originated from Brazil in 2018 [ADDIN EN.CITE
<EndNote><Cite><Author>USGS</Author><Year>2017</Year><RecNum>155</RecNum><IDText>3827270</IDText><DisplayText>(USGS, 2017)</DisplayText><record><rec-number>155</rec-number><foreign-keys><key app="EN" db-id="5ftese5szxf0ane9r5dxp0z6ztred9t525pt" timestamp="1494271811">155</key></foreign-keys><ref-type name="Report">27</ref-type><contributors><authors><author>USGS,</author></authors></contributors><titles><title>Mineral Commodity Summaries 2017</title></titles><dates><year>2017</year></dates><pub-location>Washington, DC</pub-location><publisher>U.S. Department of the Interior</publisher><label>3827270</label><urls><related-urls><url>https://minerals.usgs.gov/minerals/pubs/mcs/2017/mcs2017.pdf</url></related-urls></urls><language>English</language><modified-date>U.S. Geological Survey</modified-

date></record></Cite></EndNote>]. USGS estimates that in 2018, the United States imported approximately 750 metric tons (1,653,467 pounds) of raw asbestos, all of which was used by the chlor-alkali industry (USGS, 2019). In 2017, the United States imported 332 metric tons (731,935 pounds) of raw asbestos [ADDIN EN.CITE <EndNote><Cite><Author>USGS</Author><Year>2017</Year><RecNum>155</RecNum><IDText>3827270</IDText><DisplayText>(USGS, 2017)</DisplayText><record><rec-number>155</rec-number><foreign-keys><key app="EN" db-id="5ftese5szxf0ane9r5dxp0z6ztred9t525pt" timestamp="1494271811">155</key></foreign-keys><ref-type name="Report">27</ref-type><contributors><authors><author>USGS,</author></authors></contributors><titles><title>Mineral Commodity Summaries 2017</title></titles><dates><year>2017</year></dates><pub-location>Washington, DC</pub-location><publisher>U.S. Department of the Interior</publisher><label>3827270</label><urls><related-urls><url>https://minerals.usgs.gov/minerals/pubs/mcs/2017/mcs2017.pdf</url></related-urls></urls><language>English</language><modified-date>U.S. Geological Survey</modified-date></record></Cite></EndNote>].

Using data from the 2016 Chemical Data Reporting (CDR) rule, EPA identified industrial processing or use activities, industrial function categories and commercial, and consumer use product categories (EPA, 2016a). Two companies, both from the chlor-alkali industry, reported importing asbestos; however, the amounts cannot be publicly disclosed due to company claims of confidential business information (CBI).

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: 2016 CDR Use Data for Asbestos (CAS No. 1332-21-4)

Site	2015 Total Production Volume	Category of Industrial Use	Industrial Sectors	Type of Process or Use
OLIN CORPORATION	Withheld	Fillers	All other basic inorganic chemical manufacturing	Processing—incorporation into formulation, mixture, or reaction product
AXIALL CORPORATION	Withheld	Used as diaphragm material in Caustic/Chlorine electrolytic cells	All other basic inorganic chemical manufacturing	Use—non-incorporative activities

Source: EPA, 2016a

2.2 Potentially Affected Companies

The SNUR will require manufacturers, importers, and processors to notify EPA at least 90 days before commencing the manufacture, import, or processing of asbestos (including as part of an article) for any significant new use. The significant new uses are: adhesives, sealants, and roof and non-roof coatings; arc chutes; beater-add gaskets; cement products, extruded sealant tape and other tape; filler for acetylene cylinders; friction materials (with certain exceptions), high-grade electrical paper; millboard; missile liner; pipeline wrap; reinforced plastics; roofing felt; separators in fuel cells and batteries; vinyl-asbestos floor tile; woven products (other than brake blocks used in oilfield drawworks), packings; any other building material, and any other use of asbestos not identified in § 763.165 the manufacture, importation or processing of which had been initiated prior to August 25, 1989 (other than chrysotile asbestos diaphragms; sheet gaskets; oilfield brake blocks; aftermarket automotive brakes/linings; other vehicle friction products; and other gaskets). The significant new uses are detailed in [REF _Ref513035377 \h *

MERGEFORMAT]. EPA has not identified any firm manufacturing, importing, or processing asbestos (including as part of an article) for the uses listed above. The SNUR may affect firms that currently do not manufacture, import, or process asbestos, but who may be interested in manufacturing, importing, or processing asbestos for a new use in the future. The following list of North American Industrial Classification System (NAICS) codes describes potentially affected entities:

- Construction (NAICS code 23)
- Manufacturing (NAICS codes 31 – 33)
- Wholesale Trade (NAICS code 42)
- Transportation (NAICS code 48)

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Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Product Categories of Significant New Uses of Asbestos

Product Category	Description of the Product Category
Adhesives, Sealants, and Roof and Non-Roof Coatings	The automobile industry historically used asbestos in a wide variety of adhesive, sealant, and coating applications. The aerospace industry used asbestos in extremely specialized applications such as firewall sealants and epoxy adhesives. Non-roof coatings were used to prevent corrosion (e.g. as vehicle undercoatings and underground pipe coatings). Roof coatings were used to repair and patch roofs, seal around projections such as chimneys and vent pipes, and bond horizontal and vertical surfaces.
Arc Chutes	Ceramic arc chutes containing asbestos were used to guide electric arcs in motor starter units in electric generating plants.
Beater-Add Gaskets	Asbestos fibers were incorporated within various elastomeric binders and other fillers to form the beater-add paper. These products were used extensively for internal combustion applications and for the sealing component of spiral wound gaskets. Gaskets were used to seal one compartment of a device from another in non-dynamic applications such as engine and exhaust manifolds.
Cement Products	Includes asbestos cement product categories in the 1989 RIA: Asbestos-Cement Pipe and Fittings, Asbestos-Cement Flat Sheet, Corrugated Asbestos-Cement Sheet, and Asbestos-Cement Shingles.
Extruded Sealant Tape and Other Tape	Sealant tape was made from a semi-liquid mixture of butyl rubber and asbestos. On exposure to air, the sealant solidified forming a rubber tape about an inch wide and an eighth of an inch thick. The tape acted as a gasket for sealing building windows, automotive windshields, and mobile home windows. It was also used in the manufacture of parts for the aerospace industry and in the manufacture of insulated glass.
Filler for Acetylene Cylinders	Asbestos was used to produce a sponge-like filler, which held the liquefied acetylene gas (acetone) in suspension in the steel cylinder and puled the acetone up through the tank as the gas was released through the oxyacetylene torch. The torch was used to weld or cut metal and sometimes used as an illuminant gas. The filler also acted as an insulator that offered fire protection in case the oxidation of the acetylene became uncontrollable.
Friction Materials (except those identified as ongoing conditions of use)	Friction materials were used as braking and gear-changing (clutch) components in a variety of industrial and commercial machinery. Applications included agricultural equipment such as combines, mining and oil-well-drilling equipment, construction equipment such as cranes and hoists, heavy equipment used in various manufacturing industries (e. g., machine tools and presses), military equipment, marine engine transmissions, elevators, chain saws, and consumer appliances such as lawn mowers, washing machines, and vacuum cleaners.
High-Grade Electrical Paper	The major use of asbestos electrical paper was insulation for high temperature, low voltage applications such as in motors, generators, transformers, switch gears, and other heavy electrical apparatuses.
Millboard	Asbestos millboard was essentially a heavy cardboard product that was used for gasketing, insulation, fireproofing, and resistance against corrosion and rot. Millboard was used in many industrial applications to include linings in boilers, kilns, and foundries; insulation in glass tank crowns, melters, refiners, and sidewalls in the glass industry; linings for troughs and covers in the aluminum, marine, and aircraft industries; and thermal protection in circuit breakers in the electrical industry. In addition, thin millboard was inserted between metal to produce gaskets. Commercial applications for millboard included fireproof linings for safes, dry-cleaning machines, and incinerators.
Missile Liner	A missile liner was an asbestos and rubber compound used to insulate the outer casing of the rocket from the intense heat generated in the rocket motor while the rocket fuel was burned. Rockets and rocket boosters were used to propel a number of objects including military weapons and the space shuttle.

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Packings	Packings were dynamic or mechanical (static packings are gaskets) and used to seal fluids in devices where motion was necessary. The design of a packing was to control the amount of leakage of fluid at shafts, rods or valve systems and other functional parts or equipment requiring containment of liquids or gases. Packings were used in rotary, centrifugal, and reciprocating pumps, valves, expansion joints, soot blowers, and many other types of mechanical equipment.
Pipeline Wrap	Pipeline wrap was an asbestos felt product primarily used by the oil and gas industry for coating its pipelines. Asbestos pipeline wrap was also used in the coal tar enamel method of coating pipes, some above-ground applications (such as for special piping in cooling towers), and was also used by the chemical industry for underground hot water and steam piping.
Reinforced Plastics	Asbestos-reinforced plastics were used for electro-mechanical parts in the automotive and appliance industries and as high-performance plastics for the aerospace industry. Asbestos-reinforced plastic was typically a mixture of some type of plastic resin (usually phenolic or epoxy), a general filler (often chalk or limestone), and raw asbestos fiber.
Roofing Felt	Asbestos roofing felt was single or multi-layered grade and used for built-up roofing. Asbestos was used in roofing felts because of its dimensional stability and resistance to rot, fire, and heat.
Separators in Fuel Cells and Batteries	In very specialized aerospace applications, asbestos functioned as an insulator and separator between the negative and positive terminals of a fuel cell/battery.
Vinyl-Asbestos Floor Tile	Vinyl-asbestos floor tile was used in commercial, residential, and institutional buildings in heavy traffic areas such as supermarkets, department stores, commercial plants, kitchens, and “pivot points” -- entry ways and areas around elevators
Woven Products	Includes Protective Clothing and Asbestos Textiles from the 1989 RIA.
Any Other Building Materials	Examples include insulation, plasters, mastics, textured paints (e.g., simulates stucco), and block filler paints (e.g., for coating masonry).
Any Use of Asbestos not Otherwise Identified	Except those uses prohibited under § 763.165 (i.e. Corrugated Paper, Rollboard, Commercial Paper Specialty Paper, Flooring Felt and New Uses) and uses of imported chrysotile (including as part of an article) that are currently ongoing in the United States (i.e. diaphragms; sheet gaskets; oilfield brake blocks; aftermarket automotive brakes/linings; other vehicle friction products; and other gaskets and packing).

3. Industry Compliance Costs

The SNUR discussed in this report specifies that any manufacture (including import) or processing of asbestos or the importation or processing of an article for a designated significant new use will require reporting under Section 5(a)(1)(A) of TSCA. Therefore, a firm intending to manufacture, import, and/or process asbestos for these applications must submit a SNUN. Alternatively, a firm can decide not to manufacture, import, and/or process this chemical or to manufacture, import, and/or process this chemical in such a way that it is not considered a significant new use. The firm, therefore, has two options:

- ***Option 1: Submit a SNUN.*** A SNUN indicates to EPA that the firm would like to manufacture, import, and/or process the chemical or import or process an article for a significant new use, which, in this case, means any use of asbestos identified in [REF _Ref513035377 \h * MERGEFORMAT]. The firm must submit the SNUN to EPA at least 90 days before it plans to commence the manufacture, import, and/or processing of the significant new use of the substance; the SNUN initiates EPA's evaluation of the conditions of use associated with the intended use within the applicable review period. Manufacturing (including importing) and processing asbestos (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. If EPA allows the manufacture, import, and/or processing of asbestos for a significant new use, then the costs associated with this option are the costs of submitting the SNUN (including paying a user fee).

- ***Option 2: Comply with SNUR limits (not manufacture, import, and/or process a new use of the chemical).*** A firm can avoid engaging in a Significant New Use and submitting a SNUN by not manufacturing (including importing) and/or processing asbestos (including as part of an article) in a manner such that it would be considered a significant new use. That is, if the firm does not manufacture (including import) or process asbestos (including as part of an article) for a significant new use identified in [REF _Ref513035377 \h * MERGEFORMAT], it would not be subject to the SNUR. While this option avoids the costs of submitting a SNUN, it may entail the "hidden" cost of the foregone profit as a result of not engaging in the commercial activity originally planned, and may involve substituting another, more costly, substance. If the firm elects to produce the chemical for research and development (R&D) purposes only (an exemption for R&D purposes is provided in 40 CFR §721.47), it may incur costs associated with R&D recordkeeping. The firm may also pursue this option temporarily by complying with SNUR restrictions while also pursuing Option 1. Due to the uncertainty related to this option, and EPA's expectation that affected entities will select Option 1, the costs of Option 2 are not fully quantified in this report.

The remainder of this chapter estimates the quantified portion of costs associated with the SNUR for asbestos. Section [REF _Ref507586806 \r \h] summarizes the wage rates used in this chapter. Section [REF _Ref242523921 \r \h] provides the unit industry compliance costs, including the costs of rule familiarization, registration with the Central Data Exchange (CDX) electronic reporting tool, completing the SNUN form, submission fee, and import certification. Total costs under each option are presented in Section [REF _Ref508200019 \r \h]. Sections [REF _Ref507586920 \r \h] and [REF _Ref507586922 \r

\h] discuss probability of SNUN submission and promulgation of subsequent regulatory actions related to this SNUR, respectively.

3.1 Wage Rates

The rule involves activities that may require efforts by employees in three labor classifications: managerial, technical, and clerical. Costs for each activity are calculated by estimating the labor hours required in each labor category and multiplying those burdens by the wage rate for each labor category. This section presents the estimated wage rate in each labor category.

Loaded wage rates for each labor category are derived by combining data on wages and fringe benefits with estimates of overhead rates following the methodology described in *Wage Rates for Economic Analysis of the TRI Program* (EPA, 2002). Wage and fringe benefit data for managerial, professional/technical, and clerical labor are calculated using the September 2018 quarterly estimates from the Employer Costs for Employee Compensation (ECEC) Supplemental Tables available on the Bureau of Labor Statistics (BLS) website (BLS, 2018). The loaded wage rate for managerial labor is $78.77; technical labor is $78.63; and clerical labor is $34.91. [REF _Ref243206842 \h * MERGEFORMAT] presents the basic data used to calculate the loaded wage rates for all three categories of labor, and Appendix A provides more detailed information on the estimation of these wage rates.

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Loaded Industry Wage Rates, 2018$

Labor Category	Base Wages[a]	Fringe Benefits[a] + Overhead Factor[b]	Loaded Wages
Managerial	$47.81	1.65	**$78.77**
Professional/Technical	$46.60	1.69	**$78.63**
Clerical	$21.05	1.66	**$34.91**

Notes:
[a] Wage rates and fringe benefits are calculated using the September 2018 estimates from BLS, 2018.
[b] An overhead rate of 17% of base wages is used here, based on methodology and assumptions in EPA, 2002.

3.2 Unit Industry Compliance Costs

This section estimates the "unit industry compliance costs," which are the costs to the individual site that would report under the rule.

3.2.1 Rule Familiarization

The rule requires manufacturers (including importers) and processors of asbestos and certain articles containing asbestos to become familiar with the SNUR and its various requirements. Rule familiarization is estimated to require 0.55 hours of technical labor and 0.27 hours of managerial labor, as described in the *Economic Analysis of the Premanufacture Notification Electronic Reporting Final Rule* (EPA, 2009), which measures the costs of mandatory electronic reporting of SNUNs and other TSCA Section 5 notices. As shown in [REF _Ref253102828 \h * MERGEFORMAT], the labor cost associated with rule familiarization is $64.52.

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Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Industry Cost Estimate to Familiarize with the Rule (2018$) (per Site)

Reporting Activity	Clerical Labor (at $34.91/hour)		Technical Labor (at $78.63/hour)		Managerial Labor (at $78.77/hour)		Total Labor Cost	
	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)
Rule Familiarization	0	$0.00	0.55	$43.25	0.27	$21.27	**0.82**	**$64.52**

Sources: Wage rates: [REF _Ref507588209 \h * MERGEFORMAT]; Burden estimates: EPA, 2009.

3.2.2 Electronic Reporting

The rule requires submitters to register with EPA's Central Data Exchange (CDX) and use the Chemical Information Submission System (CISS) to prepare and submit a data file. CDX is EPA's electronic system for environmental data exchange to the Agency. CDX also provides the capability for submitters to access their data through the use of web services. EPA developed CISS for use in submitting data for TSCA electronically to the Agency. CISS, a web-based reporting tool, provides user-friendly navigation, works with CDX to secure online communication, creates a completed Portable Document Format (PDF) for review prior to submission, and enables data, reports, and other information to be submitted easily.

EPA estimates that affected facilities will incur burden and cost due to the electronic reporting requirements of the rule. This includes costs to complete a subscriber agreement and register with CDX. Understanding the electronic reporting requirements is expected to be part of rule familiarization discussed in Section [REF _Ref468050440 \r \h] and is not included again in this section.

Some company users who have already registered with CDX to meet other EPA electronic reporting requirements, for example to submit Premanufacture Notices (PMNs), will not need to register again as a result of this rule. Therefore, these activities are only required of first-time submitters of any Section 5 notice. These activities are estimated to require the following burdens, based on the estimates presented in the *Supporting Statement for EPA Information Collection Request Number 2002.05, "Cross-Media Electronic Reporting Rule"* (EPA, 2011).

When registering with CDX, users are assigned to one of two roles in the CDX system, an Authorized Official or a Support Registrant.

> **Authorized Official (AO)**: The AO is the person legally responsible for the submission. The AO is typically a senior official for the respondent. The AO is the only user who can start a new form or reopen a completed form to begin the amendment process and is the only user who can electronically sign and submit a form. AOs can also assign Support Registrants to edit and complete forms on his or her behalf. AOs must submit a subscriber agreement to EPA and register with CDX.
>
> **Support Registrants**: A Support Registrant is a person designated by an AO to submit supporting documents on his or her behalf. Support Registrants can edit a submission that is created by the AO. Support Registrants are only allowed to edit the submissions to which the AO has granted him or her access. Support Registrants do not have any access rights to create or submit a form. Once the AO creates a form, they will provide the Support Registrant with a

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passphrase to access the submission and complete all sections of the form. Once the Support Registrant has finished completing the form, the AO will access the document, review it, and then submit it. Support Registrants must register with CDX but do not need to submit a subscriber agreement to EPA.

This analysis uses a simplifying assumption that an average of five employees at each respondent firm will register with CDX: one manager (who will serve as AO) and four technical staff members (who will serve as Support Registrants).

Respondents will incur electronic reporting costs to register with CDX, submit a subscriber agreement, set up payment, and contact EPA's CDX Help Desk for assistance if necessary.

CDX Registration. CDX users will need to register with CDX. This involves selecting a user name and password, providing contact information, and identifying the facility and the registrant's role (e.g., AO or Support Registrant) at the facility. This is estimated to take an average of 10 minutes per user (EPA, [HYPERLINK \l "_ENREF_29" \o "U.S. Environmental Protection Agency (EPA), 2011 #21"]). Because there are assumed to be one manager and four technical staff registering, this results in an estimate that each respondent (business) will spend 10 minutes of managerial time and 40 minutes of technical time to register with CDX.

Subscriber Agreement/Electronic Signature Agreement. An AO must complete a subscriber agreement in order to establish their identity and their relationship to the entity for which they will submit electronic documents, as well as to document a unique correlation with the device that will be used to create their electronic signature. While users can comply with the subscriber agreement provisions in CDX either by submitting a paper subscriber agreement with a wet-ink signature or by submitting an electronic signature agreement, this analysis assumes that all AOs will submit electronic signature agreements. Preparing, submitting, and filing a subscriber agreement and an electronic signature agreement is estimated to require an average of 15 minutes of time per registrant (EPA, [ADDIN EN.CITE <EndNote><Cite ExcludeAuth="1"><Author>U.S. Environmental Protection Agency (EPA)</Author><Year>2011</Year><RecNum>21</RecNum><DisplayText>2011b</DisplayText><record><rec-number>21</rec-number><foreign-keys><key app="EN" db-id="dzwvz5wwgt5s5ze0pzsvpaafapwv02v9p2wt">21</key></foreign-keys><ref-type name="Generic">13</ref-type><contributors><authors><author>U.S. Environmental Protection Agency (EPA),</author></authors></contributors><titles><title>Supporting Statement for EPA Information Collection Request Number 2002.05, "Cross-Media Electronic Reporting Rule" </title></titles><dates><year>2011</year><pub-dates><date>June 22, 2011</date></pub-dates></dates><publisher>Office of Environmental Information, U.S. Environmental Protection Agency</publisher><urls></urls></record></Cite></EndNote>]). Because only an AO may complete the subscriber and electronic signature agreement, this is assumed to be managerial time. In addition, the burden estimate is assumed to include identity verification through a third-party electronic verification process, which is an available service through CDX.

Payment via Pay.gov account. EPA estimates that one manager per company will spend approximately 0.13 hours setting up a Pay.gov ID account, logging into the system, finding the

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appropriate form, and filling it out. This burden does not include the time required to click 'submit' on the form and wait for payment processing (EPA, 2009).

Help Desk. CDX users are assumed to spend an average of 4 minutes contacting EPA's CDX Help Desk for technical support (EPA, [HYPERLINK \l "_ENREF_29" \o "U.S. Environmental Protection Agency (EPA), 2011 #21"]), which results in an estimate of 4 minutes of managerial time and 16 minutes of technical time per respondent.

[REF _Ref460095319 \h * MERGEFORMAT] presents the burden and costs for electronic reporting.

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Industry Burden and Cost of Electronic Reporting Requirements (First Year, per Site) (2018$)

Reporting Activity	Clerical Labor (at $34.91/hour)		Technical Labor (at $78.63/hour)		Managerial Labor (at $78.77/hour)		Total Labor Cost	
	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)
CDX Registration	0	$0.00	0.67	$52.68	0.17	$13.39	0.84	$66.07
Electronic Subscriber Agreement/ Electronic Signature	0	$0.00	0	$0.00	0.25	$19.69	0.25	$19.69
E-Payment (Pay.gov ID)	0	$0.00	0	$0.00	0.13	$10.24	0.13	$10.24
Help Desk	0	$0.00	0.27	$21.23	0.07	$5.51	0.34	$26.74
						Totals	**1.56**	**$122.74**

Sources: Wage rates: see [REF _Ref507588209 \h * MERGEFORMAT]; Burden estimates: EPA, 2009 and EPA, 2011.

3.2.3 Form Completion and Submission Fee

Respondents who choose to submit a SNUN are required to gather and submit information regarding the data elements identified in the applicable SNUN reporting form. The methodology and calculations used in this analysis assume that the employee responsible for collecting, filling out, and submitting the requested information has a reasonable level of familiarity with the company and knowledge of operations at the site. It is assumed that, for most entities, these tasks are similar to other employee duties that require familiarity with EPA, State, and other Federal agency requests for chemical information and do not require additional familiarization or training beyond the basic rule familiarization described above. In addition, this analysis focuses on the marginal costs of submitting information for the rule and not the total costs for the company to comply with a range of other Federal and State environmental, health, and safety regulations or accounting requirements that rely on this type of information.

Estimates of the costs of completing a Significant New Use Notice (SNUN) form are based on the costs of completing a PMN submission, since the data requirements are the same and the same form is used for both.

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The PMN submission burden came from EPA's 1994 *Regulatory Impact Analysis of Amendments to Regulations for TSCA Section 5 Premanufacture Notifications,* which relied on industry estimates of the effort needed to collect and compile all data required for a PMN submission, prepare the form, submit the form and data to EPA, and maintain a file of the submission (EPA, 1994, Table III-2 and pages III-11, -12, and -13). The 1994 estimates were based on a survey conducted by the Chemical Manufacturers Association, which became the American Chemistry Council. These burdens include "the time spent reading and becoming familiar with the form, gathering the required information and preparing the report, producing sanitized responses for items claimed as confidential business information, and maintaining a file of the submission" (EPA, 1994, p. III 11-13). The burden associated with SNUN submission and preparation has been adjusted to reflect burden reductions resulting from the 2009 final PMN Electronic Reporting (ePMN) Rule that requires the electronic submission of all TSCA section 5 notices. Electronic submission of SNUN forms is expected to remove all clerical burden and reduce the recordkeeping burden associated with preparing a SNUN (EPA, 2009).[1] In addition, electronic submission is expected to generate an additional 0.18 hours of technical burden, for the completion of the User Fee Payment Identification Number and email address data elements on the electronic SNUN form.

SNUN form completion and electronic submission is estimated to require 74.20 hours of technical labor and 18.00 hours of managerial labor (EPA, 2009). [REF _Ref507589029 \h] combines the estimated reporting burden and loaded wage rates for all three labor categories to estimate the per-SNUN cost of form completion. The labor cost incurred by a SNUN submission for both large and small business submitters is $7,252.

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Industry Cost Estimate to Complete the SNUN Form

Reporting Activity	Clerical Labor (at $34.91/hour)		Technical Labor (at $78.63/hour)		Managerial Labor (at $78.77/hour)		Total Labor Cost	
	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)

[1] *The Economic Analysis of the Premanufacture Notification Electronic Reporting Final Rule* (EPA, 2009) reported a 0.5 hour clerical and a 0.5 hour technical burden associated with recordkeeping in addition to the burden estimates from the 1994 RIA (EPA, 1994, p. III-14). These burden estimates (the 0.5 for clerical burden and 0.5 for technical burden) are based on the recordkeeping burden for polymer exceptions and not the recordkeeping burden associated with PMN submissions. Therefore, for this analysis, the 0.5 hour for clerical labor and the 0.5 hour for technical labor were removed. It is important to note that for this analysis, clerical burden changes are not applicable because the entire clerical burden is assumed to be eliminated under the electronic reporting requirements. In summary, these estimates do not include the one hour recordkeeping burden (0.5 hour for clerical, 0.5 for technical) reported in the ePMN EA.

Form Completion	0	$0.00	74.2	$5,834	18	$1,418	**92.2**	**$7,252**

Sources: The estimate of no clerical burden is taken from the *Economic Analysis of the Premanufacture Notice Electronic Reporting Final Rule* (EPA, 2009, page 7).
Technical and managerial labor burden is from the PMN Amendments RIA (EPA, 1994, Table III-2). An additional eleven minutes (0.18 hours) of technical burden is estimated to complete the User Fee Payment Identification Number and Email Address data elements on the Electronic SNUN form (EPA, 2009 page 15).
Wage rates: see [REF _Ref507588209 \h * MERGEFORMAT].

In addition, each submitting large business must pay a $16,000 per-SNUN submission fee, and each submitting small business must pay a $2,800 per-SNUN submission fee.[2] [REF _Ref507589088 \h] adds the labor cost and submission fee to estimate the total cost of a SNUN submission, which is $23,252 for large business submitters and $10,052 for small business submitters.

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Industry Cost Estimate to Complete and Submit the SNUN Form

Reporting Population	Labor Cost	Submission Fee	Total Cost (2018$)
Large Business Submitters	$7,252	$16,000	**$23,252**
Small Business Submitters	$7,252	$2,800	**$10,052**

Sources: [REF _Ref507589029 \h * MERGEFORMAT]; EPA, 1994

3.2.4 Recordkeeping

Recordkeeping for Companies Choosing to Submit a SNUN

Companies submitting a SNUN must, under 40 CFR §721.40, keep records of the information contained in the SNUN. Some EPA reports have assumed that SNUN recordkeeping hours would be five percent of SNUN submission hours, or about five to six hours.[3] For this report, the SNUN recordkeeping hours were included in the SNUN submission hours (see Section [REF _Ref507589236 \r \h]) and the SNUN recordkeeping costs under 40 CFR §721.40 were not separately estimated.[4]

Recordkeeping for Companies that do not Submit a SNUN

If a firm that manufactures, imports, or processes a product subject to the SNUR chooses not to submit a SNUN, EPA assumes they will keep records that document compliance with SNUR conditions for

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[2] On October 17, 2018 EPA published a rule raising the fee for SNUNs to $2,800 for small businesses and $16,000 for other businesses (83 FR 52694).

[3] For example, OPPT's Information Collection Request (ICR) for *TSCA Section 5(a)(2) Significant New Use Rules for Existing Chemicals (Renewal),* October 11, 2005, estimates SNUN recordkeeping costs at 5.67 hours (ICR 118.08, page 15).

[4] SNUN submission costs estimated in Section [REF _Ref507589236 \r \h] of this report were based on PMN submission costs from a 1994 report, *Regulatory Impact Analysis of Amendments to Regulations for TSC Section 5 Premanufacture Notifications* (EPA, 1994). Page III-14 of the 1994 report refers to "the normal records kept with a PMN submission which are included in the estimates for submission costs." Page III-12 identifies "maintaining a file of the submission" as part of the labor hours for the PMN reporting form. These statements imply that the 95 to 114 total hours for a PMN submission (page III-10 of EPA, 1994) included recordkeeping hours.

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avoiding a Significant New Use. Such recordkeeping is estimated to involve copying and filing relevant records, including those related to category of use. Because records for SNUNs must be maintained for five years from the date of their creation (40 CFR §721.40), EPA also assumes these records would be maintained for a similar amount of time. For firms that choose to not submit a SNUN, costs for compliance with the recordkeeping requirements are estimated to be five percent of the reporting burden for reporting information for a specific section of the SNUN form and are performed by clerical staff (EPA, 2012a, page 14). EPA used the per-activity burden for reporting, human exposure, category of use and releases to the environment presented in the *Information Collection Request (ICR) for TSCA Section 5(a)(2) Significant New Use Rules for Existing Chemicals (Renewal)* (EPA, 2012a, page 12). Any clerical burden associated with the original burden estimates for these activities was removed to reflect the burden reduction associated with electronic submissions (EPA, 2009).

The total recordkeeping burden for a company that does not submit a SNUN is estimated to be 0.15 hours and $5.24 and is derived in [REF _Ref507589330 \h].

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Annual Per-Chemical Costs of Recordkeeping Requirement for Companies that Choose not to Submit a SNUN

Reporting Activity	Total Burden Associated per Activity (hours)	Percent of Reporting Burden Attributed to Recordkeeping	Clerical Labor (at $34.91/hour)	
			(hours)	(2018$)
Category of use	3	5%	**0.15**	**$5.24**

Sources: [REF _Ref507588209 \h * MERGEFORMAT] and EPA, 2012a.

3.2.5 Customer Notification

Manufacturers, processors, and importers of products subject to SNURs must notify recipients of such products of the SNUR or verify that knowledge of the SNUR has been otherwise acquired by recipients, or that the recipients are unable to engage in significant new uses. Since it is not expected that all such entities will have complete knowledge of all uses of any products subject to a SNUR, and because filing a SNUN could require significantly more burden, it is assumed that manufacturers, processors, and importers will most often choose to notify their customers of SNUR regulatory activities. As this notification may be accomplished by simply annotating an SDS, EPA estimates the associated burden to be about one hour of a technical employee's time or $78.63 per manufacturer, processor, or importer per chemical (based on wage rates in [REF _Ref507588209 \h]).

3.2.6 Import Certification

In general, persons importing chemical substances must certify that they are in compliance with applicable rules and orders under TSCA or not subject to TSCA in accordance with TSCA Section 13

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regulations at 19 CFR §12.118 to 12.127.[5] The statement must be on or attached to a commercial invoice or entry document belonging to the imported shipment.

Import certification is fulfilled by checking a box on an invoice or entry document and EPA assumes that it generally imposes no additional burden or cost on the importer. Any potential burden associated with submitter's familiarization with this requirement is assumed to be included in the more general SNUR familiarization burden discussed above.

3.2.7 Export Notification

Under Section 12(b) of TSCA, exporters must notify EPA if they export or intend to export a chemical subject to various TSCA sections (see the TSCA Section 12(b) regulations at 40 CFR §707.60 through 75). For TSCA 5(a)(2) (the section under which EPA promulgates significant new use rules) and certain other TSCA sections, this is a one-time notification requirement[6] per destination country for each exporter of a chemical substance. After receiving a notification from a firm, EPA notifies the importing country (40 CFR §707.70).

To calculate the burden associated with making a single export notification, EPA first estimated the average annual number of export notifications made by an exporter. EPA then derived the annual and per notification burden associated with preparing and submitting an export notification.

EPA estimated the average burden associated with making a single notification but did not estimate either the total number of exporters of a SNUR chemical or the number of notifications per SNUR chemical. This is because the SNUR applies to a variety of unrelated uses, manufacturers, and processors, making it impractical within the resources available for this report to assess the potential number of exporters and importing countries.

Most underlying data in this section come from the 2017 TSCA Section 12(b) ICR, ICR No.: 0795.15 OMB Control Number 2070-0030 [*Information Collection Request for] Notification of Chemical Exports - TSCA Section 12(b) Supporting Statement for Request for OMB Review under the Paperwork Reduction Act* (EPA, 2017d).

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[5] The exact statements are as follows: For imports of chemical substances subject to TSCA, "I certify that all chemical substances in this shipment comply with all applicable rules or orders under TSCA and that I am not offering a chemical substance for entry in violation of TSCA or any applicable rule or order under TSCA." For imports of chemical substances not subject to TSCA (e.g., pesticides), "I certify that all chemicals in this shipment are not subject to TSCA." (40 CFR §707.20)

[6] On November 14, 2006, EPA revised the export notification requirement for chemicals subject to TSCA §5(a)(2), 5(b), 5(e)(1) and 5(e)(2) from an annual to a one-time requirement per destination country for each exporter (November 14, 2006, 71 FR 66234).

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Estimated Number of Annual Export Notifications per Exporter

EPA's 2017 TSCA Section 12(b) ICR estimated that the average exporter *making notifications* would make 13 notifications per year.[7] This includes notifications resulting from SNURs and notifications resulting from other TSCA activities. A notification is typically no more than one page per chemical/country combination, and one notification mailing often includes multiple chemicals and/or destination countries.[8]

The percent of notifications resulting from SNURs in general is unknown, and it is also unknown how many notifications may result from this rulemaking, as not all manufacturers may choose to export a chemical, or they may make several notifications for a single chemical.

Exporter Costs

The 2017 TSCA Section 12(b) ICR (EPA, 2017d, page 9, Summary Table), estimated the annual export notification cost for an exporter under the one-time export notification requirement. These costs include the cost to the exporter of compiling a list of their products that are subject to TSCA Section 12(b) requirements, writing or revising an export notification letter to EPA, checking the outgoing shipments, and sending the notification letters with the associated shipping costs.

The per-notification cost was calculated based on the average burden per firm. Exporters who make a larger number of notifications per year may benefit from economies of scale and have lower costs per notification; conversely firms making fewer notifications may have a higher cost per notification.

Estimated Submission (Mailing) Costs. Regulated companies will incur mailing costs for export notifications delivered to EPA. Notifications are assumed shipped via the U.S. Postal Service (USPS) as first-class registered mail with a return receipt. Prices are 2018 rates (USPS, 2018). The estimated per-shipment and annual mailing costs incurred by individual submitters are detailed in [REF _Ref507582713 \h * MERGEFORMAT].

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[7] EPA calculated the average number of export notifications per exporter in the 2017 TSCA Section 12(b) ICR (EPA, 2017d) by dividing the estimated number of submitted notifications (3,090) by the estimated number of exporters (240).

[8] Based on review by an EPA economist of notifications received under TSCA Sections 4, 5 and 6 over approximately three weeks in early 2010.

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Derivation of Total Mailing Cost for 13 Export Notification Notices

Postal Service	Cost (2018$)
Registered mail, *regular, with $0 declared value*	$11.90
Return receipt, *requested at time of mailing (receive hardcopy by mail)*	$2.75
Postage, *regular First Class, up to 1 ounce*	$0.50
Cost per Export Notice - Subtotal	**$15.15**
Total Mailing Cost for 13 Notices	**$196.95**

Sources: Mailing costs are 2018 rates (USPS, 2018). The mailing method comes from the *Economic Analysis of the Proposed Change to TSCA Section 12(b) Export Notification Requirements*, November 2005 (EPA, 2005), as clarified in a later SNUR economic analysis (EPA, 2007, Table 8).

Compile and Maintain the List of Products. Since TSCA §12(b) information collection activity has been in place for twenty years, most respondents will have already developed a list of their products subject to TSCA §12(b) export notification. Respondents need only check for new regulations promulgated and any new products exported by the company. Updating the list is estimated to take an average of one hour of technical time, which may also include some proportion of legal time (EPA, 2017d). The total burden can vary from two hours per year up to two hours per month, depending on the number of products exported by the company and the number of their products subject to TSCA §12(b) (EPA, 2017d).

The number of submitters per year who report under TSCA §12(b) has varied over time, rising from around 160 in 1991 to over 460 in 2000, and declining since. In the TSCA §12(b) ICR, EPA estimated that there would be approximately 240 submitters per year in near-future years (EPA, 2017d). Of these 240 submitters, EPA estimated that 160 companies were near the lower burden estimate of two hours per year, and 80 companies were near the upper estimate of 24 hours per year (EPA. 2017d). Compiling the list for all respondents was therefore estimated to take 2,240 hours (2 hours x 160 firms plus 24 hours x 80 firms), or an average of about 9.3 hours of technical time per firm per year for 13 notifications per year (EPA, 2017d).

Write or Revise Export Notification. Companies that export chemicals subject to TSCA §12(b) reporting must prepare an export notification to send to EPA when export shipments are made. Time for initial preparation of the export notice may vary depending on whether the company has prior experience with this requirement. This step is estimated to take an average of one hour of technical time (which may also include some proportion of legal time) per firm per year for 13 notifications per year (EPA, 2017d).

Check Orders and Send Notifications. Companies that export chemicals subject to TSCA §12(b) reporting must check outgoing shipments against the list of their products described above. A form letter notifying EPA and providing the required data must be printed and mailed within the required time period. This process is estimated to take an average one half hour of clerical time per export notification or 6.5 hours for 13 notifications (EPA, 2012b).

Total Burden and Cost per Notification. The burdens and associated costs for each notification activity are provided in [REF _Ref507582842 \h]. EPA estimates that the burden associated with making one notification is approximately 1.29 hours and $94.90.

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: TSCA 12(b) Export Notification Cost per Notification

Activity	Technical Labor (at $78.63/hour)		Clerical Labor (at $34.91/hour)		Total	
	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)	Burden (hours)	Cost (2018$)
Compile list	9.3	$731.26	0	$0.00	9.3	$731.26
Write letter	1	$78.63	0	$0.00	1	$78.63
Check order and send notice	0	$0.00	6.5	$226.92	6.5	$226.92
Mailing cost[1]	--	--	--	--	--	$196.95
Total per average facility[2]	10.3	$809.89	6.5	$226.92	16.8	$1,233.75
Total per Notification	**0.79**	**$62.30**	**0.5**	**$17.46**	**1.29**	**$94.90**

Sources: [REF _Ref507588209 \h * MERGEFORMAT] and EPA, 2012b.

Asbestos, as defined in this SNUR, is already subject to TSCA section rules that trigger the export notification provisions of TSCA section 12(b).[9] However, EPA will not require export notification for articles containing asbestos. **Therefore, this rule will not result in export notification costs under TSCA section 12(b).**

3.2.8 Article Importation and Processing

The SNUR contains a provision to eliminate the exemption for the importation or processing of articles containing asbestos subject to the rule. This will require importers and processors of these articles containing asbestos to notify EPA at least 90 days before importing or processing them. In addition, the rule may also affect firms that do not currently import or process articles containing asbestos, but who may be interested in importing or processing these articles in the future or who may be interested in ensuring that the articles they import or process are in compliance with the requirements of the SNUR. Although there are no specific requirements in the rule for these companies, they may choose to undertake some activities in order to assure themselves that they are not undertaking a new use. Importers have varying levels of knowledge about the chemical content of the articles they import, yet under TSCA the definition of "manufacture" means to "import…, produce or manufacture"[10] and importers are responsible parties under the SNUR. In order to understand and monitor their liability, companies might undertake a range of activities to ensure that the articles they import do not violate existing regulations.

Affected Entities

SNUR reporting requirements for persons who may process articles containing the chemical substance subject to the SNUR are described in 40 CFR §721.5; however, the reporting requirements for processors (including processors of articles containing the subject chemical) are specifically limited. As described in 40 CFR §721.5(c), a processor is not required to submit a SNUN if he can document that (1) he does not

[9] Asbestos is subject to TSCA section 6(a) rules (40 CFR part 763, subparts G and I) that trigger the export notification provisions of TSCA section 12(b).

[10] TSCA section 3(9).

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know the specific chemical identity of the chemical substance being processed; and (2) that he is processing the chemical substance without knowledge that the substance is subject to a SNUR. This analysis focuses on the standard business practices that a processor would already undertake that would serve to document compliance with the rule.

Potential Compliance Activities (Article Importers)

Given the existing regulatory limitations on certain chemicals both internationally and within the United States, certain regulated industries have begun to develop industry-wide processes and other resources to support companies that are interested in understanding and managing their supply chains. Because the rule would not prescribe the steps that an importer must take to identify a chemical subject to a SNUR in articles, there are a variety of specific actions that a company could take to identify specific substances in its articles. Importers are expected to take actions that are commensurate with the level of risk each company perceives, and the resources it has available.

There is currently no single widely accepted standard procedure to identify regulated chemicals in a supply chain; however, there are a number of organizations that help provide information on the content of articles, organize declarations from suppliers, or certify suppliers based on materials or processes used. Importers (or processors) subject to SNURs may refer to these sources for assistance in their own strategy to identify a chemical subject to a SNUR in articles.

ASTM International, formerly known as the American Society for Testing and Materials (ASTM), has developed a *Standard Guide for Assessment of Materials and Products for Declarable Substances* ("ASTM F2577") which provides guidance for the decision process to assess materials and products for declarable substances. Based on ASTM F2577, the following list includes activities that an importer could perform to identify any restricted chemicals in imported articles. This list is intended to capture the general types of activities that might be performed.

1) **Understand applicable requirements (per firm cost).** The importer would need to read and understand the SNUR, within the context of the company's products. This burden is as derived in Section [REF _Ref253093676 \r \h] of this report.
2) **Identify the type of imported articles that potentially contain the restricted substance (per firm cost).** This determination may be done based on an understanding of the uses of the restricted substance and the application of any *a priori* knowledge of the material and its manufacture to assess the probability that each regulated substance may be present. This step is estimated to take between 2 hours (for companies with simple supply chains) and 24 hours (for companies with complex supply chains) of technical staff time.
3) **Identify all suppliers involved (per firm cost).** The importer may choose to identify all suppliers from whom the articles identified in the previous step are imported, and as necessary, make aware of the importer's potential notice obligations respecting the regulated chemical substance. This activity is estimated to take approximately 7 hours of technical staff time and 17 hours of clerical staff time.
4) **Collect data from suppliers (per article cost).** Importers may choose to obtain verification from suppliers identified in step 3 that the regulated chemical substance is not found in the article. This may be accomplished through, for example, agreements with suppliers, declarations through databases or surveys, or by using a third-party certification system. This step is estimated to take

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between 0.08 and 8 hours of technical staff time, depending on data collection method chosen, number of articles, number of suppliers, etc.

5) **Chemical testing (per article cost).** Importers may perform their own laboratory testing of certain articles (or components of articles) to determine if they contain the restricted substance. Test cost prices may range from $18 to $739 per sample, with an average of $128 over the 630 tests priced.
6) **Recordkeeping (per firm cost).** The importer may choose to keep records confirming the activities completed. This burden is as derived in Section [REF _Ref508107696 \r \h] of this report.

[REF _Ref508105188 \h] contains the cost ranges associated with the above activities, using the burden hours listed above and current wage rates (see [REF _Ref507588209 \h]). The activities and burden derivations are discussed in more detail in *Understanding the Costs Associated with Eliminating Exemptions for Articles in SNURs* (EPA, 2014b).

Variation in costs associated with these activities would depend on a company's level of activity to comply with other regulations on chemicals in articles, the complexity of the supply chains; and the size of the company. Total costs per importer will further depend on the number of affected articles and the frequency of supplier change.

The European Union's *Registration, Evaluation, Authorization and Restriction of Chemicals* (REACH) regulations prohibit the manufacture, placing on the market and use of certain asbestos fibers[11] and of articles and mixtures containing these fibres. (Exceptions to REACH's restrictions apply to diaphragms containing chrysotile for electrolysis installations, and articles containing asbestos fibres which were already installed and/or in service before January 2005 (ECHA, 2018). Additionally, all OECD (Organization for Economic Co-operation and Development) countries, except for Mexico and the United States, have placed bans on asbestos (ASEA, 2018; Canada, 2018).[12]

Firms that have previously selected suppliers that have agreed to uphold certain standards, or who have otherwise sufficiently demonstrated that they are not supplying asbestos-containing products, would not likely incur any additional costs associated with these activities. Essentially, the product's certification would allow importers or processors of articles to learn whether an article does or does not contain asbestos or whether suppliers have agreed to uphold certain production standards. There are labeling systems for products in which independent entities ensure that the production of products does not utilize specific chemicals. For example, the European Union has developed a voluntary labeling system, called the EU Ecolabel. Producers, importers and retailers can voluntarily apply for the EU Ecolabel (EC, 2017). Labeled products signal to consumers that the product in question has a reduced environmental impact

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[11] REACH restrictions apply to the following types of asbestos fibres: Crocidolite (CAS No 12001-28-4), Amosite (CAS No 12172-73-5), Anthophyllite (CAS No 77536-67-5), Actinolite (CAS No 77536-66-4), Tremolite (CAS No 77536-68-6), and Chrysotile (CAS No 12001-29-5 and 32207-32-0).

[12] Canada has recently finalized regulations prohibiting the import, sale and use of asbestos and the manufacture, import, sale and use of products containing asbestos in Canada, with a limited number of exclusions. Additional regulations prohibit the export of all forms of asbestos with a limited number of exceptions. These regulations came into force on December 30, 2018 (Canada, 2018).

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throughout the product's life cycle, such as the manufacturing stage and/or during the final product disposal. The criteria are specifically designed to focus on the stage of the life cycle where a product has the most environmental impact (EC, 2017).

Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Range of Costs Associated with an Importer's Identification of Chemicals Subject to a SNUR

Activity	Cost (2018$)	Notes
Per Rule Costs		
Rule familiarization	$65	Discussed in Section [REF _Ref253093676 \r \h] of this document
Identify the type of imported articles that potentially contain the restricted substance	$157 to $1,887	Actual costs may vary based on number of articles imported and the complexity of the article itself (number of components)
Identify all suppliers involved	$1,144	Actual costs may vary depending on the number of articles imported, number of suppliers, and frequency of supplier changes
Recordkeeping	$5.24	Actual costs may vary depending on recordkeeping system already in place. This cost would particularly be associated with companies that have no previous experience complying with chemical restriction rules; companies that already have methods in place to identify chemicals in articles likely already have recordkeeping systems in place
Per Article-Related Costs		
Collect data from suppliers	$6.29 to $629 per article reviewed. $0 if no data collected.	Actual costs only apply to those companies that choose to collect data from suppliers. They will vary depending on the specific data collection method chosen. Total costs depend on considerations including the number of articles imported, number of suppliers, and frequency of supplier changes.
Chemical testing	$130 per article tested. $0 if no testing.	Actual costs only apply to those companies that choose to collect data from suppliers. They will vary depending on the specific chemical being tested for; the complexity of the article and sample preparation required; and the exact fees of the laboratory chosen for the analysis. Total costs per company will depend on considerations including the number of articles tested, which may be affected by the number of suppliers and risk associated with each, and frequency of supplier changes.

Source: [REF _Ref507588209 \h * MERGEFORMAT] and EPA, 2014b

Firms with less experience with other regulations that are planning to import articles that could potentially contain asbestos may incur a larger burden should they choose to conduct some or all of the activities listed above to ensure compliance. These firms may choose to reach out to a wide variety of upstream firms to gather information on the chemical content of articles for documentation. Firms may also choose to conduct additional research on their suppliers to ensure that they are purchasing from reputable manufacturers and chemical suppliers who will provide necessary technical support, as well as regulatory standards (AFIRM, 2011). Furthermore, a company could choose to have articles tested. If a company chooses to conduct testing they may also need to conduct additional research to ensure the laboratory is accredited, reliable and follows Good Laboratory Practices (GLP) (AFIRM, 2011). For those companies choosing to undertake actions to assess the composition of the articles they import, EPA expects that in

all likelihood, these importers would take actions that are commensurate with the level of risk (of a chemical to be a part of an article) each company perceives, and the resources it has available.

Potential Compliance Activities (Processors of Articles)

Under 40 CFR §721.5(a)(2), manufacturers, importers, or processors of subject chemical substances who distribute the substance in commerce must notify the recipient, in writing, of the applicability of SNUR requirements, or document that the recipient has such knowledge or will not undertake any significant new use described in the rule. Therefore, the article processor, as the recipient of any subject chemical substance, should receive written notification from the supplier, and would keep this documentation as part of their standard business practice.

Should a processor need to demonstrate compliance with the SNUR, it is expected that processors would use notification from the supplier or other shipping or labeling documents (such as Material Safety Data Sheets (MSDS), etc.) received with the article in the ordinary course of business.

To the extent that processors desire extra certainty that the articles they process are not subject to a SNUR, they may undertake the steps to identify regulated chemicals outlined above for importers.

3.3 Summary of Per Submission Costs, by Option

The number of firms affected by not making submissions to EPA is not known; therefore, costs are not aggregated across the affected entities. The following table summarizes the costs to comply with the rule, as described in more detail in section [REF _Ref242523921 \r \h] above.

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Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: Compliance Options and Associated Costs Incurred by a Firm Due to the SNUR

	Option[1]	Costs	Quantified Costs per Chemical (2018$)[2]
1.	Electronic submission of a Significant New Use Notice (SNUN), indicating to EPA that the firm would like to manufacture, import, or process the chemical for a Significant New Use as defined in the SNUR.	Costs of submitting a SNUN, including rule familiarization, CDX registration (for companies that are first-time submitters), form completion, user fee, and any test costs.[3]	$64.52 rule familiarization cost; $23,252 SNUN submission and recordkeeping cost for large businesses (including $16,000 fee) and $10,052 for small businesses (including $2,800 fee). EPA usually receives well under ten SNUNs per year[4]. First time submitters would incur $123 for CDX registration and associated activities. Companies manufacturing, importing, or processing a chemical currently used in commerce in the United States will incur a cost of $78.63 for notifying consumers of SNUR regulatory activities.
2.	Manufacture, import, or process in a way that avoids a Significant New Use.	Cost of the profit foregone as a result of not engaging in the commercial activity originally planned (opportunity costs), and recordkeeping.	Opportunity costs are not quantified. Other costs including rule familiarization ($64.52), recordkeeping ($5.24), and customer notification ($78.63) may apply. Costs associated with article importation may include activities such as article identification ($157 to $1,887), supplier identification ($1,144), recordkeeping ($5.24), collecting data from suppliers ($6.29 to $629 per article), and testing ($130 per article tested).

Notes:

[1] Firms may be subject to both options at once, since submission of a SNUN results in profits foregone as a result of not manufacturing, importing, or processing the chemical.

*[2] Quantified costs are attributable to the SNUR only if a firm would not otherwise follow the specified practices. Costs are detailed in Section [REF _Ref242523921 \r \h * MERGEFORMAT]. SNURs typically trigger export notification requirements at an estimated cost of $95 per notification. However, asbestos is already subject to export notification, and this rulemaking is not requiring export notification for products containing asbestos. Thus, there is no additional cost of export notification for this rule.*

[3] EPA does not require the development of test data for submission of a SNUN, although a firm may submit test data already in its possession and/or describe any other available data. Because EPA does not require the development of test data, EPA assumes that no firms will incur testing costs as a result of the SNUR.

*[4] See Section [REF _Ref507583440 \r \h * MERGEFORMAT] for more details.*

3.4 Likelihood of SNUN Submission

This analysis assumes that very few entities are expected to submit a SNUN. EPA has, over the years, promulgated SNURs that cover a total of more than 1,000 chemicals. In response, the Agency receives only a handful of SNUNs per year. For example, the number of SNUNs received was 4 in Federal fiscal year (FY) 2005, 8 in FY2006, 6 in FY2007, 8 in FY2008, 7 in FY2009, 2 in FY2010, 10 in FY2011, 10 in FY2012, 11 in FY2013, 19 in FY2014 and 9 in FY2015.[13] Of those SNUNs, only a fraction resulted from existing chemical SNURs promulgated under Section 5(a)(2) (EPA, 2012a).

[13] In-person count of SNUNs conducted by Kimberly Wilson of Abt Associates Inc, on April 8, 2010 at EPA's Confidential Business Information Center (CBIC) and updated values for FY2010 and FY2011 provided by Lynne Blake-Hedges of U.S. EPA on September 1, 2011. Updated values for FY2012 through FY2015 provided by Stephanie Suazo of U.S. EPA on May 18, 2016.

3.5 Potential for Subsequent Regulatory Actions

The Agency recognizes that if submission of a SNUN does result from a SNUR, the Agency may take additional regulatory actions under TSCA. These additional regulatory actions might be necessary to further evaluate an intended new use and associated activities, or to prohibit or limit that activity before it occurs to prevent unreasonable risk of injury to human health or the environment. It is not known what specific subsequent regulatory actions, if any, the Agency may determine are necessary after reviewing a SNUN. Any such actions are highly dependent on the circumstances surrounding the individual SNUN (e.g., available information and scientific understanding about the chemical and its risks at the time the SNUN is being reviewed).

Should the Agency's review of the SNUN result in further regulatory actions, the Agency will initiate and follow the appropriate procedures for taking those actions. Included in those procedures would be an assessment of the costs and benefits of those actions.

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4. Agency Costs

4.1 Review and Process SNUN Submissions

EPA's cost to review and process SNUN submissions is assumed to be represented by its costs for a larger category of similar TSCA section 5 notices that includes SNUNs. On October 17, 2018, EPA promulgated new user fees for actions under TSCA sections 4, 5, and 6 (83 FR52694). In developing the proposed fees, EPA estimated its total annual costs for processing, reviewing, and making determinations under TSCA section 5 between fiscal years 2019 and 2021. EPA estimated its direct and indirect costs for reviewing PMNs, SNUNs, and Microbial Commercial Activity Notices (MCANs) to be $18,934,659 per year during this period, and assumed that an average of 462 PMNs, SNUNs, and MCANs will be submitted per year.[14] This yields an average Agency cost of approximately $41,000 apiece for reviewing and processing PMNs, SNUNs and MCANs.[15] Thus, processing and reviewing any SNUNs submitted due to this SNUR is also expected to cost EPA approximately $41,000.

4.2 Export Notification Cost

Under TSCA section 12(b), exporters must notify EPA if they intend to export chemicals subject to SNURs, as described in Section [REF _Ref507585649 \r \h * MERGEFORMAT]. As described in that section, asbestos, as defined in this SNUR, is already subject to TSCA rules that trigger the export notification provisions of TSCA section 12(b). However, EPA will not require export notification for articles containing asbestos. Therefore, this rule will not result in additional export notification costs under TSCA section 12(b).

The Agency burden and cost due to TSCA §12(b) export notification result from three tasks. In the first task, EPA receives export notifications from companies that intend to export one of the chemicals subject to TSCA §12(b) (EPA, 2017d). In the second task, EPA staff prepares separate notification letters that are subsequently reviewed and delivered to importing countries, their embassies, or representatives, and to the importing country's U.S. embassies (EPA, 2017d). (See [REF _Ref507582713 \h * MERGEFORMAT] for the cost of mailing one notification). The third task is comprised of EPA staff responses to public inquiries and other TSCA 12(b) activities. The work of responding to non-routine requests for information and clarification from industry and importing countries, and of handling other tasks associated with the TSCA §12(b) program, was estimated to require roughly 400 hours per year (EPA, 2017d).

Because it is unknown how many, if any, notifications EPA will receive or send as a result of the current rulemaking, the costs to the Agency are presented per activity. The estimated burden for the first two Agency activities is provided in [REF _Ref507585698 \h * MERGEFORMAT]. Agency wage rates are derived in Appendix A.

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[14] Table 9 - Annual Section 5 PMN/SNUN/MCAN Cost Estimates. *EO 12866 Documentation; Draft Submitted to OMB – Technical Background Document (RIN 2070-AK27; Proposed Rule.* EPA-HQ-OPPT-2016-0401-0020. https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0401-0020.

[15] This $41,000 review cost is lower than the overall average cost of $55,200 for TSCA section 5 activities that EPA calculated for the 2018 proposed fees rule because the $55,200 value includes costs for activities (such as issuing SNURs following a PMN review and reviewing Notices of Commencement) that are not relevant to SNUNs.

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Table [STYLEREF 1 \s]-[SEQ Table * ARABIC \s 1]: TSCA 12(b) Export Notification Cost: Agency Burden per Activity (2018$)

Agency Activity	EPA Labor (at $84.26/hour)		Mailing Cost	Total Agency Cost per Activity
	burden (hours)[1]	Cost (2018$)		
Process an incoming notification from an exporting company	0.1	$8.43	$0.00	$8.43
Prepare and mail a notification to an importing country	0.5	$42.13	$15.15	$57.28

Notes:
[1] The burden associated with an Agency activity is the burden for the Agency to process one incoming notification, or to prepare and mail an outgoing notification.
Sources: Appendix A of this report shows the derivation of Agency labor costs. Mailing costs are from [REF _Ref507582713 \h * MERGEFORMAT] of this report. Other burden estimates are from *ICR No.: 0795.14 [Information Collection Request for] Notification of Chemical Exports - TSCA Section 12(b) Supporting Statement for Request for OMB Review under the Paperwork Reduction Act* (EPA, 2017d).

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5. Benefits

Asbestos was listed as a known human carcinogen in the National Toxicology Program's First Annual Report on Carcinogens in 1980 (NTP, 2016). In 1988, EPA assessed the health hazards and effects caused by exposure to asbestos under the Integrated Risk Information System (IRIS) program and determined that asbestos exposure can lead to lung cancer and mesotheliomas (tumors arising from the thin membranes that line internal organs) (EPA, 1988). Many authorities have established that there is causal association between asbestos and lung cancer and mesotheliomas (NTP, 2016; ATSDR, 2001; IARC, 2012). EPA also noted in the Scope of the Risk Evaluation for Asbestos that there is a causal association between exposure to asbestos and cancer of the larynx and cancer of the ovary (IARC, 2012). There is also suggestive evidence of a positive association between asbestos and cancer of the pharynx (IARC, 2012; NRC, 2006), stomach (ATSDR, 2001; IARC, 2012), and colorectum (NTP, 2016; ATSDR, 2001; IARC, 2012; NRC, 2006; NRC, 1983; EPA, 1980). All types of asbestos fibers have been reported to cause mesothelioma (IARC, 2012).

Increases in lung cancer mortality have been reported in both workers and residents exposed to various asbestos fiber types as well as fiber mixtures (IARC, 2012). There is evidence in in-vitro, animal, and human studies that asbestos is genotoxic, meaning asbestos can damage an organism's genetic material (ATSDR, 2001). There is also evidence that asbestos exposure is associated with adverse respiratory system effects, such as asbestosis and immunotoxicity (ATSDR, 2001; EPA, 2017a).

While the SNUR would not address the risk from ongoing uses, a notification required by the SNUR would initiate EPA's evaluation of the conditions of use associated with the intended use within the applicable review period. 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. The SNUR may also help to limit future exposure to the chemical because a company may choose to modify planned uses in such a way that does not trigger a SNUR, as opposed to submitting a SNUN.

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6. Additional Analyses

Several statutes and executive orders (EOs) pertain to the SNUR. This chapter presents statements discussing paperwork reduction, unfunded mandates, regulatory planning and review, tribal governments, children's health, and environmental justice, among others.

6.1 Regulatory Flexibility Act

Pursuant to section 605(b) of the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*), the Agency hereby certifies that promulgation of this SNUR would not have a significant adverse economic impact on a substantial number of small entities. The rationale supporting this conclusion is as follows. The requirement to submit a SNUN applies to any person (including small or large entities) who intends to engage in any activity described in the rule as a significant new use. Where a use is new, by definition no small or large entities presently engage in such activities. Although some small entities may decide to manufacture or process a substance for the new use after the SNUR is promulgated, EPA receives very few SNUNs, and few of those are submitted by small entities. In response to the promulgation of SNURs covering over 1,000 chemical substances, the Agency receives only a handful of SNUNs per year. For example, the number of SNUNs was four in Federal fiscal year 2005, eight in FY2006, six in FY2007, eight in FY2008, seven in FY2009, two in 2010, and ten in 2011 (EPA, 2012a), for an average of 6 per year from all SNURs. Of those SNURS, only a fraction resulted from existing chemical SNURs promulgated under Section 5(a)(2) (EPA, 2012a), and only a portion were submitted by small entities. EPA has no reason to believe that this SNUR will alter the pattern of SNUN submissions that EPA has historically seen. In addition, the estimated reporting cost for submission of a SNUN is minimal regardless of the size of the firm, at about $23,250 for large firms, including SNUN recordkeeping and reporting costs. The Agency currently offers some relief to certain small businesses by reducing the SNUN submission fee from $16,000 to $2,800. This lower fee reduces the cost of submitting a SNUN to about $10,050 for smaller firms. During the six-year period from 2005 to 2010, only three submitters self-identified as small in their SNUN submission[16] (EPA, 2012a). EPA believes the cost of submitting a SNUN is relatively small compared the cost of developing and marketing a chemical new to a firm and that the requirement to submit a SNUN generally does not have a significant economic impact.

EPA believes that the potential economic impact of complying with a SNUR is not expected to be significant or adversely affect a substantial number of small entities.

6.2 Unfunded Mandates Reform Act (UMRA)

This action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA, Public Law 104-4), 2 U.S.C. 1531-1538 for State, local, or tribal governments or the private sector. Based on EPA's experience with similar information collection rules, state, local, and tribal governments have not been affected by this reporting requirement, and EPA does not have any reason to believe that any state, local, or tribal government will be affected by this rulemaking.

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[16] As described in Section [REF _Ref184488 \r \h], the three "small" submitters were identified by review of actual SNUN submissions from the years 2005-2010.

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6.3 Paperwork Reduction Act (PRA)

According to the Paperwork Reduction Act (PRA), 44 USC 3501 et seq., an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information that requires Office of Management and Budget (OMB) approval under the PRA, unless it has been approved by OMB and displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in title 40 of the CFR, after appearing in the *Federal Register*, are listed in 40 CFR, part 9, and included on the related collection instrument, or form, if applicable. The information collection requirements related to this action have already been approved by OMB pursuant to the PRA under OMB control number 2070-0038 (EPA ICR No. 1188) and 2070-0030 (EPA ICR No. 0795).

If an entity were to submit a SNUN to the Agency, the annual burden is estimated to average 96.9 hours per response: 0.82 hours for rule familiarization (Section [REF _Ref300654011 \r \h * MERGEFORMAT]), 1.56 hours for CDX registration, CDX electronic signature, and pay.gov account setup (Section [REF _Ref300654049 \r \h * MERGEFORMAT]), 92.2 hours for form completion, submission and recordkeeping under CFR §721.40 (Sections [REF _Ref300654067 \r \h * MERGEFORMAT]), and 1 hour for consumer notifications (Section [REF _Ref508742917 \r \h][REF _Ref306877276 \r \h * MERGEFORMAT]) . The burdens for rule familiarization, CDX registration, CDX electronic signature, pay.gov account setup form completion, submission, and recordkeeping consumer notifications are approved under EPA ICR No. 1188 (OMB control number 2070-0038). Burden for export notification is approved under EPA ICR No. 0795 (OMB control number 2070-0030). The burden for export notification is estimated to be 1.29 hours per notification (Section [REF _Ref508742847 \r \h * MERGEFORMAT]). However, asbestos is already subject to export notification, and this rulemaking is not requiring export notification for articles containing asbestos. Therefore, there is no additional cost for export notification for this rule.

6.4 Executive Order 13132 – Federalism

Executive Order 13132, entitled *Federalism* (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." Policies that have federalism implications are defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government" (64 FR 43255, August 10, 1999).

This action will not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999), because it will not have substantial direct effect on States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

6.5 Executive Order 12898 – Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* (59 FR 7629, February 16, 1994), establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

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This action will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). This action does not affect the level of protection provided to human health or the environment. The information collected under this rule would assist EPA and others in determining the potential hazards and risks associated with asbestos. Although not directly impacting environmental justice-related concerns, this information will enable the Agency to better protect human health and the environment, including in low-income and minority communities.

6.6 Executive Order 13045 – Children's Health

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (62 FR 19885, April 23, 1997), requires EPA to identify and assess environmental health and safety risks that may disproportionately affect children. This type of analysis is required for rules that will have an impact of $100 million or more only. The impact of this SNUR will be less than $100 million and therefore no analysis of such impacts on children is required.

6.7 Executive Order 13175 – Consultation and Coordination with Indian Tribal Governments

As required by Executive Order 13175, entitled *Consultation and Coordination with Indian Tribal Governments* (65 FR 67249, November 9, 2000), EPA has determined that this rule does not have tribal implications because it will not have any effect on tribal governments, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in the Order.

6.8 Executive Order 13211 – Energy Supply, Distribution, or Use

This rule is not subject to Executive Order 13211, *Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use* (66 FR 28355, May 22, 2001), because it is not a significant regulatory action under Executive Order 12866 and is not expected to affect energy supply, distribution, or use.

6.9 Executive Order 13563 – Improving Regulation and Regulatory Review

Executive Order 13563, *Improving Regulation and Regulatory Review* (76 FR 3821, January 21, 2011), requires EPA to base regulations on the best available science, allow for public participation and the open exchange of ideas, promote predictability and reduce uncertainty, identify and use the best, most innovative, and least burdensome tools for achieving regulatory ends, consider both the costs and benefits qualitatively and quantitatively and ensure regulations are accessible, consistent, written in plain language, and easy to understand.

The rule establishes reporting and recordkeeping requirements that apply to manufacturers (including importers) and processors of certain chemicals. Consistent with EO 13563, this document qualitatively and quantitatively describes both the costs and benefits of the rule as well as the underlying data used in the analyses. EPA chose the best available data to analyze the costs and benefits described in this document and the best analytic approaches given the available data and other constraints.

6.10 National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104-113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

The rule does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

6.11 Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs

Under Executive Order 13771 (82 FR 9339, February 3, 2017), for each new significant regulatory action that imposes costs, EPA is to also issue two "deregulatory" actions. This action is not expected to be an Executive Order 13771 regulatory action because this action is not significant under Executive Order 12866.

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APPENDIX A - Wage Rate Calculations

This appendix describes the derivation of the fully loaded wage rates and inflation factors used in calculating costs of labor, materials, and other inputs. All cost estimates are presented in 2018 dollars.

The fully loaded unit labor cost for managerial, professional/technical, and clerical labor in the regulated industry and for EPA staff is estimated by adding fringe benefits and overhead costs to the hourly wage or annual salary for each category following the method described in *Wage Rates for Economic Analysis of the Toxics Release Inventory Program* (EPA, 2002b). This appendix describes the method employed to estimate the fully loaded unit labor costs for each labor category and presents the results of the analysis.

A.1 Derivation of Industry Unit Wage Rates

Wages and fringe benefit data for managerial, professional/technical[17], and clerical labor are from the BLS Employer Costs for Employee Compensation (ECEC) historical data for September 2018 (BLS, 2018).

The costs of fringe benefits such as paid leave and insurance, specific to each labor category, are taken from the same BLS report (BLS, 2018). Fringe benefits as a percentage of wages are calculated separately for each labor category. For example, the wage rate for professional/technical labor in 2018 was $46.60, and the average fringe benefit was $24.11. Therefore, fringe benefits as a percentage of wages were $24.11/$46.60 or approximately 51.74 percent (see Exhibit A-1).

An additional loading factor of 17 percent is applied to wages to account for overhead. This approach is used for consistency with Office of Pollution Prevention and Toxics (OPPT) economic analyses for major rulemaking such as *Wage Rates for Economic Analyses of the Toxics Release Inventory Program* (EPA, 2002). This overhead loading factor is added to the benefits loading factor, and the total is then applied to the base wage to derive the fully loaded wage. For example, fully loaded wage for professional/technical labor in 2018 was $46.60 × (1+ 0.5174 + 0.17) = $78.63.

Fully loaded costs for managerial, and clerical labor are calculated in a similar manner, as shown in Exhibit A-1.

[17] Past economic analyses have used the term "technical" labor. Here the category is called "professional/technical" labor, to make clear how it relates to BLS categories. In 2004, BLS changed from the Occupational Classification System, OCS, to the Standard Occupational Classification system, SOC. In the process, the "Professional specialty and technical" category became the "Professional and related" category. However, the coverage of the old and new occupational groups is approximately the same. See the BLS article, "Comparing Current and Former Industry and Occupation ECEC Series" (Weinstein and Loewenstein, 2004).

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Exhibit A-1 Derivation of Loaded Industry Wage Rates (2018$)

Labor Category	Data Source for Wage Information	Date	Wage (a)	Fringe Benefit (b)	Fringe as % wage (c)=(b)/(a)	Overhead as % wage[1] (d)	Fringe + overhead factor (e)=(c)+(d)+1	Loaded Wages (f)=(a)x(e)
Managerial	BLS ECEC, Private industry workers in manufacturing industries, "Management, business, and financial occupations"[2]	Sept 2018	$47.81	$22.83	47.75%	17%	1.65	$78.77
Professional/ Technical	BLS ECEC, Private industry workers in manufacturing industries, "Professional and related occupations"[2]	Sept 2018	$46.60	$24.11	51.74%	17%	1.69	$78.63
Clerical	BLS ECEC, Private industry workers in manufacturing industries, "Office and administrative support occupations"[2]	Sept 2018	$21.05	$10.28	48.84%	17%	1.66	$34.91

Notes:
[1] An overhead rate of 17% was used based on assumptions in Rice (2002) and U.S. EPA (2002).
Sources:
[2] *Employer Costs for Employee Compensation Supplementary Tables National Compensation Survey, September 2018, US Bureau of Labor Statistics, (BLS, 2018).*

A.2 Derivation of Agency Unit Wage Rates

Unit wage rates for EPA staff are calculated based on annual Federal salaries for the Washington-Baltimore area published by the Office of Personnel Management (OPM) and effective January 2018 (OPM, 2018). The average salary for one full-time equivalent (FTE) technical/professional staff member is estimated as the salary for a GS-13 Step 5 employee, which is $52.66 hourly without fringe benefits and overhead costs. In order to derive the fully loaded salary, EPA multiplied the annual salary by an assumed loading factor of 1.6 to reflect Federal fringe benefits and overhead, which results in a fully loaded wage rate of $84.26 (see Exhibit A-2).

The Agency loading factor of 1.6 is from an EPA guide entitled *Instructions for Preparing Information Collection Requests (ICRs)* (EPA, 1992, page 30, footnote 9). The 60 percent assumption was labeled "the benefits multiplication factor" in the EPA guide but has been used in many EPA OPPT ICRs to reflect both fringe benefits and overhead for Federal staff. For example, it was used in a document supporting EPA ICR No. 1139.06 (EPA, 2000), with the following explanation:

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The annual costs per FTE are derived by multiplying the annual pay rate by 1.6 (the benefits multiplication factor). The multiplication factor used is recommended in EPA's Office of Policy, Planning, and Evaluation's *Instructions for Preparing Information Collection Requests (ICRs)* (June 1, 1992). An EPA internal phone call between Carol Rawie (OPPT/EETD/RIB) and Carl Koch (OPPE/RMD/IMB) on May 3, 1994, indicated that the 1.6 factor included not only benefits but also overhead.

Fully loaded costs for Agency labor are shown in Exhibit A-2.

Exhibit A-2: Derivation of Loaded Agency Wage Rates (2018$)

Labor Category	Data Source for Wage Information	Date	Wage ($ per hour) (a)	Fringe Benefit (b)	Fringes as % wage (c)=(b)/(a)	Overhead as % wage (d)	Fringe + overhead factor (e)=(c)+(d)+1	Loaded Wages ($ per hour) (f)=(a)x(e)
EPA technical staff FTE	OPM Washington-Baltimore-Northern Virginia, DC-MD-PA-VA-WV, area, GS-13 Step 5 pay rates	Jan 2018	$52.66	Included in 60% overhead	N/A	60% [a]	1.6	$84.26

Notes:
[a] The 60% fringe-and-overhead rate is from an EPA guide, *Instructions for Preparing Information Collection Requests (ICRs)* (EPA, 1992, page 30, footnote 9).
Source: OPM, 2018

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APPENDIX B – References

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