

American Petroleum Institute Guidance for Reporting Petroleum Substances



Filling out your CDR submission for EPA?

This brochure highlights a few key features about petroleum substances that will help you accurately complete submissions for 2012 under the Toxic Substances Control Act (TSCA) Chemical Data Reporting (CDR) Rule. It is not intended to be comprehensive information on the CDR but to assist you in reporting petroleum substances to the CDR.

What is the TSCA CDR?

The TSCA Chemical Data Reporting (CDR) Rule, which was formerly called the TSCA Inventory Update Rule (IUR), is EPA's main mechanism for gathering basic production data on chemicals in the U.S. The CDR submission period occurs approximately once every four years, with the last reporting in 2006. This year is a reporting year with a submission period from February 1, 2012 to June 30, 2012. There are potential reporting obligations for any site that manufactured and/or imported a chemical substance on the TSCA Inventory in quantities of 25,000 lbs. or more during the principal reporting year (2011). Petroleum substances make up a significant portion of the volume of chemical substances reported under the TSCA CDR. In the 2006 IUR reports, of the top 100 chemicals reported, over 60 were petroleum process streams.

Where are Petroleum Substances Listed on the TSCA Inventory?

When the TSCA Inventory was developed during the period 1977-1982, API formed working groups to address key issues such as development of guidance for petroleum industry TSCA Inventory reporting. EPA worked with API to develop Addendum I of the Candidate List of Chemical Substances, Generic Terms Covering Petroleum Refinery Process Streams, which established the terms and definitions used to list petroleum refinery streams on the TSCA Inventory.

The current public TSCA Inventory is available for free download at: www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html. It is also available as a part of some comprehensive subscription services that provide regulatory data. Note that there is also a confidential portion of the TSCA Inventory, which contains substances for which the manufacturer/importer has claimed chemical name to be confidential business information (CBI).

After the initial TSCA Inventory was formed, API published a list of petroleum process streams in a booklet commonly known as the "yellow book."¹ API has developed an updated electronic database version of that list which is available at: www.apitox.api.org.

What's in a Name?

Correctly identifying the reportable petroleum substances in your facility is a key step in accurately completing the CDR forms. The petroleum stream definitions typically include a CAS Number, a name, and a definition. The example below shows the full description of a typical petroleum substance.



64741-61-3

Distillates^A (petroleum^B), heavy catalytic cracked

A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process^C. It consists of hydrocarbons having carbon numbers predominantly in the range of C15 through C35^D and boiling in the range of approximately 260°C to 500°C (500°F to 932°F)^E. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.

The substance name and definition usually contain the following information:

- The primary hydrocarbon fraction such as Gases, Naphtha, Distillates, or Residuum. Other nomenclature such as Extracts, Gas Oil, Wax, etc. is used for some names.
- The hydrocarbon source. The hydrocarbon source here is "petroleum" as opposed to "shale" or "coal."
- The last refining step.
- The carbon number range.
- The boiling point range.

The information in the definition is extremely important. EPA stated in early guidance that "... any substance that matches a Name on the TSCA Inventory but is not covered by the corresponding substance definition is not considered to be covered by that Inventory name."²

How to Choose a CAS Number?

Remember, a key factor in choosing the correct CAS Number is the last refining process step. A critical distinction between petroleum substances, even from the same refining process, is the boiling point range.³ For example, the three petroleum substances below are all from a catalytic cracking process and are solely differentiated by their boiling point ranges.

Number	Name	Boiling Point Range °F
64741-59-9	Distillates (petroleum), light catalytic cracked	302 - 752
64741-60-2	Distillates (petroleum), intermediate catalytic cracked	401 - 842
64741-61-3	Distillates (petroleum), heavy catalytic cracked	500 - 932

To help correctly identify your petroleum substance, examine its boiling point range. Then, compare this range, associated carbon number range, and/or other characteristic to the petroleum substances listed on the TSCA Inventory for that process step. Evaluating the boiling point range of the substances you report versus their definition is a good start on ensuring the accuracy of your CDR submission. EPA uses the data you submit to evaluate the hazard and risk of petroleum substances.

What if?

What if my petroleum substance only has a carbon number range in its definition?

Determine the boiling point range of your substance. Both ASTM D2887 and D7169 provide a temperature conversion table where a boiling point temperature equals a certain n-paraffin carbon number.

What if my petroleum substance does not have a definition at all?

Determine the boiling point range of your substance. Try to find another petroleum substance that has a name and definition that more fully describes your substance (visit www.apitox.api.org to see if there are better choices). Always consult with your company's expert on TSCA and/or CDR when you do this.

Isn't There an Exemption for Petroleum Process Streams?

The CDR regulations at 40 CFR 711.6(b)(1) contain a "partial" exemption for petroleum process streams listed therein. Under the partial exemption, CDR submitters are exempted from submitting the "processing and use" information that is required for substances manufactured in quantities at or above 100,000 lbs. per year. They complete only two of the three parts of the CDR reporting, for any petroleum process stream that is on the CFR list of partially exempt substances.

Need More Help?

EPA has comprehensive information on its CDR website, including an instructions manual and training slides. EPA's CDR website: www.epa.gov/cdr.



Disclaimer: This API Chemical Data Reporting (CDR) Guidance Document ("Guidance") has been compiled by API to assist petroleum companies in completing submissions under the CDR.⁴ API makes no representations or warranties that the use of this Guidance will constitute compliance with the CDR reporting requirements, EPA guidance, or any other rule or guidance. Users of this Guidance should individually review the CDR and all other applicable rules, guidance, and information and report under the CDR in compliance therewith.

¹ American Petroleum Institute, Health and Safety Regulation Committee Task Force on Toxic Substances Control, *Petroleum Process Stream Terms Included in the Chemical Substances Inventory Under the Toxic Substances Control Act (TSCA)*, 1983.

² EPA, *Toxic Substances Control Act Inventory Representation For Chemical Substances Of Unknown Or Variable Composition, Complex Reaction Products And Biological Materials: UVCB Substances*, March 29, 1995.

³ Appropriate analytical methods must be used. Simulated distillations such as ASTM D3710 (good for substances with a final boiling point <500 °F (260 °C)) or ASTM D2887 (good for substances with a final boiling point <1000 °F (538 °C)) or ASTM D7169 (good for substances with a final boiling point <1328 °F (720 °C)) may be useful.

⁴ 40 CFR Part 711.