Environment Canada Environnement Canada

Guidance document for responding to the *Notice with respect to potentially industry-limited high priority petroleum substances* published on July 25, 2009

This document provides guidance for responding to the *Notice with respect to potentially industry-limited high priority petroleum substances*. This notice was published in the *Canada Gazette*, Part I, on July 25, 2009, pursuant to paragraph 71(1)(*b*) of the *Canadian Environmental Protection Act, 1999* (CEPA 1999). The guidance document is made available for information only and in case of discrepancy between this document and the notice or the Act, the notice and the Act take precedence.

The Domestic Substances List (DSL) includes substances that were, between January 1, 1984, and December 31, 1986, in Canadian commerce, used for manufacturing purposes, or manufactured in or imported into Canada in a quantity of 100 kg or more in any calendar year. Types of substances on the DSL include simple organic chemicals, pigments, organometallic compounds, surfactants, polymers, metal elements, metal salts and other inorganic substances, products of biotechnology as well as substances that are of “Unknown or Variable Composition, complex reaction products, or Biological materials” (referred to as UVCBs).

As required by CEPA 1999, the Minister of the Environment and the Minister of Health completed, in September 2006, an exercise to sort or “categorize” all 23,000 existing substances on the DSL in order to determine which substances require further attention in the form of assessment, research and/or measures to control their use or release. There were approximately 4,000 chemical substances identified as needing further attention.

A number of substances have been identified as high priorities for action based on the information obtained through the categorization process. This includes substances:

- that were found to meet all of the ecological categorization criteria, including persistence, bioaccumulation potential and inherent toxicity to aquatic organisms (PBiT), and that are known to be in commerce, or of commercial interest, in Canada, and/or
- that were found either to meet the categorization criteria for greatest potential for human exposure or to present an intermediate potential for exposure, and were identified as posing a high hazard to human health based on available evidence on carcinogenicity, mutagenicity, developmental toxicity or reproductive toxicity.

On December 8, 2006 the Government of Canada announced the Chemicals Management Plan. The Plan includes a number of proactive measures to make sure that chemical substances are managed properly.

A key element of the Chemicals Management Plan is the initiative known as the "Challenge" for about 200 high priority substances. This initiative was announced in a Notice published on December 9, 2006 in the *Canada Gazette* entitled: *Notice of Intent to develop and implement measures to assess and manage the risks posed by certain substances to the health of Canadians and their environment*. These 200 substances have been divided up into a number of smaller groups (batches) of substances. The Government of Canada is challenging industry to provide new information on the properties and uses of the substances in each batch sequentially.

Another key element of the Chemicals Management Plan is the Petroleum Sector Stream Approach. There are approximately 160 petroleum substances that are high priority, but were chosen to be addressed separately from the Challenge, under an approach specific to the oil and gas sector. These substances were identified by the Canadian Petroleum Products Institute (CPPI) and Health Canada as petroleum process stream mixtures (referred to as UVCBs). The high priority petroleum substances were separated from the Challenge because of the following considerations:

- Large number of substances;
- Substances that are primarily, if not exclusively, related to the petroleum sector; and
- Most are complex mixtures that may need to be considered differently from discrete substances.

Environment Canada and Health Canada have developed a plan for the Petroleum Sector Stream Approach that includes data collection, assessment of the substances, and development of risk management instruments, if required. The first step is to gather all available information on high priority petroleum substances so that informed decisions are made and any potential risks that may be associated with these chemicals are appropriately managed.

As a starting point, an initial sorting or "triage" of the substances has been conducted, using a number of data sources including the March 2008 *Notice with respect to certain high priority petroleum substances*. From this information, the high priority petroleum substances have been divided into the following groups:

- substances that are no longer in commerce, or are not related to the petroleum sector;
- substances that do not leave petroleum sector facility sites (e.g. substances that are used as intermediates or feedstocks in on-site processes only) – "site-limited substances";
- substances that are transported from a petroleum sector facility to other industrial facilities (inside or outside of the petroleum sector), where they are consumed (e.g. as fuels or as feedstocks) – "industry-limited substances"; and
- substances that are widely used by the public.

The July 25, 2009 notice requires information on one of the above groups: "industry-limited" substances. This group comprises 52 substances that are thought to be transported from a petroleum sector facility to other industrial facilities, where they are consumed as fuels or used as feedstocks. This information will support screening assessments and potential risk management for these substances, and includes details on the quantity of each substance that is transported to other industrial sectors, how it is transported, and to whom.

For further information on the Petroleum Sector Stream Approach, please consult the Government of Canada's Chemical Substances Web site at www.chemicalsubstances.gc.ca *(click on link to 'The Petroleum Sector Stream Approach')*.

Information for Completion of the July 25, 2009 notice

1. What is the purpose of the notice?

Section 71 notices may be used to gather information for the purpose of assessing whether a substance is toxic or capable of becoming toxic, or for the purpose of assessing whether to control, or the manner in which to control, a substance.

The purpose of the current section 71 notice is to identify, for each of the substances covered under the notice:

- the quantity ranges that are transported (from facilities in Canada that engage in petroleum refining and/or upgrading) by each mode of transportation to each recipient; and
- the identity and location of the recipients.

2. Where can I get a copy of the notice?

The notice was published in Part 1 of the *Canada Gazette*, pursuant to paragraph 71(1)(*b*) of CEPA 1999 on July 25, 2009. Electronic copies of the notice can be found on the Internet site at the following addresses: www.ec.gc.ca/CEPARegistry/notices or www.chemicalsubstances.gc.ca *(click on link to 'The Petroleum Sector Stream Approach').*

3. How should I respond to the notice?

If the notice applies to you, you are encouraged to provide the required information using the electronic format distributed by Environment Canada. If you do not have a copy of the electronic format, please contact Environment Canada at phone number 1-888-228-0530 or 819-956-9313, or at the following email address: DSL.SurveyCo@ec.gc.ca.

The data should be entered in the electronic format, saved on a compact disk and returned by mail. For the submission to be complete, you must also return an original signed copy of the "Identification and Declaration Form" (Section 3 of Schedule 3).

> The electronic format is a straightforward way to report all information required. If you choose not to use the electronic format, please note that the information you are required to report is specified in Schedule 3 of the notice

4. What substances are included (Schedule 1)?

The table in Schedule 1 of the notice lists the substances covered by the notice (listed by CAS RN[1] and substance name). However, in Section 13 of this guidance document, you will also find a table that presents a description and some common synonyms for each substance. This additional information is provided to assist you in identifying information related to each substance at your facility, but may not present all potential descriptions and synonyms that might exist for each substance. In case of discrepancy between this document and the notice, the notice takes precedence.

[1] CAS RN: Chemical Abstracts Service Registry Number. The Chemical Abstracts Service information is the property of the American Chemical Society and any use or redistribution, except as required in supporting regulatory requirements and/or for reports to the Government of Canada when the information and the reports are required by law or administrative policy, is not permitted without the prior, written permission of the American Chemical Society.

Note that two substances listed in Schedule 1 were not included in the Section 71 *Notice with respect to certain high priority petroleum substances*, published in the *Canada Gazette*, Part I, on March 8, 2008. These substances were left off the March 2008 notice because they were initially thought to be widely-used products. However, additional research indicates that they may potentially be industry-limited substances, so they have been included in this notice in order to gain a complete understanding of their transportation and use.

- CAS RN 68476-85-7 Petroleum gases, liquefied
- CAS RN 68476-86-8 Petroleum gases, liquefied, sweetened

(The remaining substances in Schedule 1 were included in the March 8, 2008 notice.)

5. Who is required to respond (Schedule 2)?

Subsection 71(3) of CEPA 1999 states that every person to whom a notice issued under section 71(1)(*b*) of the Act is directed, must comply with the notice within the time specified in the notice.

This notice applies to any person who was required to provide information pursuant to the *Canadian Environmental Protection Act*, 1999 section 71 *Notice with respect to certain high priority petroleum substances*, published in the *Canada Gazette*, Part I, on March 8, 2008.

As outlined in the March 8 notice, it applies to any person who, during the 2006 calendar year, owned or operated:

- a petroleum refining facility;
- an upgrading facility; or
- a facility that engaged in both petroleum refining and upgrading.

If the person subject to the notice is a company, response to the notice shall be submitted on a company-wide basis. The person shall include information with respect to each petroleum refining facility, upgrading facility, or facility that engages in both petroleum refining and upgrading in their single response on behalf of the entire company.

If any person to whom this notice would otherwise apply has already provided the information requested in Schedule 3 to the Oil, Gas & Alternative Energy Division of Environment Canada, then that person is not required to resubmit the specified information under this notice.

5.1- What is a petroleum refining facility?

As outlined in Schedule 3 of the notice, a petroleum refining facility means a facility that engages in petroleum refining, which means the refining of crude oil or bitumen diluted with a hydrocarbon, into petroleum products, and includes storage and processes such as cogeneration, hydrogen generation and sulphur recovery, but excludes the production of synthetic crude oil.

5.2- What is an upgrading facility?

As outlined in Schedule 3 of the notice, an upgrading facility means a facility that engages in upgrading, which means the conversion of bitumen or blends of bitumen or heavy crude oil or blends of heavy crude oil to produce synthetic crude oil or petroleum products and synthetic crude oil.

5.3- How should I report for a facility that engages in both petroleum refining and upgrading?

If you own or operate a facility that performs both petroleum refining and upgrading (as defined in Schedule 3 of the notice), you are required to report the information listed in Schedule 3 for both the petroleum refining and upgrading activities that occur at your facility.

6. Information Required (Schedule 3)

6.1- Identification and Declaration Form (Section 3)

The "Identification and Declaration Form" is provided for three reasons:

- to obtain the identification and contact information of each responder;
- to require certification of the accuracy of the response; and
- to request confidentiality.

As outlined in Schedule 3 of the notice, if the person subject to the notice is a company, response to the notice shall be submitted on a company-wide basis but the person must include information separately with respect to each facility that engages in petroleum refining, upgrading, or both refining and upgrading in their single response on behalf of the entire company. On the "Identification and Declaration Form" you must list each facility to which the response and declaration pertains.

Each response must be signed. For the submission to be complete, you must return an original signed copy of the "Identification and Declaration Form" to the Minister of the Environment (as outlined in Sections 3 and 8 of this document).

Information submitted on the "Identification and Declaration Form" for the *Canadian Environmental Protection Act*, 1999 section 71 *Notice with respect to certain high priority petroleum substances*, published in the *Canada Gazette*, Part I, on March 8, 2008, has been automatically entered into the "Identification and Declaration Form" on the electronic reporting form for this notice. Please ensure that this information is still valid, and make any necessary changes. If you do not have a copy of the electronic format, please contact Environment Canada at phone number 1-888-228-0530 or 819-956-9313, or at the following email address: DSL.SurveyCo@ec.gc.ca.

Confidentiality requests

Pursuant to section 313 of CEPA 1999, any person who provides information in response to the notice may submit, with the information, a written request that it be treated as confidential.

A request for confidentiality may be submitted for any information item provided on a particular substance in response to the notice. When requesting confidential treatment by the Minister of the Environment of information provided under the notice, you should provide a reason for your request. The reason may be based upon considerations such as those that appear as examples below:

- the information is confidential to your company and has consistently been treated as such by your company;
- your company has taken, and intends to continue to take, measures that are reasonable in the circumstances to maintain the confidentiality of the information;
- the information is not, and has not been, reasonably obtainable by third persons by use of legitimate means, except with the consent of your company;
- the information is not available to the public;
- disclosure of the information may reasonably be expected to cause substantial harm to the competitive position of your company;
- disclosure of the information may reasonably be expected to result in a material financial loss to your company or a material financial gain to your company's competitors.

Upon receipt of a request for confidentiality under section 313 of CEPA 1999, in relation to information submitted pursuant to section 71 of CEPA 1999, the Minister of the Environment shall not disclose that information, except in accordance with section 315, 316 or 317 of CEPA 1999.

6.2- Facility Identification Form (Section 4)

The "Facility Identification Form" is provided for two reasons:

- to obtain the identification and contact information of each facility for which the responder is reporting; and
- to assign an identification number to each facility for which the responder is reporting.

The facility identification number, along with the facility name, will be used to identify the specific facility for which reported information pertains.

> If you wish to have a single contact person for your entire submission, you can submit the same contact name for each facility. The electronic format will give you the option to indicate this, via a checkbox, and will automatically copy the contact name and information from the Identification and Declaration Form into the corresponding facility contact name and information boxes on the Facility Identification Form.

The "Facility Identification Form" has entries for five facilities. If you wish to report for more than five facilities, please contact Environment Canada at phone number 1-888-228-0530 or 819-956-9313, or at the following email address: DSL.SurveyCo@ec.gc.ca.

Information submitted on the "Facility Identification Form" for the *Canadian Environmental Protection Act*, 1999 section 71 *Notice with respect to certain high priority petroleum substances*, published in the *Canada Gazette*, Part I, on March 8, 2008, has been automatically entered into the "Facility Identification Form" for this notice. Please ensure that this information is still valid, and make any necessary changes.

6.3- Information on the Substances (Section 5)

a) What is the Facility Identifier?

Each facility to which a submission pertains will be numbered (starting at number 1) on the facility identification form (Section 4 of Schedule 3). This same number will appear on the page(s) where information on each substance is provided for that particular facility. This will help to ensure that the information is reported for the correct facility.

b) How do I report the activities performed at the facility

For each facility to which a submission pertains, the reporter must identify whether that facility performs petroleum refining, upgrading or both. See Section 1 of Schedule 3 of the notice (or Sections 5.1-5.3 of this document) for the definitions of petroleum refining and upgrading.

c) Which substances should I report?

You are required to provide information for any substance listed on Schedule 1 of the notice that was transported from your facility in a total quantity greater than 100 kg for the 2006 calendar year.

"Transported from the facility" includes all shipments that leave the facility boundary. Examples include (but are not limited to):

- shipments to customers (industrial users, distributors, etc.);
- transfers to other industrial facilities, both inside or outside of your company; and
- transfers to waste treatment or recycling facilities.

Please note that if your facility manufactured or acquired a substance, but it was consumed at the facility (e.g. as a fuel or a feedstock) or blended into a mixture (e.g. a product such as gasoline) that left the facility under a different CAS RN[1], you are not required to report information for this substance.

For example, substance X is produced at your facility and then blended with several other streams to produce gasoline, which then leaves your facility. You should not report that substance X was transported from your facility (even if it is listed on the MSDS sheet of your gasoline product), because it did so only as part of a mixture that left the facility under a different CAS RN[1].

d) Which recipients should I report?

You are required to provide information for any recipient that received a total quantity of greater than 100 kg of a given substance for the 2006 calendar year.

The "total quantity" refers to the sum of all shipments of the substance to the given recipient for the 2006 calendar year, not to the quantity contained in any one single shipment. For example, if you transported a small amount (less than 100 kg) of a given substance during the calendar year (e.g. to a laboratory for testing), you would not need to report that recipient of the substance. However, if you transported 50 kg of a given substance each day to Facility X, you should report Facility X as a recipient of this substance, because the total quantity for the 2006 calendar year is greater than 100 kg.

If you transported the substance to multiple facilities that are owned or operated by the same company (e.g. Company Y is one of your customers, and your facility transported greater than 100 kg of the same substance to both Company Y's refinery in Montreal and Company Y's distribution terminal in Halifax), provide information separately for each of the recipient facilities.

e) How do I report the recipients of the substances?

Enter the name (e.g. company or facility name), street address, the name of a contact person, telephone number, and email address (if any) for each recipient located in Canada that received a total quantity greater than 100 kg of the substance during the 2006 calendar year. When entering the recipient's street address, please specify the city, province, and postal code.

For recipients located outside of Canada, enter the city, state (if applicable) and country of each recipient that received a total quantity greater than 100 kg of the substance during the 2006 calendar year. Please note that although you are not required to specify the name (e.g. company or facility name), street address, the name of a contact person, telephone number, and email address (if any) of these recipients, you may do so if you wish.

To enter multiple recipients for a substance, click on the "New Recipient" button for that substance: this will insert a blank row in which to enter the information. Add as many additional rows as required.

f) How do I report the quantity ranges transported from the facility to each recipient?

It is necessary to report the total quantity ranges transported to each recipient for the substances listed on Schedule 1 of the notice. Quantities must be estimated for the substance itself, and not the mixture, product or manufactured item in which it may be contained.

> You are not required to report information for a given recipient of a substance if the total quantity transported to that recipient for the 2006 calendar year is less than or equal to 100 kg.

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Quantity ranges must be reported by selecting the most appropriate of the quantity options given:

- > 100, < 1,001 (value is greater than 100 but less than 1,001)
- 1,001, < 100,001 (value is greater than or equal to 1,001 but less than 100,001)
- 100,001, < 500,001 (value is greater than or equal to 100,001 but less than 500,001)
- 500,001, < 1,000,001 (value is greater than or equal to 500,001 but less than 1,000,001)
- 1,000,001, < 5,000,001 (value is greater than or equal to 1,000,001 but less than 5,000,001)
- 5,000,001, < 10,000,001 (value is greater than or equal to 5,000,001 but less than 10,000,001)
- 10,000,001, < 20,000,001 (value is greater than or equal to 10,000,001 but less than 20,000,001)
- ≥ 20,000,001 (value is greater than or equal to 20,000,001)

And by selecting one of the units given:

- Kilograms
- Tonnes (meaning metric tonnes, equal to 1000 kg)
- Cubic Metres

Select the appropriate quantity range and units from the drop-down menus for each substance.

g) How do I report the approximate proportion (as a percentage) of the substance that was transported by each mode of transportation to each recipient?

The approximate proportion (as a percentage) for each substance must be specified for each applicable mode of transportation:

- By pipeline
- By rail, in non-pressurized containers (e.g. barrels, totes, or other small containers)
- By rail, in pressurized containers (e.g. gas tanks or cylinders)
- By rail, in pressurized tanker rail cars
- By rail, in non-pressurized tanker rail cars
- By road, in non-pressurized containers (e.g. barrels, totes, or other small containers)
- By road, in pressurized containers (e.g. gas tanks or cylinders)
- By road, in pressurized tanker trucks
- By road, in non-pressurized tanker trucks
- By ship, in non-pressurized containers (e.g. barrels, totes, or other small containers)
- By ship, in pressurized containers (e.g. gas tanks or cylinders)
- By ship, in a pressurized hold
- By ship, in a non-pressurized hold

Select the approximate proportions (as percentages) from the drop-down menus for each mode of transportation. The approximate proportions can be given to the nearest 5%.

If the substance was transported from your facility by another mode of transportation, enter a brief description of the mode of transportation, and then indicate the approximate proportion (as a percentage).

If the substance was transported using a combination of methods in series, report the same approximate proportion (as a percentage) for each of the individual modes of transportation, even if this results in a total percentage of greater than 100%. For example, if the substance was always transported first by pipeline, and then transferred to ships for delivery, report that 100% of the substance was transported by pipeline, and that 100% of the substance was transported by ship. Also provide a brief description of the situation in the “Comments/Notes” column.

7. Information you may reasonably be expected to have access to

You are required to provide information that your company possesses or to which you may reasonably be expected to have access. For example, when importing a substance, mixture, product or manufactured item you may reasonably be expected to have access to the relevant Material Safety Data Sheet (MSDS). An MSDS is an important source of information on the composition of a purchased product. Note that the goal

of the MSDS is to protect the health of the workers, not the environment. Therefore, an MSDS may not list all product ingredients on which the Minister of the Environment is requiring information under the notice. You are encouraged to contact your supplier for more detailed information on product composition.

Also, a company may reasonably be expected to have access to a parent company's information regarding substances, mixtures, products or manufactured items. You are not required to conduct tests to comply with this notice.

8. To whom do I respond and at what address?

As indicated in Section 3 of this document, you are encouraged to provide the information using the electronic format distributed by Environment Canada. The information should be saved on a compact disk. In order for the submission to be complete, you must also return an original signed copy of the "Identification and Declaration Form" (Section 3 of Schedule 3). This should be included with the compact disk, and mailed to Environment Canada.

Responses to the notice must be submitted to the Minister of the Environment, to the attention of the DSL Surveys Coordinator.

By mail or courier:	**By fax:**
DSL Surveys Coordinator Existing Substances Program Gatineau QC K1A 0H3	1-800-410-4314 or 819-953-4936
Note on envelope: **CMP Petroleum Stream Submission**	Include in subject line: **CMP Petroleum Stream Submission**

9. What is the deadline for response?

Every person to whom the notice applies is required to comply with the notice no later than **September 23, 2009, 3 p.m. Eastern Daylight Saving Time**.

10. What if I need an extension?

As provided in subsection 71(4) of CEPA 1999, you may submit a written request for an extension of time to comply with the notice. The request for an extension should provide a reason for the request. Address your request to the Minister of the Environment, to the attention of the:

DSL Surveys Coordinator
Existing Substances Program
Gatineau QC K1A 0H3
Fax: 1-800-410-4314 or 819-953-4936
Email: DSL.SurveyCo@ec.gc.ca

and indicate on the envelope or in the subject line "**CMP Petroleum Stream Extension Request**". Please note that you must request an extension of time before expiry of **the September 23, 2009, 3 p.m. Eastern Daylight Saving Time** deadline. **No extensions will be granted after the deadline has expired**. It is recommended to allow five business days so that a request can be processed by the Minister of the Environment before expiry of the deadline.

11. If I do not fall under the requirements of this notice but wish to indicate stakeholder interest in any of the substances, how do I do that?

This notice is seeking to gather information on the substances listed in Schedule 1 of the notice, from anyone who owns or operates a petroleum refining facility or an upgrading facility. The goal is to ensure regulatory decisions are made considering all business activity in Canada.

11.1- Declaration of Stakeholder Interest

Persons, including companies other than those that engage in petroleum refining or upgrading (***and thus do not fall under the requirements to respond to the notice***), who have a current or future interest in any high priority petroleum substances, may identify themselves as a "stakeholder" for the substance by completing the Declaration of Stakeholder Interest. This form is available on the Chemical Substances web site at www.chemicalsubstances.gc.ca *(click on link to 'The Petroleum Sector Stream Approach')*.

Please identify the substances of interest to your company and specify your activity or potential activity with the substance (import, manufacture, use). You may be contacted for further information regarding your activity/interest in these substances.

12. Inquiries - who to contact

If you have an inquiry, please contact the DSL Surveys Coordinator at the following numbers or email address:

- telephone: 1-888-228-0530 or 819-956-9313
- fax: 1-800-410-4314 or 819-953-4936
- email: DSL.SurveyCo@ec.gc.ca (and indicate in the subject line "**CMP Petroleum Stream Inquiry**").

13. List of Substances

NOTE: The following table is provided for information only. For the official list of substances covered, please refer to Schedule 1 of the notice.

Also note that two substances (highlighted) were** not **included in the Section 71* Notice with respect to certain high priority petroleum substances*, published in the* Canada Gazette*, Part I, on March 8, 2008.

CAS RN[1]	Chemical Name	Description	Other Names
64741-41-9	Naphtha (petroleum), heavy straight-run	A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65°C to 230°C (149°F to 446°F).	• Atmospheric gas oil (petroleum) • Heavy straight run naphtha • Heavy straight run naphtha (petroleum)
64741-42-0	Naphtha (petroleum), full-range straight-run	A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately minus 20°C to 220°C (-4°F to 428°F).	• Full range straight run naphtha (petroleum)
64741-45-3	Residues (petroleum), atm. tower	A complex residuum from the atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350°C (662°F). This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.	• Atmospheric tower residuum (petroleum) • Vacuum tower, atmospheric tower bottom
64741-47-5	Natural gas condensates (petroleum)	A complex combination of hydrocarbons separated as a liquid from natural gas in a surface separator by retrograde condensation. It consists mainly of hydrocarbons having carbon numbers predominantly in the range of C_2 to C_{20}. It is a liquid at atmospheric temperature and pressure.	• Natural gas condensate
64741-54-4	Naphtha (petroleum), heavy catalytic cracked	A complex combination of hydrocarbons produced by a distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65°C to 230°C (149°F to 446°F). It contains a relatively large proportion of unsaturated hydrocarbons.	• Heavy catalytic cracked naphtha • Heavy catalytic cracked naphtha (petroleum) • Naphtha, heavy catalytic cracked
64741-55-5	Naphtha (petroleum), light catalytic cracked	A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately minus 20°C to 190°C (-4°F to 374°F). It contains a relatively large proportion of unsaturated hydrocarbons.	• Light catalytic cracked naphtha (petroleum)
64741-57-7	Gas oils (petroleum), heavy vacuum	A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and boiling in the range of approximately 350°C to 600°C (662°F to 1112°F). This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.	• Heavy vacuum gas oil (petroleum) • Vacuum gas oil (petroleum)

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CAS RN[1]	Chemical Name	Description	Other Names
64741-59-9	Distillates (petroleum), light catalytic cracked	A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{25} and boiling in the range of approximately 150°C to 400°C (302°F to 752°F). It contains a relatively large proportion of bicyclic aromatic hydrocarbons.	• Catalytically cracked distillate, light • Distillates (petroleum), light catalytic cracked, low-boiling • Distillates (petroleum), light catalytic cracked, low-boiling fraction • Light catalytic cracked distillate (petroleum) • Petroleum distillate (light catalytic cracked) • Polymer entrained light catalytic cracked distillate
64741-62-4	Clarified oils (petroleum), catalytic cracked	A complex combination of hydrocarbons produced as the residual fraction from distillation of the products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350°C (662°F). This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.	• Carbon black oil (petroleum) • Catalytic cracked clarified oil (petroleum) • Clarified oils (petroleium), catalytic cracked • Intermediate clarified oil solvent extract • Recycle catalytic cracked slurry oil
64741-64-6	Naphtha (petroleum), full-range alkylate	A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90°C to 220°C (194°F to 428°F).	• Full range alkylate naphtha (petroleum)
64741-65-7	Naphtha (petroleum), heavy alkylate	A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 to C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{12} and boiling in the range of approximately 150°C to 220°C (302°F to 428°F).	• Aliphatic HC's, iso-paraffins • Heavy alkylate naphtha (petroleum) • Low boiling point modified naphtha • Naphtha (petroleum) heavy alkylate • UN 1268
64741-66-8	Naphtha (petroleum), light alkylate	A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{10} and boiling in the range of approximately 90°C to 160°C (194°F to 320°F).	• Light alkylate naphtha (petroleum)
64741-67-9	Residues (petroleum), catalytic reformer fractionator	A complex combination of hydrocarbons produced as the residual fraction from distillation of the product from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{25} and boiling in the range of approximately 160°C to 400°C (320°F to 752°F). This stream is likely to contain 5 wt. % or more of 4- or 6-membered condensed ring aromatic hydrocarbons.	• Catalytic reformer fractionator residue (petroleum) • Naphthalene plant residue

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CAS RN[1]	Chemical Name	Description	Other Names
64741-68-0	Naphtha (petroleum), heavy catalytic reformed	A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90°C to 230°C (194°F to 446°F).	• Naphthalene plant heavy gasoline • Naptha (petroleum), heavy catalytic reformed
64741-69-1	Naphtha (petroleum), light hydrocracked	A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10}, and boiling in the range of approximately minus 20°C to 180°C (-4°F to 356°F).	• Light hydrocracked naphtha (petroleum) • Naphtha, light hydrocracked
64741-75-9	Residues (petroleum), hydrocracked	A complex combination of hydrocarbons produced as the residual fraction from distillation of the products of a hydrocracking process. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350°C (662°F).	• Hydrocracked residuum (petroleum)
64741-76-0	Distillates (petroleum), heavy hydrocracked	A complex combination of hydrocarbons from the distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{15}-C_{39} and boiling in the range of approximately 260°C to 600°C (500°F to 1112°F).	• Heavy hydrocracked distillate (petroleum) • Heavy hydrocracked distillate (shale oil) • Resid hydroprocessing unit middle distillate
64741-77-1	Distillates (petroleum), light hydrocracked	A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{18}, and boiling in the range of approximately 160°C to 320°C (320°F to 608°F).	• Light hydrocracked distillate (petroleum)
64741-78-2	Naphtha (petroleum), heavy hydrocracked	A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12}, and boiling in the range of approximately 65°C to 230°C (148°F to 446°F).	• Heavy hydrocracked naphtha (petroleum)
64741-84-0	Naphtha (petroleum), solvent-refined light	A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35°C to 190°C (95°F to 374°F).	• Solvent refined light naphtha (petroleum) • Solvent refined light naphtha heartcut (petroleum)
64742-30-9	Distillates (petroleum), chemically neutralized middle	A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{20} and boiling in the range of approximately 205°C to 345°C (401°F to 653°F).	• Chemically neutralized middle distillate (petroleum)
64742-46-7	Distillates (petroleum), hydrotreated middle	A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{25} and boiling in the range of approximately 205°C to 400°C (401°F to 752°F).	• Distillates (petroleum) hydrotreated middle • Distillates (petroleum), straight run middle, hydrotreated • Hydrotreated middle distillate • Hydrotreated middle distillate (petroleum) • Hydrotreated middle distillates (petroleum) • Hydrotreated middle petroleum distillates

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CAS RN[1]	Chemical Name	Description	Other Names
64742-48-9	Naphtha (petroleum), hydrotreated heavy	A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{13} and boiling in the range of approximately 65°C to 230°C (149°F to 446°F).	• Catalytic Reformer Feed • Hydrotreated heavy naphtha • Hydrotreated heavy naphtha (petroleum) • Hydrotreated light steam cracked naphtha residuum (petroleum) • Low boiling point hydrogen treated naphtha • Naphtha (petroleum), hydrotreated heavy, nonarom. • Naphtha, hydrotreated heavy • UN 3295
64742-49-0	Naphtha (petroleum), hydrotreated light	A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately minus 20°C to 190°C (-4°F to 374°F).	• Hydrotreated light naphtha (petroleum) • Hydrotreated light straight run (petroleum) • Hydrotreated naphtha, light
64742-59-2	Gas oils (petroleum), hydrotreated vacuum	A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{50} and boiling in the range of approximately 230°C to 600°C (446°F to 1112°F). This stream is likely to contain 5 wt. % or more of 4- to 6- membered condensed ring aromatic hydrocarbons.	• Hydrotreated vacuum gas oil (petroleum)
64742-62-7	Residual oils (petroleum), solvent-dewaxed	A complex combination of hydrocarbons obtained by removal of long, branched chain hydrocarbons from a residual oil by solvent crystallization. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400°C (752°F).	• Residual oils, (petroleum), solvent-dewaxed • Solvent dewaxed residual oil (petroleum) • Solvent-dewaxed petroleum residual oil
64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallization. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity not less than 100 SUS at 100°F (19cSt at 40°C).	• Petroleum distillates, solvent dewaxed heavy paraffinic • Solvent dewaxed heavy paraffinic distillate (petroleum) • Solvent-dewaxed heavy paraffinic petroleum distillates
64742-79-6	Gas oils (petroleum), hydrodesulfurized	A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{25} and boiling in the range of approximately 230°C to 400°C (446°F to 752°F).	• Gas oils (petroleum) hydrodesulfurized • Hydrodesulfurized gas oil (petroleum)
64742-82-1	Naphtha (petroleum), hydrodesulfurized heavy	A complex combination of hydrocarbons obtained from a catalytic hydrodesulfurization process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90°C to 230°C (194°F to 446°F).	• Hydrodesulfurized heavy naphtha (petroleum)

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CAS RN[1]	Chemical Name	Description	Other Names
68131-75-9	Gases (petroleum), C_{3-4}	A complex combination of hydrocarbons produced by distillation of products from the cracking of crude oil. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_4, predominantly of propane and propylene, and boiling in the range of approximately -51°C to -1°C (-60°F to 30°F).	• Mixed (C3-C4) stream (petroleum)
68333-22-2	Residues (petroleum), atmospheric	A complex residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C_{11} and boiling above approximately 200°C (392°F). This stream is likely to contain 5 wt.% or more of 4- to 6-membered condensed ring aromatic hydrocarbons.	• Reduced crude (petroleum)
68333-25-5	Distillates (petroleum), hydrodesulfurized light catalytic cracked	A complex combination of hydrocarbons obtained by treating light catalytic cracked distillates with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{25} and boiling in the range of approximately 150°C to 400°C (302°F to 752°F). It contains a relatively large proportion of bicyclic aromatic hydrocarbons.	• Hydrodesulfurized light catalytic cracked distillate
68410-05-9	Distillates (petroleum), straight-run light	A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_7 and boiling in the range of approximately -88°C to 99°C (-127°F to 210°F).	
68476-32-4	Fuel oil, residues-straight-run gas oils, high-sulfur		• High sulfur fuel oil
68476-85-7	Petroleum gases, liquefied	A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C3 through C7 and boiling in the range of approximately -40°C to 80°C (-40°F to 176°F)	▪ Liquefied petroleum gases
68476-86-8	Petroleum gases, liquefied, sweetened	A complex combination of hydrocarbons obtained by subjecting liquefied petroleum gas mix to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C3 through C7 and boiling in the range of approximately -40°C to 80°C (-40°F to 176°F)	▪ Liquefied petroleum gas, sweetened
68477-33-8	Gases (petroleum), C_{3-4}, isobutane-rich	A complex combination of hydrocarbons from the distillation of saturated and unsaturated hydrocarbons usually ranging in carbon numbers from C3 through C6, predominantly butane and isobutane. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C3 through C4, predominantly isobutane.	• Isobutane extract
68477-73-6	Gases (petroleum), catalytic cracked naphtha depropanizer overhead, C_3-rich acid-free	A complex combination of hydrocarbons obtained from fractionation of catalytic cracked hydrocarbons and treated to remove acidic impurities. It consists of hydrocarbons having carbon numbers in the range of C_2 through C_4, predominantly C_3.	• No. 5 catalytic cracking depropanizer overhead propane, propylene olefin, hydrocarbon stream
68477-85-0	Gases (petroleum), C_4-rich	A complex combination of hydrocarbons produced by distillation of products from a catalytic fractionation process. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_4.	• Butane, butylene mix

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CAS RN[1]	Chemical Name	Description	Other Names
68478-17-1	Residues (petroleum), heavy coker gas oil and vacuum gas oil	A complex combination of hydrocarbons produced as the residual fraction from the distillation of heavy coker gas oil and vacuum gas oil. It predominantly consists of hydrocarbons having carbon numbers predominantly greater than C_{13} and boiling above approximately 230°C (446°F).	• Feed preparation bottoms (petroleum)
68478-32-0	Tail gas (petroleum), saturate gas plant mixed stream, C_4-rich	A complex combination of hydrocarbons obtained from the fractionation stabilization of straight-run naphtha, distillation tail gas and catalytic reformed naphtha stabilizer tail gas. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly butane and isobutane.	• Saturate gas plant mixed butanes, hydrocarbon stream
68512-91-4	Hydrocarbons, C_{3-4}-rich, petroleum distillates	A complex combination of hydrocarbons produced by distillation and condensation of crude oil. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_3 through C_4.	• Crude compressor condensate (petroleum)
68514-36-3	Hydrocarbons, C_{1-4}, sweetened	A complex combination of hydrocarbons obtained by subjecting hydrocarbon gases to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately -164°C to -0.5°C(-263°F to 31°F)	• Gas, refinery mixed, sweetened C1-4 • Sweetened mixed (C1-C4) gases
68527-19-5	Hydrocarbons, C_{1-4}, debutanizer fraction		• Butane (Natural Gas) • Butane, butylene fraction • Butane-butylene from catalytic cracking (petroleum) • C4-Fraction • Mixed (C4) hydrocarbons • Mixed butene stream • Mixed butylene stream
68527-27-5	Naphtha (petroleum), full-range alkylate, butane-contg.	A complex combination of hydrocarbons produced by the distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists or predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} with some butanes and boiling in the range of approximately 35°C to 220°C (95°F to 428°F).	• Full range alkylate naphtha with butanes (petroleum)
68783-08-4	Gas oils (petroleum), heavy atmospheric	A complex combination of hydrocarbons obtained by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{35} and boiling in the range of approximately 121°C to 510°C (250°F to 950°F).	• Heavy atmospheric gas oil (petroleum)
68918-99-0	Gases (petroleum), crude oil fractionation off	A complex combination of hydrocarbons produced by the fractionation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.	• Crude unit off-gas
68919-39-1	Natural gas condensates	A complex combination of hydrocarbons separated and/or condensed from natural gas during transportation and collected at the wellhead and/or from the production, gathering, transmission, and distribution pipelines in deeps, scrubbers, etc. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_8.	• Condensate (natural gas) • Natural gas fluids • Natural gas liquids • Natural gas, condensate of

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CAS RN[1]	Chemical Name	Description	Other Names
68955-27-1	Distillates (petroleum), petroleum residues vacuum	A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from the atmospheric distillation of crude oil.	• Vacuum slop wax side stream
70592-76-6	Distillates (petroleum), intermediate vacuum	A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C14 through C42 and boiling in the range of approximately 250°C to 545°C (482°F to 1013°F). This stream is likely to contain 5 wt.% or more of 4- to 6-membered condensed ring aromatic hydrocarbons.	• Distillates (petroleum) intermediate vacuum
70592-77-7	Distillates (petroleum), light vacuum	A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{35} and boiling in the range of approximately 250°C to 545°C (482°F to 1013°F).	
70592-78-8	Distillates (petroleum), vacuum	A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{50} and boiling in the range of approximately 270°C to 600°C (518°F to 1112°F). This stream is likely to contain 5 wt.% or more of 4- to 6-membered condensed ring aromatic hydrocarbons.	• Heavy vacuum distillate (petroleum)

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