Solvent Utilization:

Documentation for EPA’s Nonpoint Emissions Estimation Tool

Solvent Tool Version 1.7

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Introduction

The use of solvents in a variety of industrial, commercial, and residential applications can result in significant emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). In some cases these emissions are captured in an area’s point source inventory, but in many cases there are additional nonpoint source emissions that must be estimated. Because there are specific challenges associated with estimating nonpoint source emissions from solvent usage, the U.S. EPA in conjunction with Abt Associates developed a Microsoft® Access-based Solvent Emissions Tool to assist State, Local, and Tribal (S/L/T) agencies in estimating nonpoint emissions from solvents for the 2014 National Emission Inventory.

Because some solvent emissions are already tracked in the point source inventory, it is necessary to subtract these emissions from the total estimated emissions to avoid double counting. While it is preferred to subtract point source activity data, the activity data in the tool are based on population or employment, and S/L/T agencies are unlikely to have data on employment in point source facilities. It is more likely that Agencies will have point source emissions. Therefore, the Solvent Tool allows users to import either point source emissions or point source activity, which are then used to adjust the estimated solvent emissions to avoid double counting.

The tool also exports the final calculated inventory to a separate database file in EIS format so that S/L/T agencies can easily upload the results to the gateway environment.

Source Category Description

Examples of source categories for solvent usage include surface coating operations (where a paint or finish is applied to a manufactured product), or consumer and commercial cleaning product application. A complete list of SCCs in this category is included in Table 1.

Table 1. Activity Data Sources used for each SCC

| **Category Name** | **SCC** | **NAICS** | **Comments** |
| --- | --- | --- | --- |
| Architectural Coatings | 2401001000 | N/A | Population based Category |
| Automobile Refinishing | 2401005000 | 81112 |  |
| 4411 |  |
| 4412 |  |
| Traffic Paints | 2401008000 | N/A | Lane Miles coming from 2013 FHWA Data |
| Wood and Composition Flat Stock | 2401015000 | 321 |  |
| Wood Furniture and Fixtures | 2401020000 | 337110 |  |
| 337121 |  |
| 337122 |  |
| 337127 | 50% to this and 50% to metal furniture |
| 337129 |  |
| 337211 |  |
| 337212 |  |
| 337215 | 50% to this and 50% to metal furniture |
| 339111 | 50% to this and 50% to metal furniture |
| Metal Furniture | 2401025000 | 337124 |  |
| 337127 | 50% to this and 50% to wood furniture |
| 337214 |  |
| 337215 | 50% to this and 50% to wood furniture |
| Paper, Film and Foil | 2401030000 | 322220 |  |
| Metal Cans | 2401040000 | 33243 |  |
| Misc. Finished Metals | 2401050000 |  | Consolidated with Miscellaneous Manufacturing |
| Machinery and Equipment | 2401055000 | 3331 |  |
| 3332 |  |
| 3333 |  |
| 33341 |  |
| Appliances | 2401060000 | 3352 |  |
| Electronic and Other Electrical Coatings | 2401065000 | 331319 |  |
| 331422 |  |
| 331491 |  |
| 335921 |  |
| 335929 |  |
| 335311 |  |
| Motor Vehicles | 2401070000 | 3361 |  |
| 3362 |  |
| 3363 |  |
| Aircraft | 2401075000 | 3364 |  |
| Railroads | 2401085000 | 3365 |  |
| Marine coatings | 2401080000 | 3366 |  |
| 488390 |  |
| Misc. Manufacturing | 2401090000 | 339 |  |
| 3369 |  |
| Industrial Maintenance Coatings | 2401100000 | N/A | Population based Category |
| Other Special Purpose Coatings | 2401200000 | N/A | Population based Category |
| Cleaning Products: Industrial and Institutional | 2415000000 | 331 |  |
| 332 |  |
| 333 |  |
| 334 |  |
| 335 |  |
| 336 |  |
| 337 |  |
| 339 |  |
| 441 |  |
| 483 |  |
| 484 |  |
| 485 |  |
| 488 |  |
| 8111 |  |
| 8112 |  |
| Graphic Arts | 2425000000 | N/A | Population based Category |
| Personal Care Products (Cosmetics and Toiletries) | 2460100000 | N/A | Population based Category |
| Cleaning Products: Household | 2460200000 | N/A | Population based Category |
| Automotive Aftermarket (Transportation: Motor Vehicles) | 2460400000 | N/A | Population based Category |
| Adhesives and Sealants | 2460600000 | N/A | Population based Category |
| FIFRA Regulated Products | 246080000 | N/A | Population based Category |
| Coatings and Related Products | 2460500000 | N/A | Population based Category |
| Misc. Products | 2460900000 | N/A | Population based Category |
| Dry Cleaning | 2420000000 | 812320 | Employment based Category |

Activity Data

The tool uses three types of activity data to estimate emissions: population, lane miles (used for traffic markings), and employment data. Table 1 shows the type of activity data used for each category and provides the SCC. Employment data are listed by the North American Industrial Classification Standard (NAICS) code(s) that are used to determine county-level employment for the category.

Population data are collected from the US Census Bureau’s population estimates for July 1, 2013 (U.S. Census Bureau 2015a).

For traffic paints, the Federal Highway Administration provides county-level lane miles as a part of their HPMS data (FHWA 2015). The most recent data set available at the time of compilation is for data year 2013.

Employment data are allocated to each county using County Business Patterns (CBP) employment data for 2013 (the most recent data available at the time of compilation) (U.S. Census Bureau 2015b). Due to concerns with releasing confidential business information, CBP withholds values for a given county/NAICS code if it would be possible to identify data for individual facilities. In such cases, the Census reports a letter code, representing a particular employment size range. The following procedure is used to estimate data for withheld counties/NAICS codes (Divita 2008).

1. County-level employment for counties with reported values are totaled by state for the applicable NAICS code.
2. The value from step 1 is subtracted from the state employment value for the NAICS code.
3. Each of the withheld counties is assigned an initial employment estimate reflecting the midpoint of the CBP range code (e.g., code A, which reflects 1-19 employees, is assigned an estimate of 10 employees).
4. The initial employment estimates from step 3 are then summed to the state level.
5. The value from step 2 is divided by the value from step 4 to yield an adjustment factor to apply to the initial employment estimates to yield employment values that will sum to the state employment total for the applicable NAICS code.
6. The final county-level employment values are estimated by multiplying the initial employment estimates from step 3 by the step 5 adjustment factors.

Control Factors

For several categories, air pollution regulations exist that regulate the solvent content of products which can be sold. These solvent content limits are taken into account where appropriate by modifying emission factors rather than developing control efficiency information.

In particular, the tool assumes that states listed in Table 4 limit VOC emissions from architectural coatings (2401001000) and industrial surface coatings (2401100000). Therefore the emission factor is lower for these SCCs in these states.

Emission Factors

Emission factors were developed and reviewed by an ERTAC advisory panel composed of state and EPA personnel. The emission factors are based on national-level estimates of solvent usage from the Freedonia Group (2013). The national-level estimates were divided by national-level population, employment in various sectors, and road lane miles (Table 1) to develop emission factors based on emissions per person, employee, or lane mile, depending on the source category.

Table 2 lists the SCC, pollutant, and emission factors that were developed for categories that have the same factor throughout the country. As mentioned in the control factors section above, the emission factors for the architectural coatings and industrial surface coating categories are adjusted to account for regulations that limit VOC emissions from solvents in certain states. Table 3 lists the categories with their uncontrolled and controlled emission factors and Table 4 lists the states for which controlled emission factors were applied.

Note that with version 1.4 of the tool, two separate editions were released: one with an emissions factor for Graphic Arts based on employment and one based on population. Both emissions factors use Freedonia data as the source of solvent information.

Emission factors listed in Table 2 for dry cleaning and degreasing are the same emission factors that were used in the 2011 NEI. These emissions factors were developed by the ERTAC committee. The dry cleaning emission factor is based on an average of emission factors provided to EPA by Ohio and Utah. The 2011 NEI documentation does not provide a reference for the degreasing emission factor.

HAPs are estimated using speciation factors, which are multiplied by the final VOC emissions (i.e. after point source subtraction). The speciation factors have historically been based on data from the Freedonia Group which provides information on the amount of solvent demand by type (e.g. toluene, xylene, etc.). The speciation factors are developed by dividing the demand for solvents of each type by the total solvent usage (Freedonia Group 2013). For example, total demand for xylene solvents in 2013 was 35 million pounds, while total demand for all solvents was 10,185 million pounds. Therefore, the HAP speciation factor is calculated as 35 million / 10,185 million = 0.0034.

Previous editions of the Freedonia data broke this information down by type of solvent and industry. The most recent version of the Freedonia data breaks it down by either type or industry, but not both. For this reason, if a newly calculated speciation factor using 2013 Freedonia data is significantly larger (i.e. by an order of magnitude) than the factor used in the 2011 NEI, then the factor is not changed and the 2011 factor is used. The HAP speciation factors are listed in Table 5.

Sample Calculations

Emissions are calculated in the tool for each county using emission factors and activity as:

Ex,p = Ax × EFx,p (1)

where:

Ex,p = annual emissions for category x and pollutant p;

Ax = activity data (population, employment, or lane miles) associated with category x; and

EFx,p = emission factor for category x and pollutant p.

Example:

Using architectural coatings in Allegheny County, PA as an example:

According to the US Census Bureau, population on July 1, 2013 is 1,232,953. The emission factor for VOC is 1.88 lb./person.

EVOC = 1,223,338 people × 1.88 lb. VOC/person

= 2,317,952 lb. VOC

= 1,159 tons VOC

Point Source Emissions Adjustment

To ensure that solvent emissions are not double-counted in the point source inventory, it is also necessary to subtract point source inventory solvent emissions from the solvent emissions estimates from population or employment data. Equation 2 illustrates the approach to performing point source subtractions.

Nx,p = Tx,p – Px,p  (2)

Where:

Nx,p = nonpoint solvent emissions for category x and pollutant p;

Tx,p = total estimated solvent emissions for category x and pollutant p; and

Px,p = point source solvent emissions for category x and pollutant p.

The first step in the point source subtraction procedure is to identify how each solvent nonpoint source classification code (SCC) links to associated solvent point SCCs. The Solvent Emissions Tool includes a crosswalk to perform that linkage.

Another issue that must be considered is the geographic resolution at which point source subtractions should be performed. In most cases, S/L/T agencies should have access to point source solvent emissions data (or below) the county level. However, if an agency only has this data at the state level, the tool can distribute the state-level emissions to the county level based on the proportion of population or employment (depending on the SCC) in the county. The Solvent Emissions Tool is designed to prioritize county-level data over state-level data, so where county-level data exists, the tool will perform county-level subtractions before using state-level data.

If an agency has county- or state-level point source *activity* data, this can be used in the place of emissions data in the point source subtraction procedure. The procedure follows the same steps, except that the point source activity data are subtracted from the total activity data before the emissions are calculated.

In the case of the Solvent Tool, activity data is in units of employment. **Note that care must be taken to avoid double counting activity data. For example, if a facility reports emissions to multiple SCCs in the template, the employees from that facility should only be counted once.**

References

Divita, 2008: Divita, Frank, E.H. Pechan & Associates, Inc., memorandum to Roy Huntley, U.S. Environmental Protection Agency, “County Business Patterns Calculations,” December 4, 2008.

Federal Highway Administration (FHWA). 2015. [Highway Statistics 2013](https://www.fhwa.dot.gov/policyinformation/statistics.cfm). Accessed May 2019.

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U.S. Census Bureau, 2015a. 2013 [*Population Estimates*](https://www.census.gov/programs-surveys/popest.html), Washington, DC. Available at Accessed May 2015.

U.S. Census Bureau, [2015b. 2013 *County Business Patterns*](https://www.census.gov/data/datasets/2013/econ/cbp/2013-cbp.html), Accessed May 2019.

Table 2. National Emission Factors. Note that with version 1.4 of the tool, two separate editions were released: one with an emissions factor for Graphic Arts based on employment and one based on population. Both emissions factors use Freedonia data as the source of solvent information.

| **SCC** | **Source** | **Pollutant Code** | **Factor Numeric Value** | **Factor Unit Numerator** | **Factor Unit Denominator** | **Calculation Material Code** | **Reference** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2401008000 | Traffic Paints | VOC | 10.1 | LB | MILE | 225 | Freedonia 2013 |
| 2460600000 | Adhesives and sealants | VOC | 0.57 | LB | EACH | 762 | EPA EIIP |
| 2460400000 | Automotive aftermarket emissions | VOC | 1.36 | LB | EACH | 762 | EPA EIIP |
| 2460200000 | Cleaning products | VOC | 2.2 | LB | EACH | 762 | Freedonia 2013 |
| 2460500000 | Cons. Solvents: Coatings and Related Products | VOC | 0.95 | LB | EACH | 762 | EPA EIIP |
| 2460800000 | Cons. Solvents: FIFRA Regulated Products | VOC | 1.78 | LB | EACH | 762 | EPA EIIP |
| 2460900000 | Cons. Solvents: Misc. Products | VOC | 0.07 | LB | EACH | 762 | EPA EIIP |
| 2460100000 | Cons. Solvents: Personal Care Products (Cosmetics and Toiletries) | VOC | 2 | LB | EACH | 762 | Freedonia 2013 |
| 2425000000 | Graphic Arts | VOC | 3.7 | LB | EACH | 762 | Freedonia 2013 |
| 2425000000 | Graphic Arts | VOC | 1747 | LB | EACH | 992 | Freedonia 2013 |
| 2401200000 | Surface Coating: Other Special Purpose Coatings | VOC | 0.006 | LB | EACH | 762 | Freedonia 2013 |
| 2401075000 | Surface Coating: Aircraft | VOC | 14 | LB | EACH | 992 | Freedonia 2013 |
| 2401005000 | Automobile Refinishing | VOC | 87 | LB | EACH | 992 | Freedonia 2013 |
| 2415000000 | Degreasing | VOC | 37 | LB | EACH | 992 | NEI 2011 |
| 2420000000 | Dry Cleaning | VOC | 10 | LB | EACH | 992 | NEI 2011 |
| 2401015000 | Surface Coating: Wood Products Manfacturing | VOC | 48 | LB | EACH | 992 | Freedonia 2013 |
| 2401090000 | Surface Coating: Misc. Manufacturing | VOC | 78 | LB | EACH | 992 | Freedonia 2013 |
| 2401060000 | Surface Coating: Appliances | VOC | 184 | LB | EACH | 992 | Freedonia 2013 |
| 2401030000 | Surface Coating: Paper, Film and Foil | VOC | 415 | LB | EACH | 992 | Freedonia 2013 |
| 2401085000 | Surface Coating: Railroads | VOC | 180 | LB | EACH | 992 | Freedonia 2013 |
| 2401020000 | Surface Coating: Wood Furniture and Fixtures | VOC | 437 | LB | EACH | 992 | Freedonia 2013 |
| 2401065000 | Surface Coating: Electronic and Other Electrical Coatings | VOC | 30 | LB | EACH | 992 | Freedonia 2013 |
| 2401040000 | Surface Coating: Metal Cans | VOC | 2493 | LB | EACH | 992 | Freedonia 2013 |
| 2401070000 | Surface Coating: Motor Vehicles | VOC | 168 | LB | EACH | 992 | Freedonia 2013 |
| 2401055000 | Surface Coating: Machinery and Equipment | VOC | 44 | LB | EACH | 992 | Freedonia 2013 |
| 2401080000 | Surface Coating: Marine coatings | VOC | 200 | LB | EACH | 992 | Freedonia 2013 |
| 2401025000 | Surface Coating: Metal Furniture | VOC | 537 | LB | EACH | 992 | Freedonia 2013 |

Table 3. Emission Factors which vary based on presence of controls

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **SCC** | **Pollutant Code** | **Factor Numeric Value Uncontrolled** | **Factor Numeric Value Controlled** | **Factor Unit Numerator** | **Factor Unit Denominator** | **Calculation Material Code** | **Reference** |
| 2401001000 | VOC | 2.3400 | 1.8800 | LB | EACH | 762 | NEI 2011 |
| 2401100000 | VOC | 0.6031 | 0.1500 | LB | EACH | 762 | NEI 2011 |

Table 4. States to which controlled emission factors are applied

|  |  |
| --- | --- |
| **State FIPS** | **Abbreviation** |
| 04 | AZ |
| 06 | CA |
| 09 | CT |
| 10 | DE |
| 11 | DC |
| 23 | ME |
| 24 | MD |
| 25 | MA |
| 33 | NH |
| 34 | NJ |
| 36 | NY |
| 42 | PA |
| 44 | RI |
| 48 | TX |
| 50 | VT |
| 51 | VA |

Table 5. Hazardous Air Pollutant Speciation Factors. Speciation factors are multiplied by VOC emissions to estimate HAP emissions.

| **SCC** | **SCC Description** | **Pollutant Code** | **Pollutant Description** | **Speciation Factor** | **Source** |
| --- | --- | --- | --- | --- | --- |
| 2401001000 | Architectural Coatings | 171 | Glycol Ethers | 0.02065 | A |
| 2401001000 | Architectural Coatings | 50000 | Formaldehyde | 0.00002 | A |
| 2401001000 | Architectural Coatings | 67561 | Methanol | 0.012185 | B |
| 2401001000 | Architectural Coatings | 75070 | Acetaldehyde | 0.0001 | A |
| 2401001000 | Architectural Coatings | 80626 | Methyl methacrylate | 0.00012 | A |
| 2401001000 | Architectural Coatings | 84742 | Dibutyl phthalate | 0.00002 | A |
| 2401001000 | Architectural Coatings | 91203 | Naphthalene | 0.00046 | A |
| 2401001000 | Architectural Coatings | 98828 | Cumene | 0.00038 | A |
| 2401001000 | Architectural Coatings | 100414 | Ethylbenzene | 0.00248 | A |
| 2401001000 | Architectural Coatings | 100425 | Styrene | 0.00102 | A |
| 2401001000 | Architectural Coatings | 101688 | 4,4'-Methylenediphenyl diisocyanate (MDI) | 0.00014 | A |
| 2401001000 | Architectural Coatings | 107211 | Ethylene glycol | 0.05049 | A |
| 2401001000 | Architectural Coatings | 108054 | Vinyl acetate | 0.00012 | A |
| 2401001000 | Architectural Coatings | 108101 | Methyl isobutyl ketone(Hexone) | 0.00098 | B |
| 2401001000 | Architectural Coatings | 108883 | Toluene | 0.0397 | B |
| 2401001000 | Architectural Coatings | 110543 | Hexane | 0.00015 | A |
| 2401001000 | Architectural Coatings | 117817 | Bis(2-ethylhexyl)phthalate (DEHP) | 0.00003 | A |
| 2401001000 | Architectural Coatings | 121448 | Triethylamine | 0.00006 | A |
| 2401001000 | Architectural Coatings | 123911 | 1,4-Dioxane (1,4-Diethyleneoxide) | 0.00002 | A |
| 2401001000 | Architectural Coatings | 131113 | Dimethyl phthalate | 0.00001 | A |
| 2401001000 | Architectural Coatings | 584849 | 2,4-Toluene diisocyanate | 0.00002 | A |
| 2401001000 | Architectural Coatings | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401005000 | Automobile Refinishing | 171 | Glycol Ethers | 0.00953 | A |
| 2401005000 | Automobile Refinishing | 107211 | Ethylene glycol | 0.0016 | A |
| 2401005000 | Automobile Refinishing | 108101 | Methyl isobutyl ketone (Hexone) | 0.0103 | B |
| 2401005000 | Automobile Refinishing | 108883 | Toluene | 0.018 | A |
| 2401005000 | Automobile Refinishing | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401008000 | Traffic Paints | 108883 | Toluene | 0.0397 | B |
| 2401008000 | Traffic Paints | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401015000 | Surface Coating: Wood Products Manfacturing | 171 | Glycol Ethers | 0.01382 | A |
| 2401015000 | Surface Coating: Wood Products Manfacturing | 107211 | Ethylene glycol | 0.0045 | A |
| 2401015000 | Surface Coating: Wood Products Manfacturing | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401015000 | Surface Coating: Wood Products Manfacturing | 108883 | Toluene | 0.0397 | B |
| 2401015000 | Surface Coating: Wood Products Manfacturing | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401025000 | Surface Coating: Metal Furniture | 171 | Glycol Ethers | 0.01382 | A |
| 2401025000 | Surface Coating: Metal Furniture | 107211 | Ethylene glycol | 0.0045 | A |
| 2401025000 | Surface Coating: Metal Furniture | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401025000 | Surface Coating: Metal Furniture | 108883 | Toluene | 0.0397 | B |
| 2401025000 | Surface Coating: Metal Furniture | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401030000 | Surface Coating: Paper, Film and Foil | 171 | Glycol Ethers | 0.01382 | A |
| 2401030000 | Surface Coating: Paper, Film and Foil | 107211 | Ethylene glycol | 0.0045 | A |
| 2401030000 | Surface Coating: Paper, Film and Foil | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401030000 | Surface Coating: Paper, Film and Foil | 108883 | Toluene | 0.0397 | B |
| 2401030000 | Surface Coating: Paper, Film and Foil | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401040000 | Surface Coating: Metal Cans | 171 | Glycol Ethers | 0.01382 | A |
| 2401040000 | Surface Coating: Metal Cans | 107211 | Ethylene glycol | 0.0045 | A |
| 2401040000 | Surface Coating: Metal Cans | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401040000 | Surface Coating: Metal Cans | 108883 | Toluene | 0.0397 | B |
| 2401040000 | Surface Coating: Metal Cans | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401055000 | Surface Coating: Machinery and Equipment | 171 | Glycol Ethers | 0.01382 | A |
| 2401055000 | Surface Coating: Machinery and Equipment | 107211 | Ethylene glycol | 0.0045 | A |
| 2401055000 | Surface Coating: Machinery and Equipment | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401055000 | Surface Coating: Machinery and Equipment | 108883 | Toluene | 0.0397 | B |
| 2401055000 | Surface Coating: Machinery and Equipment | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401060000 | Surface Coating: Appliances | 171 | Glycol Ethers | 0.01382 | A |
| 2401060000 | Surface Coating: Appliances | 107211 | Ethylene glycol | 0.0045 | A |
| 2401060000 | Surface Coating: Appliances | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401060000 | Surface Coating: Appliances | 108883 | Toluene | 0.0397 | B |
| 2401060000 | Surface Coating: Appliances | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401065000 | Surface Coating: Electronic and Other Electrical Coatings | 171 | Glycol Ethers | 0.01382 | A |
| 2401065000 | Surface Coating: Electronic and Other Electrical Coatings | 107211 | Ethylene glycol | 0.0045 | A |
| 2401065000 | Surface Coating: Electronic and Other Electrical Coatings | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401065000 | Surface Coating: Electronic and Other Electrical Coatings | 108883 | Toluene | 0.0397 | B |
| 2401065000 | Surface Coating: Electronic and Other Electrical Coatings | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401070000 | Surface Coating: Motor Vehicles | 171 | Glycol Ethers | 0.01382 | A |
| 2401070000 | Surface Coating: Motor Vehicles | 107211 | Ethylene glycol | 0.0045 | A |
| 2401070000 | Surface Coating: Motor Vehicles | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401070000 | Surface Coating: Motor Vehicles | 108883 | Toluene | 0.0397 | B |
| 2401070000 | Surface Coating: Motor Vehicles | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401075000 | Surface Coating: Aircraft | 171 | Glycol Ethers | 0.01382 | A |
| 2401075000 | Surface Coating: Aircraft | 107211 | Ethylene glycol | 0.0045 | A |
| 2401075000 | Surface Coating: Aircraft | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401075000 | Surface Coating: Aircraft | 108883 | Toluene | 0.0397 | B |
| 2401075000 | Surface Coating: Aircraft | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401080000 | Surface Coating: Marine coatings | 171 | Glycol Ethers | 0.01382 | A |
| 2401080000 | Surface Coating: Marine coatings | 107211 | Ethylene glycol | 0.0045 | A |
| 2401080000 | Surface Coating: Marine coatings | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401080000 | Surface Coating: Marine coatings | 108883 | Toluene | 0.0397 | B |
| 2401080000 | Surface Coating: Marine coatings | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401085000 | Surface Coating: Railroads | 171 | Glycol Ethers | 0.01382 | A |
| 2401085000 | Surface Coating: Railroads | 107211 | Ethylene glycol | 0.0045 | A |
| 2401085000 | Surface Coating: Railroads | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401085000 | Surface Coating: Railroads | 108883 | Toluene | 0.0397 | B |
| 2401085000 | Surface Coating: Railroads | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401090000 | Surface Coating: Misc. Manufacturing | 171 | Glycol Ethers | 0.01382 | A |
| 2401090000 | Surface Coating: Misc. Manufacturing | 107211 | Ethylene glycol | 0.0045 | A |
| 2401090000 | Surface Coating: Misc. Manufacturing | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401090000 | Surface Coating: Misc. Manufacturing | 108883 | Toluene | 0.0397 | B |
| 2401090000 | Surface Coating: Misc. Manufacturing | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401100000 | Industrial Maintenance Coatings | 171 | Glycol Ethers | 0.01382 | A |
| 2401100000 | Industrial Maintenance Coatings | 107211 | Ethylene glycol | 0.0045 | A |
| 2401100000 | Industrial Maintenance Coatings | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401100000 | Industrial Maintenance Coatings | 108883 | Toluene | 0.0397 | B |
| 2401100000 | Industrial Maintenance Coatings | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2401200000 | Surface Coating: Other Special Purpose Coatings | 171 | Glycol Ethers | 0.01382 | A |
| 2401200000 | Surface Coating: Other Special Purpose Coatings | 107211 | Ethylene glycol | 0.0045 | A |
| 2401200000 | Surface Coating: Other Special Purpose Coatings | 108101 | Methyl isobutyl ketone(Hexone) | 0.0103 | B |
| 2401200000 | Surface Coating: Other Special Purpose Coatings | 108883 | Toluene | 0.0397 | B |
| 2401200000 | Surface Coating: Other Special Purpose Coatings | 1330207 | Xylenes (mixed isomers) | 0.0034 | B |
| 2415000000 | Degreasing | 108883 | Toluene | 0.078204 | B |
| 2415000000 | Degreasing | 110543 | N-hexane | 5.73E-05 | C |
| 2415000000 | Degreasing | 111773 | Methyl carbitol (2-(2-methoxyethoxy)ethanol) (degme) | 0.019347 | C |
| 2415000000 | Degreasing | 112345 | 2-(2-butoxyethoxy)ethanol (butyl carbitol) | 0.033309 | C |
| 2415000000 | Degreasing | 127184 | Perchloroethylene (Tetrachloroethylene) | 0.010597 | C |
| 2415000000 | Degreasing | 1330207 | Xylenes (Mixed Isomers) | 0.087842 | C |
| 2415000000 | Degreasing | 67561 | Methyl alcohol (methanol) | 0.050236 | C |
| 2415000000 | Degreasing | 71432 | Benzene | 0.001432 | C |
| 2415000000 | Degreasing | 71556 | 1,1,1-trichloroethane | 0.053014 | C |
| 2415000000 | Degreasing | 75092 | Dichloromethane (methylene chloride) | 0.006143 | C |
| 2415000000 | Degreasing | 79016 | Trichloroethylene | 0.030202 | C |
| 2415000000 | Degreasing | 86748 | Carbazole | 0.001074 | C |
| 2415000000 | Degreasing | 91203 | Naphthalene | 4.3E-05 | C |
| 2415000000 | Degreasing | 98828 | Isopropylbenzene (or cumene; 2-Phenylpropane) | 4.3E-05 | C |
| 2415000000 | Degreasing | 108883 | Toluene | 0.078204 | C |
| 2415000000 | Degreasing | 110543 | N-hexane | 5.73E-05 | C |
| 2425000000 | Graphic Arts | 67561 | Methyl Alcohol | 0.02635 | B |
| 2425000000 | Graphic Arts | 108101 | Methyl Isobutyl Ketone | 0.000426 | B |
| 2425000000 | Graphic Arts | 108883 | Toluene | 0.0397 | B |
| 2425000000 | Graphic Arts | 1330207 | Xylene | 0.0034 | B |
| 2460000000 | Miscellaneous Non-industrial: Consumer and Commercial | 67561 | Methyl Alcohol | 0.0933 | B |
| 2460000000 | Miscellaneous Non-industrial: Consumer and Commercial | 108883 | Toluene | 0.00268 | A |
| 2460100000 | Cons. Solvents: Personal Care Products (Cosmetics and Toiletries) | 67561 | Methyl Alcohol | 0.0933 | B |
| 2460100000 | Cons. Solvents: Personal Care Products (Cosmetics and Toiletries) | 108883 | Toluene | 0.003529 | B |
| 2460200000 | Cleaning products | 67561 | Methyl Alcohol | 0.0933 | B |
| 2460200000 | Cleaning products | 108883 | Toluene | 0.003221 | B |
| 2460400000 | Automotive aftermarket emissions | 67561 | Methyl Alcohol | 0.0933 | B |
| 2460400000 | Automotive aftermarket emissions | 107211 | Ethylene Glycol | 0.1595 | B |
| 2460400000 | Automotive aftermarket emissions | 108883 | Toluene | 0.00268 | A |
| 2460500000 | Cons. Solvents: Coatings and Related Products | 67561 | Methyl Alcohol | 0.0933 | B |
| 2460500000 | Cons. Solvents: Coatings and Related Products | 108883 | Toluene | 0.00268 | A |
| 2460600000 | Adhesives and sealants | 67561 | Methyl Alcohol | 0.0933 | B |
| 2460600000 | Adhesives and sealants | 108883 | Toluene | 0.003221 | B |
| 2460800000 | Cons. Solvents: FIFRA Regulated Products | 67561 | Methyl Alcohol | 0.0933 | B |
| 2460800000 | Cons. Solvents: FIFRA Regulated Products | 108883 | Toluene | 0.003221 | B |
| 2460900000 | Cons. Solvents: Misc. Products | 67561 | Methyl Alcohol | 0.0933 | B |
| 2460900000 | Cons. Solvents: Misc. Products | 108883 | Toluene | 0.00268 | A |

*Sources:* A = Factor used in 2011 NEI (data for speciation factor originally came from Freedonia data from 2000)

B = Factor updated using 2013 Freedonia data.

C = EPA SPECIATE database v4.5: Composite Profile – Degreasing: Cold Cleaning (Batch, Conveyor, Spray Gun)