

Toxics Across America

Who Makes the Billions of Pounds of Toxic Chemicals
Flowing Through the U.S. Economy Each Year

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The complete report is available online at edf.org/health/ToxicsAcrossAmerica.

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(in separate document available at: edf.org/health/ToxicsAcrossAmericaAppendices.pdf)

Appendix 1: Status of MTS List Chemicals in the U.S. in 2011: Production and Use

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Appendix 5: MTS List Chemicals with Consumer or Commercial Uses Reported in 2011

Executive summary

Over the past decade, efforts to identify and manage the risks of hazardous chemicals have been ramping up in the United States at the state and federal level, and internationally, most notably in Canada and the European Union (EU). A primary starting point for these efforts is the identification of chemicals that warrant scrutiny or action due to their potential to cause harm to human health or the environment. Several states in the U.S., the U.S. Environmental Protection Agency (EPA), and the EU Chemicals Agency, have developed authoritative lists of chemicals of concern, based on credible scientific evidence of hazard, alongside exposure data where available. The use of these lists by the authoritative bodies ranges from simply the identification of such chemicals, to required disclosure, labelling or warnings for products that contain them, to restrictions or prohibitions on the use of such chemicals in the market.

These lists of hazardous chemicals identified by U.S. and EU authoritative bodies served as the basis for a list of priority chemicals developed for the “Mind the Store” campaign (hereafter the “MTS List chemicals”) launched by the Safer Chemicals Healthy Families coalition. That campaign asks the nation’s top retailers to identify and take action to address products they sell that contain any of the listed chemicals.

This report aims to better elucidate the extent to which such hazardous chemicals are in commerce in the U.S., critical to any effort to identify and manage their risks. The report identifies and analyzes available information on the production, import and use of MTS List chemicals drawn from the 2012 reporting cycle of EPA’s Chemical Data Reporting (CDR) program. More specifically, the report identifies those companies that reported making or importing MTS List chemicals, in what amounts, at what locations and for what consumer or commercial uses.

The analysis presented in this report supports the following findings:

- Most MTS List chemicals are in active commerce in the U.S.: At least **92%** of the MTS List chemicals appear on the U.S. TSCA Inventory. At least **60%** of the MTS List chemicals were reported as produced or imported in quantities exceeding **25,000 pounds** in 2011 (the most recent year for which EPA has collected data).
- At least **81 MTS List chemicals** are produced or imported annually in amounts of **1 million or more pounds**. At least **14** exceed **1 billion pounds** annually, including carcinogens such as formaldehyde and benzene and the endocrine disruptor bisphenol A (BPA).
- At least **329 companies** are producing or importing MTS List chemicals in the U.S.
- Some companies are associated with multiple MTS List chemicals—as many as **24 per company**. **BASF** and **Dow Chemical** reported producing or importing 24 and 23 MTS List chemicals, respectively.
- Many MTS List chemicals are produced or imported by multiple companies at numerous sites—as many as **47 companies at 73 separate sites per chemical**.

- MTS List chemicals are produced or imported in **45 states** as well as the Virgin Islands, at as many as **91 sites per state**. Companies with sites in **Texas, Pennsylvania, New Jersey** and **New York** reported producing or importing at least **40 MTS List chemicals**.
- The number of MTS List chemicals produced or imported per state **ranges from 1 to 46**. The number of states producing or importing a given MTS List chemical **ranges from 1 to 28**. The **carcinogenic heavy metals chromium, nickel and lead** are each produced or imported at sites located in **25 or more states**.
- At least **91 MTS List chemicals** are found in consumer and commercial products, and these chemicals are reported as used in as many as **12 different products**.
- For **78 MTS List chemicals**, manufacturers and importers do not know certain aspects of the downstream consumer and commercial uses of these chemicals.
- At least **8 MTS List chemicals** are found in children's products, including chromium, formaldehyde and the personal care product ingredient and potential endocrine disruptor, decamethylcyclopentasiloxane.

Our findings demonstrate that the production, import and use of the MTS list of hazardous chemicals in the U.S. are extensive. These chemicals are being made across the country, by many companies, often in very large amounts and for many different uses.

Additionally, our findings support the need for policies that generate information needed to improve public and market knowledge about chemical manufacture, import and use in the U.S. While EPA makes a large amount of information publicly available through the CDR program, there are many limitations to the data based on the manner by which EPA collects and disseminates the data.

Introduction

Hazardous chemicals are potential threats to human health and the environment, particularly when the nature and extent of production and use of such chemicals is not well understood and managed. This report will examine production and use information available in the U.S. for chemicals of concern identified by authoritative bodies in the U.S. and the European Union (EU), to better elucidate the potential risks they pose.

Hazardous chemicals identified by U.S. and EU authoritative bodies have been compiled into a list of priority chemicals developed for the “Mind the Store” campaign (hereafter the “MTS List chemicals”) launched by the Safer Chemicals Healthy Families Coalition. These hazardous chemicals have been linked to serious chronic diseases and disorders such as:

- cancer
- developmental toxicity
- reproductive toxicity
- endocrine disruption
- dermal sensitization
- inhalation sensitization

Many of these chemicals are also persistent in the environment and able to bioaccumulate in people and other living organisms.

This report identifies and analyzes available information on the production, import and use of MTS List chemicals reported by chemical manufacturers and importers to the U.S. EPA in 2012 under its periodic Chemical Data Reporting (CDR) system. The report identifies which of these hazardous chemicals are in commerce in the U.S., in what amounts they are being made, which companies are producing them and where they are being produced. The data are presented by chemical, by company, and by state.

In addition, this report examines the available data on consumer and commercial uses reported by the producers and importers of these hazardous chemicals and whether they were reported to be present in children’s products. However, the report also demonstrates the limited extent to which such downstream use information is known to or reasonably ascertainable by the manufacturers and importers of these chemicals. This finding highlights the need to collect use information directly from processors and end users of these chemicals.

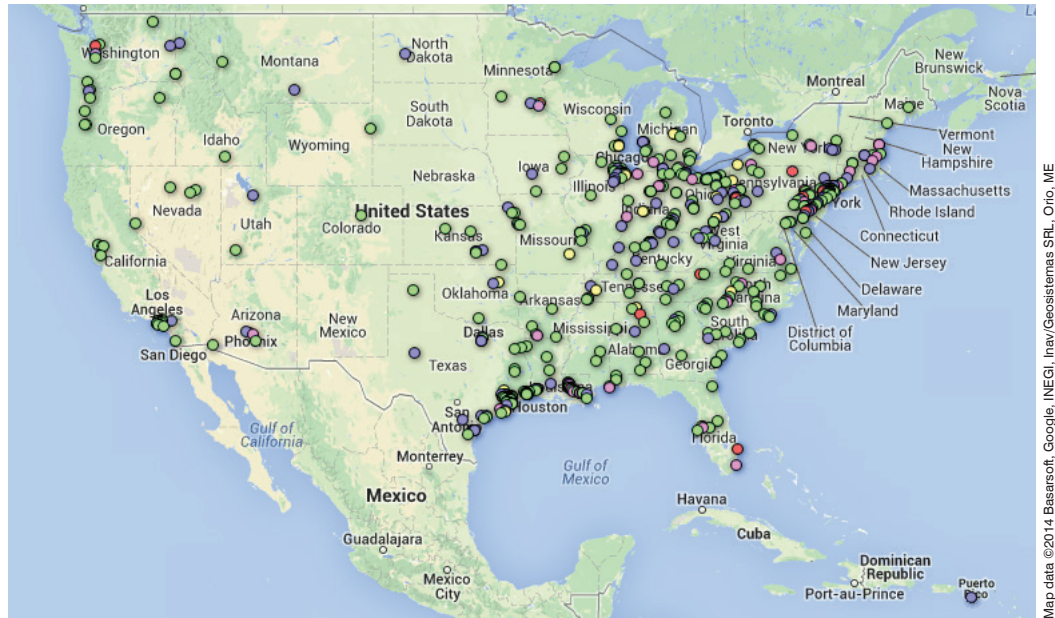
The production and use data for the MTS List chemicals provided in this report are limited to the information reported to EPA and not claimed by reporting companies as “confidential business information” (CBI). By law, EPA cannot share CBI with the public. Therefore, the information on hazardous chemicals presented in this report represents only a partial picture of the production and use of these chemicals in the U.S.

Despite the limitations to the information available on these hazardous chemicals, our aim is to make these data as accessible and useful to the public as possible. The report is accompanied by a [separate interactive, searchable map of the U.S.](#), which provides direct access to the available production and use data on specific chemicals in a geographically targeted manner. Figure 1 (see page 2) is an image of that map showing sites of production or import of the MTS List chemicals.

This report includes information reported to EPA in 2012 on:

- 130 MTS List chemicals,
- submitted by 329 companies,
- for production or import at 632 sites.

FIGURE 1
Where MTS List chemicals are made or imported in the U.S.



An image from the interactive, searchable map of the U.S., showing sites of production or import of the MTS List chemicals. One additional site in Hawaii is not shown. The dot colors reflect the number of MTS List chemicals reported at each site. To access the interactive map and search it for a specific company, chemical, or location, go to edf.org/health/ToxicsAcrossAmericaMap.

Together, we hope the report and the map provide the public and consumers with a much clearer picture of the extent of production and use of certain hazardous chemicals in U.S. commerce, with the aim of increasing public engagement in supporting public policy and private-sector efforts to reduce the use of and exposure to hazardous chemicals.

Data sources used

The list of hazardous chemicals used in this report was developed by the Safer Chemicals Healthy Families coalition. In April 2013, the coalition launched the “Mind the Store” Campaign, asking the top 10 retailers in the nation to identify and take action to address products they sell that contain any of a list of toxic chemicals the Campaign dubbed the “Hazardous Hundred+ List of Chemicals of High Concern,” which we refer to in this report as “MTS List chemicals.”

The MTS list consists of chemicals that have been linked to cancer, developmental toxicity, reproductive toxicity, endocrine disruption, or dermal or inhalation sensitization, some of which are also persistent and bioaccumulative. The list is comprised of two sublists. The first includes chemicals of high concern identified by at least two governmental authorities in the U.S. and the EU.¹ The second, supplemental list is a non-exhaustive set of chemicals identified on the basis that they pose concerns similar to the chemicals on the first list, but which do not appear on at least two of the authoritative lists.²

We chose to use the MTS List for this report because it was developed using a consistent and systematic approach to narrow the large number of chemicals on some authoritative lists to focus on those appearing on more than one list, as well as closely related chemicals expected to pose similar concerns. Environmental Defense Fund (EDF) was centrally involved in the development of the chemicals list for the “Mind the Store” Campaign.

The production, processing and use data used in this report were collected and disseminated by the U.S. EPA under its Chemical Data Reporting (CDR) rule, established under the authority of the Toxic Substances Control Act (TSCA).³ Under the CDR, the EPA periodically collects manufacturing, processing and use data from companies for qualifying chemicals found on the TSCA inventory that they produce domestically or import.⁴ The data used in this report were collected during the 2012 submission period, and cover production or import in 2011.⁵ Our analysis examines the subset of data reported under the CDR for chemicals on the MTS List, which includes:

- information on 130 MTS List chemicals,
- submitted by 329 companies,
- for production or import at 632 sites.

At the end of this report, the “How we did our analysis” section describes in more detail how we used the MTS List and data collected under the CDR in conducting our analysis.

Questions considered

The EPA’s CDR data identify many, though by no means all, of the chemicals in commerce in the U.S. This report targets a further subset of those chemicals—those MTS List chemicals reported under the CDR—as a means to elucidate the extent of production and use of hazardous chemicals in U.S. commerce. We explore the following questions:

- **Which of the MTS List chemicals are in commerce in the U.S.?**
- **In what amounts are these chemicals produced or imported in the U.S.?**
- **Which companies produce or import MTS List chemicals in the U.S.?**
- **In which states are MTS List chemicals produced or imported?**
- **What are the consumer and commercial uses of the MTS chemicals known to or reasonably ascertainable by their producers and importers?**
- **Which MTS List chemicals are reported to be used in children’s products?**

Limitations to our analysis

Our analysis is based on the latest publicly available information reported to and provided by EPA under the CDR (see “How we did our analysis” for details). Unfortunately, our reliance on this information constrains several aspects of our analysis. The main limitations are the following:

- The most recent public data on U.S. chemical production and import were collected by EPA in 2012 for activity during the calendar year 2011. Given the dynamic nature of the chemical market, **some of the data we report here on chemicals, their production/import volumes and their associated companies may have changed.**
- Any chemical produced or imported in the U.S. in an amount below 25,000 pounds in 2011 at a given site was not required to be reported at all. Other exemptions from CDR reporting (e.g., for small businesses, for certain polymers) also mean that certain chemicals that are in active commerce were not reported. Hence, EPA’s data and our analysis do not include information on any MTS chemical that was produced or imported at lower volumes or was exempt from reporting.
- Manufacturers and importers were only required to report processing- and use-related information for chemicals produced or imported at 100,000 pounds or more per site in 2011; therefore, these types of data are unavailable for many of the reported MTS List chemicals.

- For processing- and use-related information, the 2012 CDR only requires that companies report such information to the extent it is “known to or reasonably ascertainable by” them. This limits the reporting obligation to “all information in a person’s possession or control, plus all information that a reasonable person similarly situated might be expected to possess, control, or know.”⁶ Submitters are not required to take steps such as conducting customer surveys to fill in data gaps. Because chemical makers frequently have only limited knowledge of the ways their chemicals are used or processed by their customers, the CDR provides only a partial picture of the processing and use of reported chemicals.
- Under TSCA, U.S. companies have wide latitude to claim information they report to EPA as confidential business information (CBI). EPA rarely challenges such claims and must not publicly disclose information claimed as CBI. In recent years, EPA has taken steps to increase the amount of information released to the public.⁷ One such step was to require upfront substantiation on the 2012 CDR reporting for all CBI claims pertaining to processing- and use-related information, and to chemical site and chemical identity.⁸ This step has substantially reduced the number of such claims made relative to earlier reporting cycles. However, the specific identities of thousands of chemicals are not included in the public version of the TSCA Inventory because their producers have claimed those chemical identities to be CBI, resulting in the masking of 451 (6%) chemical identities in the CDR data.⁹ Similarly, companies can also hide their own identities by claiming their production or import of a chemical to be CBI. **Hence, the chemicals and companies we list in this report represent only the subset that are not claimed CBI.** Our report includes data on the extent to which specific types of CDR information were claimed CBI for MTS List chemicals.

It is important to bear these limitations in mind when reading this report.

Analysis

1. Which MTS List chemicals are in commerce in the U.S.?

FINDING Most MTS List chemicals are in active commerce in the U.S.:

- At least 92% of the MTS List chemicals appear on the U.S. TSCA Inventory.
- At least 60% of the MTS List chemicals were reported as produced or imported in quantities exceeding 25,000 pounds in 2011 (the most recent year for which EPA has collected data).

DETAILS Our analysis utilized 216 distinct Chemical Abstract Service Registry numbers (CAS numbers) to represent the 120 MTS List chemicals and chemical categories (see “How we did our analysis” for details). Of these 216 CAS numbers, 199 (92%) appear on the latest (January 2014) public version of the U.S. TSCA Inventory. A list of these CAS numbers is provided in Appendix 1.¹⁰ The TSCA Inventory is a cumulative list of all chemicals that have been in U.S. commerce at some time since the Inventory was developed in 1979.

This figure is likely an underestimate of the number of MTS List chemicals that are or have been in commerce in the U.S. because:

- Certain types and uses of chemicals are exempted from TSCA and hence those chemicals would not have been reported at the time the Inventory was established.
- The identities of many chemicals on the TSCA Inventory are claimed confidential and hence do not appear on the public version.¹¹

On the other hand, a number of the MTS List chemicals may no longer or not currently be in commerce in the U.S. Because it is a cumulative listing over time, the TSCA Inventory contains an unknown but likely significant number of chemicals no longer in active production or use.

Unfortunately, EPA identifies chemicals active in commerce only infrequently and in a partial manner. Companies are required to report, once every four years, information on each non-exempt chemical substance on the TSCA Inventory they produce or import in annual amounts of 25,000 pounds or more per site. In 2012, full reporting of manufacturing data was required only for 2011, while reporting of production volume data was also required for 2010. Starting in 2016, the CDR will include a greater amount of production volume information. Companies triggering the reporting threshold of 25,000 pounds or more per site for any year since the last principal reporting year will be required to report production volume for *all* years since the last principal reporting year.¹²

Based on the most recent publicly available CDR data, collected in 2012, 130 (60%) of the 216 MTS List CAS numbers were reported as produced or imported in 2011 above the CDR threshold of 25,000 pounds per site. See Appendix 1.

The 60% figure is likely an underestimate of the number of MTS List chemicals in active commerce in the U.S. because:

- It is very likely that some of the MTS List chemicals are produced or imported in amounts below the 25,000 pound reporting threshold. In general, the number of chemicals produced or imported in smaller volumes is greater than the number produced in large volumes.
- Some categories of chemicals and companies are exempted from CDR reporting.¹³
- The identities of chemicals claimed confidential do not appear on the public version of the CDR database.¹⁴

Changes in production volume since 2011 may also influence the accuracy of our count. Some chemicals below the reporting threshold in 2011 may now be above it, and vice versa. Extensive fluctuations have been documented in which chemicals are reported from one reporting cycle to the next.¹⁵

2. In what amounts are MTS List chemicals produced or imported in the U.S.?

FINDING Many MTS List chemicals are produced or imported in substantial quantities in the U.S. At least 81 MTS List chemicals exceed one million pounds annually. At least 14 exceed one billion pounds annually, including carcinogens such as formaldehyde and benzene and the endocrine disruptor bisphenol A (BPA).

DETAILS Under the CDR, EPA requires companies to report the quantity of each chemical they produced or imported whenever those amounts exceed the reporting threshold. In general, EPA provides the individual non-CBI production volumes by site as well as an aggregate production volume for that chemical, summed up across all reporting producers and importers.¹⁶

Of the 130 MTS List CAS numbers reported in the CDR, 81 (62%) are produced or imported in excess of one million pounds annually, aggregated across all reporters and sites. And 14 of these 81 high production volume chemicals are produced or imported in amounts above a staggering *one billion* pounds annually.

There are limitations to the available production volume information, by site and also within the aggregated data. Reported volumes may be claimed as confidential business information (CBI). For many CDR chemicals there are multiple reporting sites and companies; in disseminating aggregate production volume by chemical, EPA generally sums up the reported volumes across all producers and importers. If most or all of the individual production volumes for a given chemical are claimed CBI, however, the aggregate production data are assigned to and reported as a range in order to protect CBI. Additionally, EPA has in some cases masked certain individual production volumes in order to be able to provide aggregate volume data for a given chemical while still protecting CBI. In a few cases, EPA withheld aggregate production volume for a specific substance to protect individual production volume data claimed as CBI.

See Appendix 1 for aggregate production volumes by chemical and Appendix 2 for individual companies' production volumes.

For the 199 MTS List CAS numbers on the TSCA Inventory, Appendix 1 displays either a specific aggregated production volume or the aggregate volume range reported by EPA. These can in turn be assigned to EPA's even broader volume classifications of high-, medium- and low-production volume (HPV, MPV and LPV, respectively). Two other broad categories are required to capture all of the CAS numbers, due to CBI claims made for some production volume data:

- First, a category we have named "≥Medium" is used to cover chemicals for which aggregate data are withheld, but certain individual production volume data are available and sufficient to determine that the aggregate volume is at least 25,000 lbs/year, which is the lower bound

used to define MPV chemicals. Non-CBI data from individual companies are insufficient in these cases, however, to determine whether or not these chemicals are produced at or above one million lbs/year, which defines HPV chemicals; therefore we have categorized them as “≥Medium.”

- Second, a “CBI” category covers instances where all of the submissions for a given chemical claimed production volume CBI and as a result EPA withheld the aggregate production volume.

The breakdown of MTS CAS numbers on the TSCA inventory across aggregate production volume categories and claimed CBI is presented in Table 1.

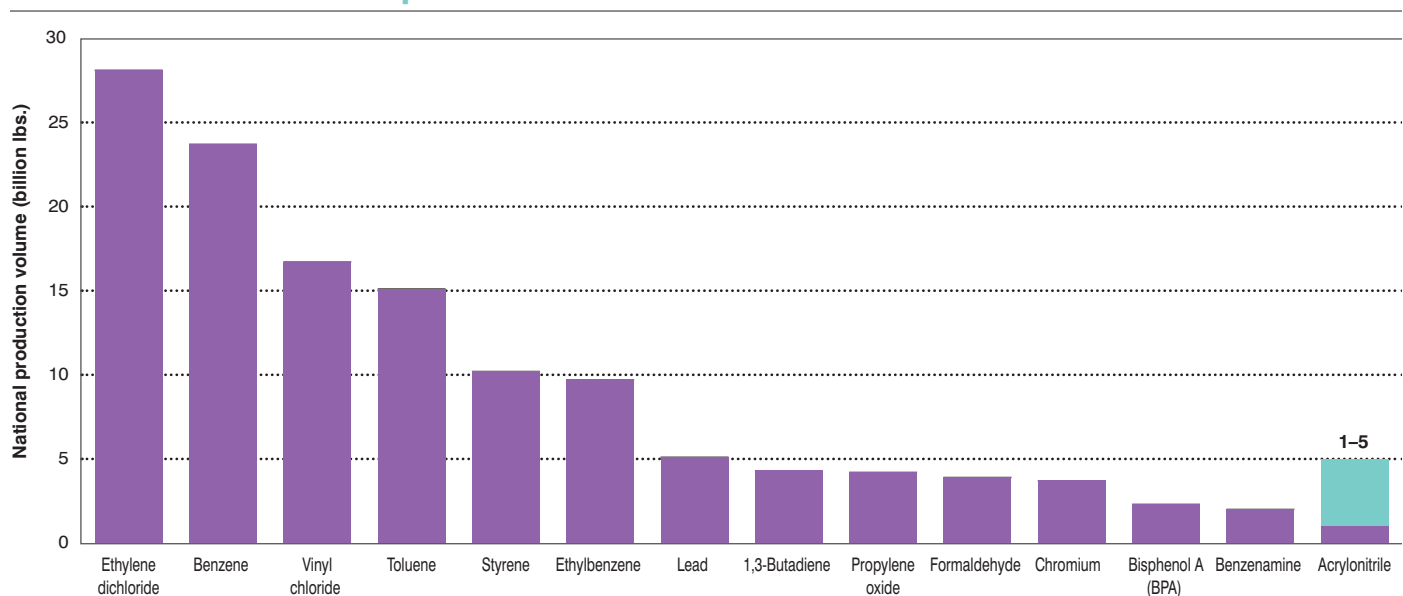
TABLE 1
MTS List chemicals categorized by aggregate production volume

Production volume category	Aggregate volume (lbs./yr)	# of CAS numbers	% of total
High	> 1million	81 ¹⁷	41%
≥Medium	≥25,000	6	3%
Medium	25,000-1 million	18	9%
Low	<25,000	69	35%
CBI	Withheld	25	13%

Note that, because chemicals produced at levels below 25,000 pounds per year per site are not required to be reported under the CDR, we cannot distinguish between MTS List chemicals on the inventory that are in commerce but at levels <25,000 pounds per year per site and those that are not in active commerce in the U.S.

As noted above and in Figure 2, 14 of the MTS List chemicals are produced and imported in the U.S. in huge quantities, exceeding one *billion* pounds annually.

FIGURE 2
MTS List chemicals reported at >1 billion lbs in 2011



3. Which companies produce or import MTS List chemicals in the U.S.?

FINDING At least 329 companies are producing or importing MTS List chemicals in the U.S. Some companies are associated with multiple MTS List chemicals—as many as 24 per company. BASF and Dow Chemical reported producing or importing 24 and 23 MTS List chemicals, respectively. Many MTS List chemicals are produced or imported by multiple companies at numerous sites—as many as 47 companies at 73 separate sites per chemical.

DETAILS A total of 329 companies reported producing or importing one or more MTS List chemicals in the U.S. in 2011. Of these, 168 companies reported producing such chemicals, while 240 reported importing them. Twenty-nine companies claimed as CBI whether they manufactured or imported one or more MTS List chemicals.¹⁸

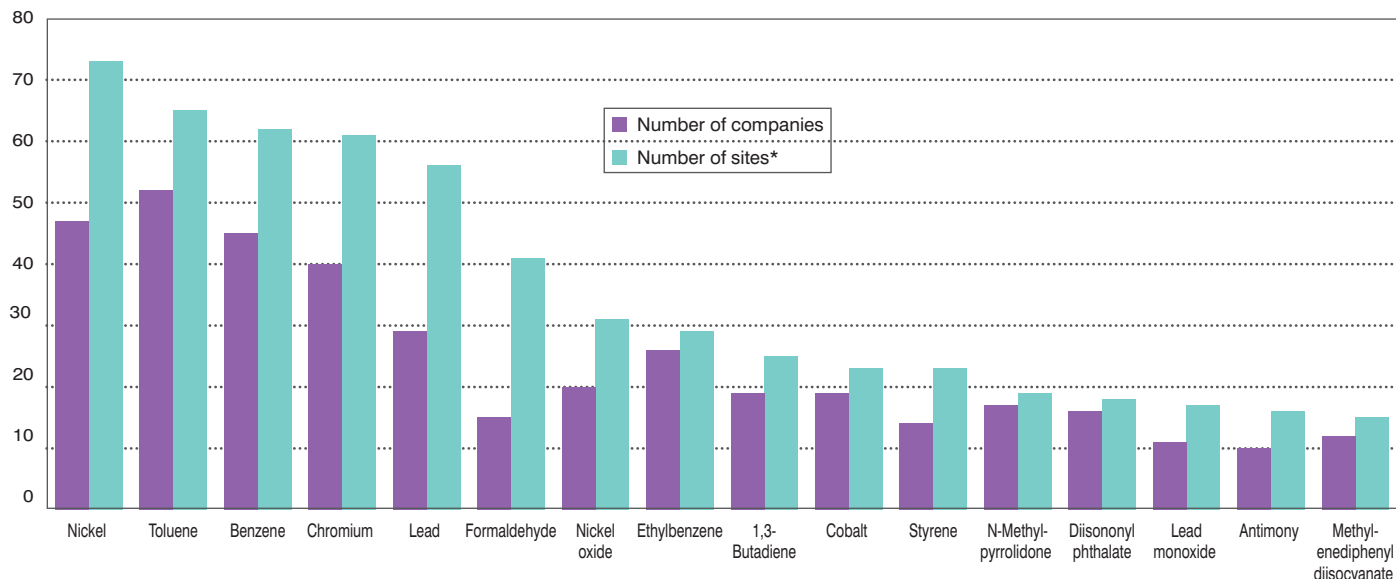
Across the 329 companies, the number of MTS List CAS numbers publicly reported per company varied from 1 to 24. The 14 companies reporting the most (eight or more) MTS List CAS numbers are presented in Table 2. In addition, Table 2 shows the number of MTS List CAS numbers that these companies reported manufacturing (MFR) or importing (IMP) or claimed as CBI whether they manufactured or imported them.

TABLE 2
Companies reporting the most MTS List chemicals

	Total number of MTS List chemicals reported*	# of MTS List chemicals		
		# MFR	# IMP	# CBI
BASF	24	15	18	0
Dow Chemical	23	18	13	0
Lanxess	12	6	6	2
Du Pont	12	3	9	0
Solvchem	10	2	9	0
ICC Industries	10	9	1	0
OM Group	9	7	4	0
Umicore USA	8	1	7	0
Shin Etsu	8	6	5	0
Lyondell Chemical Co	8	6	2	0
Koch Industries	8	6	3	0
Eastman Chemical	8	1	0	7
Albemarle	8	6	0	2
3M	8	5	5	0

*Numbers do not necessarily add to total because a given chemical may be produced and imported and/or claimed CBI by the same company.

FIGURE 3
MTS List chemicals reported at the most sites



*The counts of sites per chemical include sites that have been claimed CBI.

Appendix 2 provides a full list of all companies reporting producing or importing MTS List CAS numbers in 2011.¹⁹

One or more companies publicly reported producing or importing all but two of the 130 CAS numbers on the MTS List that were reported under the CDR data.²⁰ For those two chemicals, the company or companies producing or importing them evidently opted to hide their identities by claiming their association with the chemicals confidential.

For other MTS List chemicals, companies in addition to those we have identified may produce or import them, but cannot be included because they chose to mask their identities. Finally, it is likely that companies (either those shown in Appendix 2 or other companies not listed) produced or imported MTS List chemicals, but cannot be identified because their production or import fell below the reporting threshold or they qualified for a reporting exemption.

In summary, this analysis demonstrates that a large number of companies are involved in production or import of MTS List chemicals in the U.S. Some companies are associated with many MTS List chemicals.

Similarly, many MTS List chemicals are produced or imported in the U.S. by multiple companies and at numerous different sites—as many as 47 companies at 73 separate sites per chemical. Figure 3 shows the 16 MTS List chemicals for which production or import was reported at the most sites (15 or more).

Once again, these numbers should be viewed as minimums; they do not reflect companies that hid their identities by claiming their association with these chemicals to be confidential, or whose activities were not required to be reported. The locations of 108 of the 632 (17%) sites across the U.S. reporting manufacture or import of a MTS List chemical were claimed as CBI.

Appendix 1 shows the number of companies manufacturing and importing each MTS List CAS number in the U.S., as well as the total number of sites involved. Additionally, Appendix 1 identifies the number of records for which site identity is claimed as CBI, by chemical.²¹

4. In which states are MTS List chemicals produced or imported?

FINDING MTS List chemicals are produced or imported in 45 states as well as the U.S. Virgin Islands, at as many as 91 sites per state. Companies with sites in Texas, Pennsylvania, New Jersey and New York reported producing or importing at least 40 MTS List chemicals.

The number of MTS List chemicals produced or imported per state ranges from 1 to 46. The number of states producing or importing a given MTS List chemical ranges from 1 to 28. The carcinogenic heavy metals chromium, nickel and lead are each produced or imported at sites located in 25 or more states.

DETAILS MTS List chemicals are produced or imported in at least 45 (90%) of U.S. states, as well as the Virgin Islands, typically at multiple sites within a state (as many as 91 sites per state). Multiple MTS list chemicals are produced or imported in certain states (as many as 46 different chemicals per state). Figure 4 presents the 10 states with the most MTS List chemicals, along with the number of chemicals and the number of sites of production or import for such chemicals in each of these states.

Appendix 3 shows these data for all 45 states and the Virgin Islands (VI).²²

Some MTS List chemicals are produced or imported in many different states, as many as 28 states per chemical. Table 3 (page 11) shows the 10 MTS List chemicals produced or imported in the most states. For these chemicals, Table 3 also shows the number of states in which companies reported they manufactured (MFR), imported (IMP) or claimed as CBI whether they manufactured or imported the chemical.

As before, the numbers above should be viewed as minimums; they do not reflect companies or sites that hid their identities by claiming their association with these chemicals to be confidential, or whose activities were not required to be reported.

Appendix 4 shows all of the MTS List chemicals produced or imported in each state, along with their associated companies.²³

FIGURE 4
States with the most reported MTS List chemicals

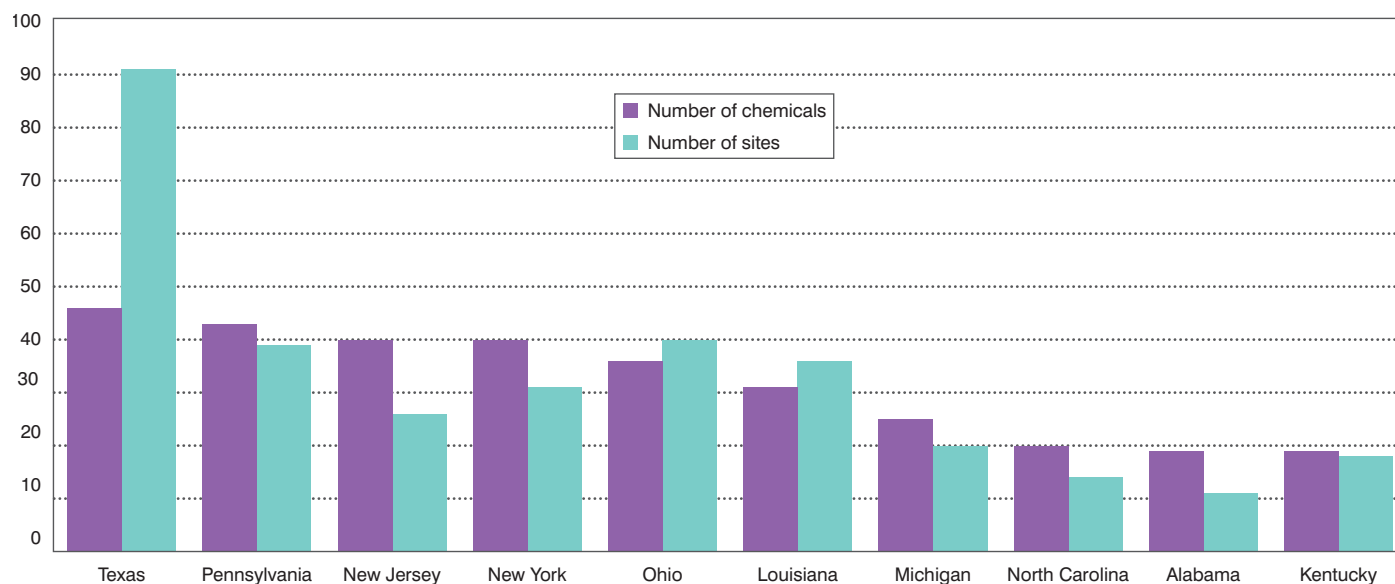


TABLE 3
MTS List chemicals reported in the most states

	Total number of states*	# of states		
		# MFR	# IMP	# CBI
Chromium	28	12	24	0
Nickel	26	14	21	2
Lead	25	22	12	1
Toluene	23	12	13	5
Formaldehyde	19	18	2	2
Benzene	18	13	8	3
Cobalt	15	4	12	3
Ethylbenzene	15	4	13	0
Nickel oxide	13	4	10	1
N-Methylpyrrolidone	13	13	7	2

*Numbers do not necessarily add to total because a given chemical may be produced and imported and/or claimed CBI in the same state or site.

5. What are the consumer and commercial uses known to or reasonably ascertainable by producers and importers of the MTS List chemicals?

FINDING Most (at least 91) MTS List chemicals are reported to be used in consumer and commercial products. Many MTS List chemicals are associated with a variety of consumer and commercial uses, used in as many as 12 different products.

Reported use data are limited, however, to information “known to or reasonably ascertainable by” the chemical manufacturers and importers. For 78 MTS List chemicals, manufacturers and importers do not know certain aspects of the downstream consumer and commercial uses of these chemicals.

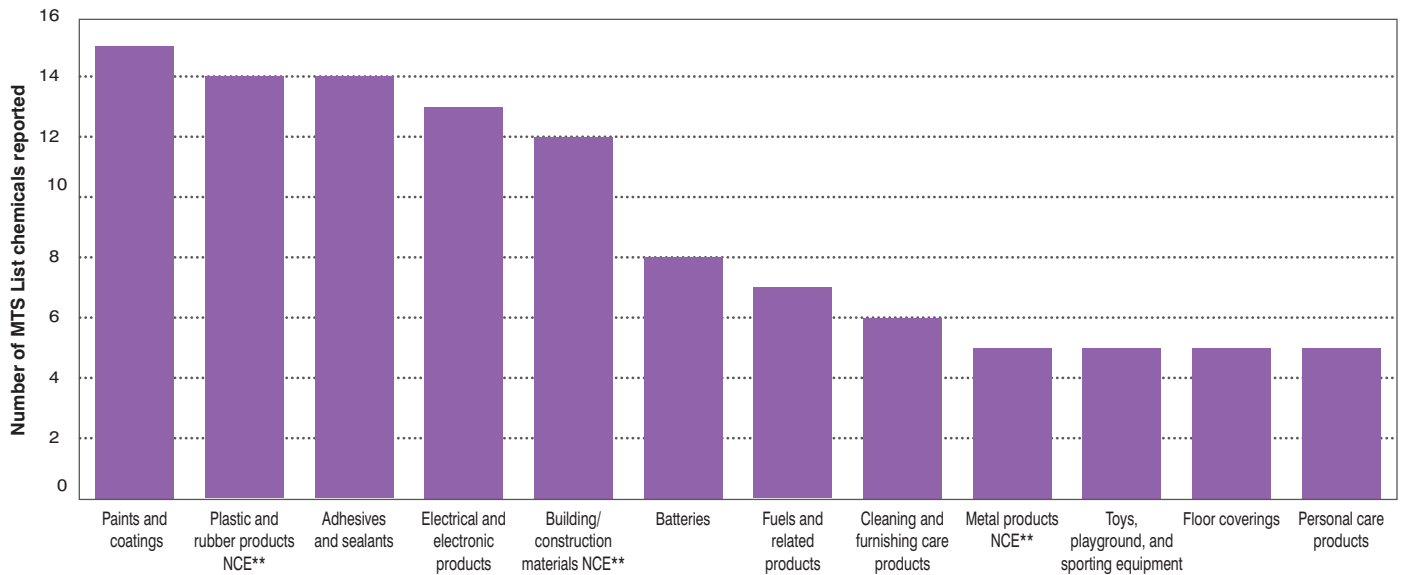
DETAILS In 2012, chemical manufacturers and importers were required to report processing and use information for chemicals they manufacture or import in amounts exceeding the reporting threshold of 100,000 pounds per site in 2011. However, these data elements may be claimed as either confidential business information (CBI) or “not known or reasonably ascertainable” (NKRA) by the manufacturer or importer.²⁴

This report focuses on consumer and commercial uses reported by companies. For the purposes of the CDR, “consumer use” refers to “the use of a chemical or a mixture containing a chemical (including as part of a manufactured item, or article, such as furniture or clothing) when sold to or made available to consumers for their use.”²⁵ “Commercial use” refers to “the use of a chemical or a mixture containing a chemical (including as part of an article) in a commercial enterprise, such as dry cleaning.”²⁶

Of the 130 MTS List chemicals reported on the CDR, a total of 91 (70%) are reported to have consumer and/or commercial uses. This figure is likely an underestimate of the number of

FIGURE 5

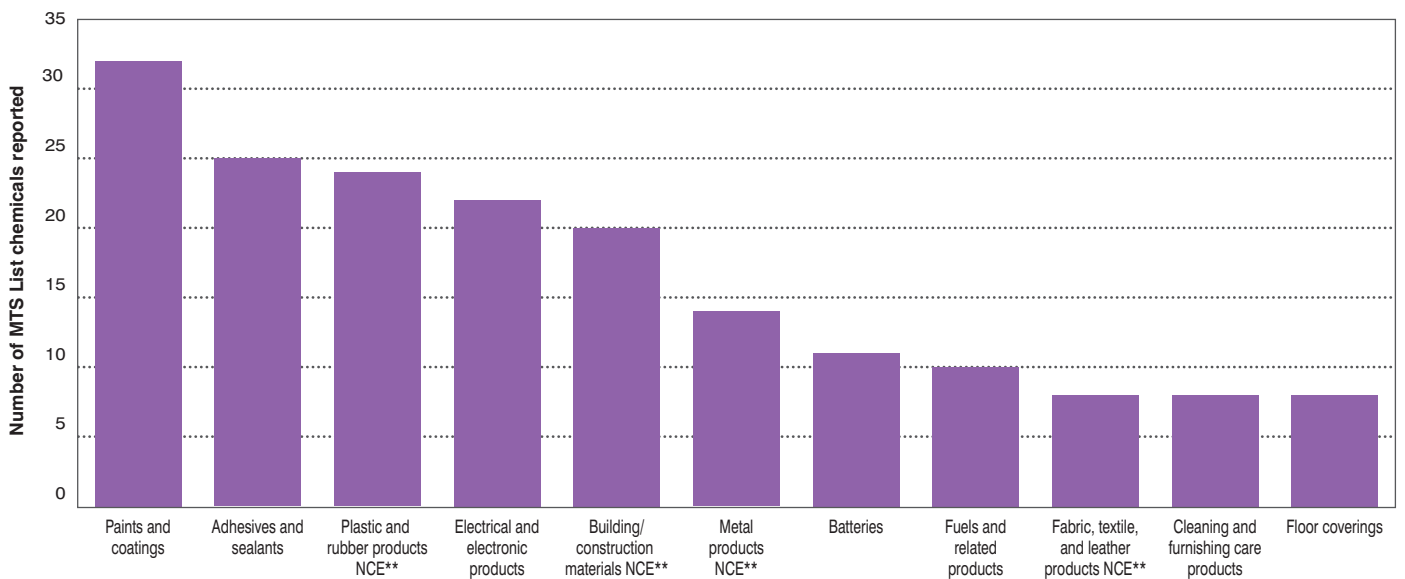
Consumer uses reported for the most MTS List chemicals*



*Does not include any uses reported as CBI, NKRA or "other (specify)"
 **NCE = "not covered elsewhere"

FIGURE 6

Commercial uses reported for the most MTS List chemicals*



*Does not include any uses reported as CBI, NKRA or "other (specify)"
 **NCE = "not covered elsewhere"

MTS List chemicals that are found in consumer and commercial products, because the reporting threshold for processing and use information in the 2012 CDR reporting cycle is much higher than the reporting threshold for production volume. As noted, companies were only required to report processing and use information for chemicals manufactured or imported above 100,000 pounds per site in 2011.²⁷ In the next CDR reporting cycle in 2016, the reporting threshold for processing and use information will be extended to all chemicals reported under the CDR.²⁸

Of the 91 CAS numbers with reported consumer or commercial uses, 83 have reported commercial uses and 54 have reported consumer uses.²⁹ The more frequent reporting of commercial uses for the MTS List chemicals follows the general usage trend for all chemicals reported to the CDR.³⁰

“Paints and coatings” is the consumer and commercial use reported for the largest number of MTS List chemicals. The consumer and commercial uses reported for the most MTS List chemicals are presented in Figures 5 and 6 (page 12).

A total of 30 different uses were reported for the 91 MTS List chemicals with reported uses.³¹ The number of uses reported for a given MTS List chemical ranges from 1–12.³² Table 4 shows the chemicals with the greatest variety of uses, along with the most frequently reported uses for those chemicals.

Interestingly, three of the chemicals with the greatest variety of reported uses are also among the chemicals with the highest production volume: formaldehyde, ethylbenzene and benzene. These chemicals are being produced in aggregate volumes exceeding one billion pounds per year, and are also reported as used in a wide variety of products, suggesting significant potential for exposure. Five of the substances with the greatest variety of uses are phthalates, indicating their pervasive use in products.

Appendix 5 provides a list of the reported uses for all MTS chemicals having such information along with the companies that reported such information.

TABLE 4

MTS List chemicals with the greatest variety of reported uses

Chemical name	CAS #	# of uses reported*	Most commonly reported uses
Di-(C9-rich branched C8-C10-alkyl) phthalate (Part of DINP)	68515-48-0	12	Plastic and rubber products not covered elsewhere
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	11	Plastic and rubber products not covered elsewhere
Formaldehyde	50-00-0	10	Building/construction materials—wood and engineered wood products; adhesives and sealants
Diethyl phthalate (DEP)	84-66-2	10	Adhesives and sealants; plastic and rubber products not covered elsewhere
Ethylbenzene	100-41-4	10	Paints and coatings
Diisononyl phthalate (DINP)	28553-12-0	10	Adhesives and sealants
Lead monoxide (lead oxide)	1317-36-8	9	Batteries
Di-(C10-rich branched C9-C11-alkyl) phthalate (Part of DIDP)	68515-49-1	8	Adhesives and sealants; plastic and rubber products not covered elsewhere
Benzene	71-43-2	7	Fuels and related products

*Does not include any uses reported as CBI, NKRA or “other (specify)”

6. Which MTS List chemicals are reported to be used in children’s products?

FINDING At least eight MTS List chemicals are reported as used in products intended for use by children, including chromium, formaldehyde and the personal care product ingredient and potential endocrine disruptor, decamethylcyclopentasiloxane (D5). Reported use data are limited, however, to information “known to or reasonably ascertainable by” the chemical manufacturers and importers.

DETAILS Chemical manufacturers and importers were required to report if their chemicals are used in products intended for use by children, defined as that “the chemical or mixture is used in or on a product that is specifically intended for use by children age 14 or younger.”³³ Eight MTS List chemicals were reported to be present in a product intended for use by children, some of these for more than one use. Three of the chemicals reported as used in children’s products are also among the chemicals with the highest national production volume: ethylbenzene, chromium, and formaldehyde.

The chemicals reported as used in children’s products and their specified uses are presented in Table 5.

Unfortunately, the reporting of MTS List chemicals used in products intended for use by children is limited to those uses known to or reasonably ascertainable by producers or importers. Of the 91 MTS List chemicals reported to have consumer and commercial uses, for 49 (54%) of them, their manufacturers or importers reported that whether they were used in products intended for children was “not known or reasonably ascertainable” at least once. That

TABLE 5
MTS List chemicals reported as used in children’s products

Chemical name	CAS #	Use	Consumer or commercial use
Ethylbenzene	100-41-4	Arts, crafts, and hobby materials	Both
		Food packaging	Both
		Furniture and furnishings not covered elsewhere	Both
		Plastic and rubber products not covered elsewhere	Both
		Toys, playground, and sporting equipment	Consumer
Nickel	7440-02-0	Batteries	Both
		Electrical and electronic products	Both
		Other (specify)	Both
Chromium	7440-47-3	Floor coverings	Commercial
		Other (specify)	Both
Formaldehyde	50-00-0	Floor coverings	Commercial
p-Hydroxybenzoic acid (pHBA)	99-96-7	Personal care products	Both
Decamethylcyclopentasiloxane (D5)	541-02-6	Personal care products	Both
Butylated hydroxyanisole (BHA)	25013-16-5	Non-TSCA use ³⁴	Both

is, for more than half of the MTS List chemicals, manufacturers and importers do not always know if their chemicals are ending up in products being used by children.

More broadly, some of the requested processing and use data were reported as “not known or reasonably ascertainable” by the manufacturers and importers of 78 (86%) of the 91 MTS List chemicals with any reported use information.

While the lowering of the threshold for reporting processing and use information in the next (2016) CDR cycle will provide such information for more chemicals, it will not resolve the data gaps in the available processing and use information. The amount of downstream use information “known or reasonably ascertainable by” a chemical manufacturer or importer will still be limited, regardless of the volume of production or import. This in turn limits the amount of information available to EPA on chemical uses, as well as the amount of information that EPA can make available to the public.

The only way to expand EPA’s and the public’s knowledge of the uses of chemicals is for EPA to collect such information directly from chemical users.

Conclusion

Our analysis has documented that there is substantial U.S. production and use of well over one hundred chemicals identified by government authorities in the U.S. and EU for their potential to cause harm to human health and the environment. Many of these chemicals are produced in very large quantities in the U.S., by many different companies at many sites and in the great majority of U.S. states. In addition, many of these chemicals are present in consumer and commercial products, indicating greater potential for exposure to these chemicals. Even more concerning, some of those chemicals are positively identified to be present in products intended for use by children.

Of additional concern is the extent of information that remains unknown or unreported to EPA and the public, whether due to volume thresholds or reporting exemptions or because EPA only requests information from chemical manufacturers and importers. While this report makes utilizes the information that EPA *has* been able to collect, our analysis is constrained by the same limitations that apply to the information EPA is able to collect and make available to the public.

How we did our analysis

As noted in the Introduction, the MTS List includes 120 entries, each for an individual chemical or a group of closely related substances. To conduct our analysis, we made three adjustments.

- First, the MTS List includes 117 individual chemicals with Chemical Abstract Services (CAS) registry numbers listed and three categories (for which the list indicates the CAS number as “various”). The basis for our analysis is a cross-comparison among lists, which requires CAS number identifiers. Therefore we identified all CAS numbers related to these categories³⁵ for inclusion in our analysis by searching the specific authoritative lists used to compile the MTS List.³⁶
- Second, several substances that are identified by only one CAS number on the MTS List are representative of categories of closely related substances, which in some cases have additional CAS numbers listed on the authoritative lists used to compile the MTS List. We therefore included these additional CAS numbers in our analysis.³⁷ For example, the entry for “lead and lead compounds”, represented on the MTS List by the CAS number for elemental lead, was expanded to include any specific lead compounds identified on the authoritative lists.
- Third, several entries on the MTS List represent commercial mixtures or other substances for which multiple CAS numbers may be appropriate in identifying the substances.³⁸ We searched the CDR data for all such CAS numbers in these cases, and combined all data matching any of these CAS numbers under the CAS number used to identify the mixture on the MTS List.³⁹

All of the CAS numbers included for these group entries can be found in EDF’s document “Additional information on the Hazardous 100+ list of chemicals of high concern,” available upon request.

Applying these adjustments yielded a total of 216 distinct CAS numbers for the 120 entries on the MTS List.

We then compared this list of 216 CAS numbers to the following chemical lists:

- **The TSCA Inventory.** We used the most recent public version of the Inventory, dated January 2014.⁴⁰
- **Chemicals produced or imported in the U.S.** We used the latest publicly available data from EPA on chemicals produced in or imported into the U.S. in 2011 in amounts of 25,000 pounds or more per site, and the companies that reported producing or importing them.⁴¹ These data are periodically collected by EPA under its Chemical Data Reporting (CDR) rule.⁴² The CDR data provide the following information used in our analysis:
 - the identity of reported chemicals, by name and CAS number;
 - the volume of each chemical produced or imported at each reporting site of production or import;

- the name of each company that reported production or import of each chemical, and whether they reported producing or importing the chemical, or both; and
 - the location of each facility of each company that reported producing or importing each chemical.
- **Processing and use information for a subset of the chemicals reported as produced or imported in the U.S.** In addition to the manufacturing-related information provided by the EPA's CDR rule, processing and use information was required to be reported for chemical substances produced or imported at 100,000 pounds or more per site during 2011. The types of use information utilized in our analysis are:
- consumer and commercial product categories⁴³
 - whether the chemical is used in products intended for use by children⁴⁴

In examining the required use information, we looked at additional data elements to identify the extent to which information is reported as “not known or reasonably ascertainable” by the chemical manufacturers and importers reporting under the CDR.⁴⁵

In using our analysis and results, it is important to note that the CDR data are both site- and chemical-specific. That is, each entry in the database corresponds to a unique site-chemical combination, for a given reporting company. If that company produces more than one chemical at a site, each chemical will be listed as a separate entry. This affects our calculation of the extent of confidential business information (CBI) claims in the subset of CDR data corresponding to the MTS List chemicals. However, as it is impossible for us to know whether or not several entries for a given chemical on the CDR for which the company identity is masked as CBI are for one or multiple companies, we have to count all instances where CBI is listed for company identity as separate incidences of a CBI claim. This also paints a more accurate picture of the degree of CBI claims on the CDR, as withholding a company's identity for a company that produces dozens of chemicals is withholding more information from the public than for a company that produces one chemical at a single site and claims its identity as CBI.

Notes

- ¹ The authoritative lists are:
- State of California “List of Chemicals Known to Cause Cancer or Reproductive Toxicity” (Proposition 65 List),
 - State of Maine “Designated Priority Chemicals” and “List of Chemicals of High Concern”,
 - State of Minnesota “List of Priority Chemicals”,
 - State of Washington “List of Chemicals of High Concern to Children,”
 - United States Environmental Protection Agency “Existing Chemicals Action Plans,” and
 - European Union: “Authorisation List” and “Candidate List of Substances of Very High Concern for Authorisation.”
- ² As of the date of this report, there are 104 chemicals or chemical categories on the first sublist and 16 chemicals or chemical categories on the second, for a combined total of 120 chemicals and chemical categories. For additional information on the types of chemicals included in the “Hazardous Hundred+” as additional chemicals of high concern, see <http://mindthestore.saferchemicals.org/methodology>.
- ³ For more information on the Chemical Data Reporting (CDR) rule, see EPA’s website: (<http://www.epa.gov/cdr/index.html>), EPA’s fact sheets providing basic information for the 2012 CDR (http://www.epa.gov/cdr/pubs/guidance/1st_cdr_basic_factsheet.pdf) and a snapshot of the data collected in 2012 (http://www.epa.gov/cdr/pubs/guidance/2nd_cdr_snapshot.pdf).
- ⁴ To view the complete set of public data collected under the 2012 CDR, visit the U.S. EPA’s Chemical Data Access Tool (CDAT): http://java.epa.gov/oppt_chemical_search/ and download the public version of the CDR database in Microsoft Access, linked to in the right “Highlights” sidebar.
- ⁵ Under the 2012 CDR, EPA collected data on a total of 7,674 chemicals, submitted by 1,528 reporting companies for activities occurring at 4,573 sites of manufacturing or import. See EPA’s fact sheet providing basic information on the CDR for more information: http://www.epa.gov/cdr/pubs/guidance/1st_cdr_basic_factsheet.pdf. EPA issued this fact sheet with the following disclaimer: “The CDR data described in this factsheet is a sub-set of the complete CDR data because confidential business information is not included. The figures presented herein may be an underestimate.”
- ⁶ For more information, see “24. Reporting Standard” in <http://www.epa.gov/cdr/pubs/guidance/faqs-chap23-24-25.html>.
- ⁷ See <http://www.epa.gov/oppt/existingchemicals/pubs/transparency.html> for information on EPA’s efforts to increase transparency of chemical information provided to the public.
- ⁸ See <http://www.epa.gov/cdr/pubs/guidance/faqs-chap31.html> for information on upfront substantiation of confidentiality claims under the CDR.
- ⁹ Where EPA does not disclose specific chemical identities or CAS numbers for substances on the confidential inventory, a unique accession number is provided instead. The fraction of chemical identities claimed CBI is calculated as the number of unique accession numbers out of the total number of chemicals reported to the CDR. See section 26.2 of “FAQ: 2012 Chemical Data Reporting, Completing Form U” at <http://www.epa.gov/cdr/pubs/guidance/faqs-chap26.html> for an explanation of EPA’s use of accession numbers, and see the CDR database, available under the “Access the Data” section of EPA’s CDR page, http://java.epa.gov/oppt_chemical_search/, for a list of accession numbers.
- ¹⁰ Appendices 1-5 are provided in a separate file accompanying this report at: <http://www.edf.org/health/ToxicsAcrossAmericaAppendices.pdf>.
- ¹¹ The identities of about 17,000 chemicals on the TSCA Inventory are confidential and hence are not included in the public version. U.S. Environmental Protection Agency, “EPA’s Initiatives on Safe Chemicals.” Steve Owens, Assistant Administrator, Office of Chemical Safety and Pollution Prevention, presentation dated November 17, 2011, available at: <http://www.epa.gov/region1/greenchemistry/pdfs/SteveOwens.pdf>.
- ¹² For more information on modifications the CDR made to the Inventory Update Reporting (IUR) Rule, see <http://www.epa.gov/cdr/pubs/IUR-fact-sheet7-18-11.pdf>.
- ¹³ Exempted chemical groups include polymers, naturally occurring chemical substances, certain forms of natural gas and water. However, certain polymers or forms of natural gas are not exempt if they have been subject to certain TSCA actions, such as Enforceable Consent Agreements. In addition, exemptions from reporting apply to chemicals that are: a) produced in small quantities for research and development; b) imported as part of an article; c) manufactured as an impurity, byproduct (under certain circumstances), or non-isolated intermediate; or d) manufactured by persons who qualify as small manufacturers. Several additional categories of chemicals are granted partial reporting exemptions. See <http://www.epa.gov/cdr/pubs/guidance/faqs-chap11-12.html> and <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol32/pdf/CFR-2012-title40-vol32-sec711-6.pdf>.
- ¹⁴ Where EPA does not disclose specific chemical identities or CAS numbers for substances on the private inventory, a unique accession number is provided instead. The number of chemical identities claimed CBI on the 2012 CDR is the number of unique accession numbers: 451 (6% of total chemicals on the CDR).
- ¹⁵ See U.S. EPA, “Chemical Data Reporting, Fact Sheet: Basic Information” for a comparison of submissions between 2006 IUR and 2012 CDR and the number of chemicals reported for each at http://www.epa.gov/cdr/pubs/guidance/1st_cdr_basic_factsheet.pdf. See Environmental Defense Fund’s “Across the Pond” report,

- Appendix 1 (<http://www.edf.org/health/reports/across-the-pond>), for an analysis of fluctuations in chemicals reported in the earlier 2006 and 2002 reporting cycles. Analysis of fluctuations between 2012 and 2006 reporting cycles: unpublished Environmental Defense Fund data.
- ¹⁶ Individual production volumes are available in the Microsoft Access Database of CDR data provided by EPA. To find aggregate production volumes for a chemical, use the U.S. EPA's Chemical Data Access Tool (CDAT) available at: http://java.epa.gov/oppt_chemical_search/. A search for a specific chemical in the CDR tab yields results that include the National Production Volume.
- ¹⁷ In our analysis, we combined the data for several CAS numbers under one CAS number if the substance represented a mixture (see "How we did our analysis" for details). For the following chemicals, the CAS numbers qualify for the HPV category because production volume data were aggregated for all CAS numbers represented by the mixture:
- Toluene diisocyanate:**
- Toluene diisocyanate (CAS 26471-62-5): 250,000,000–500,000,000 lb./year
 - 2,6'-TDI (CAS 91-08-7): withheld for CBI (not counted under CBI category)
 - 2,4'-TDI (CAS 584-84-9): 50,000,000–100,000,000 lb./year
- Methylene diisocyanate:**
- Methylene diisocyanate (CAS 26447-40-5): 168,430, 128 lb./year
 - 4,4'-MDI (CAS 101-68-8): 416,217,187 lb./year
 - 2,2'-MDI (CAS 5873-54-1): withheld (2 CBI claims for production volume)
- Short-chain chlorinated paraffins:**
- Paraffin waxes and hydrocarbon waxes, chloro (CAS 63449-39-8): 10,000,000 to 50,000,000 lb./year
 - Paraffins, chloro (CAS 61788-76-9): 25,918,167 lb./year
- ¹⁸ This breakdown of companies adds up to more than the total number of companies because some companies manufacture, import and/or make CBI claims regarding the same chemicals.
- ¹⁹ Appendices 1-5 are provided in a separate file accompanying this report at: <http://www.edf.org/health/ToxicsAcrossAmericaAppendices.pdf>.
- ²⁰ The two chemicals not publicly reported are: Dichromium tris(chromate) (CAS 24613-89-6) and 2-Ethylhexyl-2,3,4,5-tetrabromobenzoate (CAS 183658-27-7).
- ²¹ The counts of sites per CAS number include entries for which site identity and location are claimed CBI. In the Microsoft Access CDR Database query, each entry represents a distinct CAS number and site combination for a reporting company. Therefore, a query for a CAS number with a CBI site still indicates a unique CAS number – site combination for the reporting company and can be counted as a distinct site.
- ²² Appendices 1-5 are provided in a separate file accompanying this report at: <http://www.edf.org/health/ToxicsAcrossAmericaAppendices.pdf>.
- ²³ Appendices 1-5 are provided in a separate file accompanying this report at: <http://www.edf.org/health/ToxicsAcrossAmericaAppendices.pdf>.
- ²⁴ For more information, see section 24.1 of EPA's FAQs on the CDR, available here: <http://www.epa.gov/cdr/pubs/guidance/faqs-chap23-24-25.html>.
- ²⁵ For more information, see page 2 of EPA's "Fact sheet on Top Uses of Chemicals: A Snapshot of the Data": http://www.epa.gov/cdr/pubs/guidance/2nd_cdr_snapshot.pdf.
- ²⁶ For more information, see page 2 of EPA's "Fact sheet on Top Uses of Chemicals: A Snapshot of the Data": http://www.epa.gov/cdr/pubs/guidance/2nd_cdr_snapshot.pdf.
- ²⁷ Manufacturers and importers of a given chemical over the reporting threshold may have only reported industrial uses for the chemicals. Such companies are not included in our analysis because we only looked at companies reporting consumer or commercial uses.
- ²⁸ For additional information on the next CDR reporting cycle, see: <http://epa.gov/cdr/tools/index.html#2016>.
- ²⁹ Numbers do not necessarily add to total because the same chemical may be reported for both a commercial and consumer use.
- ³⁰ For EPA's analysis of chemical uses across all chemicals reported under the CDR, see: http://www.epa.gov/cdr/pubs/guidance/cdr_factsheets.html.
- ³¹ This figure does not include any uses reported as CBI, NKRA or "other (specify)," as we cannot identify specific uses in these cases. Although "other (specify)" is reported in the CDR data for applicable use, the specification of use category provided by companies is currently not available online. Therefore we did not consider it to be an identified use of chemical. See "How we did our analysis" for details.
- ³² This figure does not include any uses reported as CBI, NKRA or "other (specify)," as we cannot identify specific uses in these cases.
- ³³ For additional information, see section 28.19 of EPA's FAQs on the CDR, "How is "intended for use by children" defined for purposes of CDR?," available here: <http://www.epa.gov/cdr/pubs/guidance/faqs-chap28.html>.
- ³⁴ Some companies reporting use information are manufacturing or importing chemicals for both TSCA and non-TSCA uses (e.g., a use regulated by FDA). In these cases, the downstream use may be reported as a "non-TSCA use". For additional information, see section 11 of EPA's FAQs for the CDR: <http://www.epa.gov/cdr/pubs/guidance/faqs-chap11-12.html>.
- ³⁵ The chemical categories not identified on the MTS List by CAS numbers are: benzidine-based and benzidine congener-based dyes (Azo dyes), polybrominated diphenyl ethers (PBDEs); and other organotins.
- ³⁶ The authoritative lists are:
- State of California "List of Chemicals Known to Cause Cancer or Reproductive Toxicity" (Proposition 65 List),
 - State of Maine "Designated Priority Chemicals" and "List of Chemicals of High Concern",
 - State of Minnesota "List of Priority Chemicals",
 - State of Washington "List of Chemicals of High Concern to Children,"
 - United States Environmental Protection Agency "Existing Chemicals Action Plans," and
 - European Union: "Authorisation List" and "Candidate List of Substances of Very High Concern for Authorisation."
- ³⁷ The entries on the MTS List that were expanded to include additional CAS numbers include: Hexabromocyclododecane (HBCD), antimony trioxide, arsenic & arsenic compounds, beryllium & beryllium compounds, cadmium & cadmium compounds, chromium & chromium compounds, cobalt & cobalt compounds, lead & lead compounds, mercury & mercury compounds, nickel & nickel compounds, Diisodecyl phthalate (DIDP), Diisononyl phthalate (DINP), toluene diisocyanate (TDI), nonylphenol ethoxylates (NPEs), nonylphenol (NP) and methylene diisocyanate (MDI).
- ³⁸ These entries include: toluene diisocyanate (TDI), methylenediphenyl diisocyanate (MDI) and short-chain chlorinated paraffins (SCCPs).
- ³⁹ Short-chain chlorinated paraffins are identified in the CDR under a CAS number that is not the same as that used on the MTS List. The CAS number for this category on

the MTS List (85535-84-8), which originates from the EU “Candidate List”, does not appear on the U.S. TSCA Inventory or the CDR. Instead, we conducted searches for this substance using several CAS numbers identified as including SCCPs in EPA’s action plan: 63449-39-8, 71011-12-6, 68920-70-7, and 61788-76-9. Data for these CAS numbers has been consolidated under Paraffin waxes and hydrocarbon waxes, chloro (CAS # 63449-39-8). The EPA Action Plan refers to CAS numbers that in some but not all cases include short chain chlorinated paraffins. Because these CAS numbers are broader than just the short chain category, they may include records that do not actually correspond to SCCPs. See EPA’s Action Plan on SCCPs for additional information: http://www.epa.gov/oppt/existingchemicals/pubs/sccps_ap_2009_1230_final.pdf.

⁴⁰ The non-confidential portion of the U.S. TSCA Inventory is available at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>. The data we used in this report were current through January 2014.

⁴¹ The non-confidential portion of the CDR data is available for download in Microsoft Access format at http://java.epa.gov/oppt_chemical_search/ (see “Highlights”). Additionally, the CDR results can be searched using the Chemical Data Access Tool. The 2012 CDR data were originally released on February 11, 2013 and were updated on April 4, 2013. The data we used in this report were current as of January 16, 2014.

⁴² For more information on EPA’s CDR, see <http://www.epa.gov/cdr/pubs/guidance/basic.html>.

⁴³ For the listing of available product category codes, see Table 4-12 of the document <http://www.epa.gov/cdr/tools/InstructionsManual.013112.pdf>.

⁴⁴ According to the EPA, “for purposes of the CDR, “intended for use by children” means the chemical or mixture is “used in or on a product that is specifically intended for use by children age 14 or younger.” See http://www.epa.gov/cdr/pubs/guidance/2nd_cdr_snapshot.pdf.

⁴⁵ The additional data elements for processing and use information include:

- Percent production volume by use
- Maximum concentration by use
- Number of commercial workers by use



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