

**Heavy Pyrolysis Oil**

Version 1.12

Revision Date 2024-05-16

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product information**

Product Name : Heavy Pyrolysis Oil
Material : 1037426, 1037425

Use : Odorant, Fuel, Solvent

Company : Chevron Phillips Chemical Company LP
10001 Six Pines Drive
The Woodlands, TX 77380

Emergency telephone:**Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)

Belgium: 070 245 245 (24 hours/day, 7 days/week)

Bulgaria: +359 2 9154 233

Croatia: +3851 2348 342 (24 hours/day, 7 days/week)

Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402

Denmark: Danish Poison Center (Gifftlinjen): +45 8212 1212

Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Finland: 0800 147 111 09 471 977 (24 hours/day)

France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)

Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Greece: (0030) 2107793777 (24 hours/day, 7 days/week)

Hungary: +36-80-201-199 (24 hours/day, 7 days/week)

Iceland: 543 2222 (24 hours/day, 7 days/week)

Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

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Italy: POISON CENTER MILAN – Azienda Ospedaliera Niguarda Ca` Grande Tel. +39 02 66101029; POISON CENTER ROME – Policlinico “Agostino Gemelli”, Servizio di tossicologia clinica Tel. +39 06 3054343; POISON CENTER ROME – Ospedale Pediatrico Bambino Gesù Tel. +39 06 68593726; POISON CENTER ROME – Policlinico “Umberto I” Tel. +39 06 4997 8000; POISON CENTER FOGGIA – Azienda Ospedaliera Universitaria Riuniti Tel. +39 0881 732326; POISON CENTER NAPLES – Azienda Ospedaliera “Antonio Cardarelli” Tel. +39 081 7472870; POISON CENTER FLORENCE – Azienda Ospedaliera universitaria Careggi Tel. +39 055 7947819; POISON CENTER PAVIA – IRCCS Fondazione Salvatore Maugeri Tel. +39 0382 24444; POISON CENTER BERGAMO – Azienda Ospedaliera “Papa Giovanni XXIII” Tel. 800 883 300; POISON CENTER VERONA – Azienda Ospedaliera Universitaria integrata Tel. 800 011 858;

Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371 67042473. (24 hours.)

Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Lithuania: +370 (85) 2362052

Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)

Malta: +356 2395 2000

The Netherlands: NVIC: +31 (0)88 755 8000

Norway: 22 59 13 00 (24 hours/day, 7 days/week)

Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Portugal: CIAV phone number: +351 800 250 250

Romania: +40213183606

Slovakia: +421 2 5477 4166

Slovenia: Phone number: 112

Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)

Sweden: 112 – ask for Poisons Information

Responsible Department : Product Safety and Toxicology Group
 E-mail address : SDS@CPChem.com
 Website : www.CPChem.com

SECTION 2: Hazards identification**Classification of the substance or mixture**

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

Classification

: Acute toxicity, Category 4, Inhalation
 Skin sensitization, Category 1
 Carcinogenicity, Category 1A
 Reproductive toxicity, Category 2
 Specific target organ toxicity - repeated exposure, Category 2,
 Blood, Auditory organs, thymus
 Specific target organ toxicity - repeated exposure, Category 2,
 Inhalation, Auditory organs
 Aspiration hazard, Category 1

Labeling

Symbol(s) :



Signal Word :

: Danger

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Hazard Statements : H304: May be fatal if swallowed and enters airways.
 H317: May cause an allergic skin reaction.
 H332: Harmful if inhaled.
 H350: May cause cancer.
 H361: Suspected of damaging fertility or the unborn child.
 H373: May cause damage to organs (Blood, Auditory organs, thymus) through prolonged or repeated exposure.
 H373: May cause damage to organs (Auditory organs) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P331 Do NOT induce vomiting.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P363 Wash contaminated clothing before reuse.
Storage:
 P405 Store locked up.
Disposal:
 P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

| | |
|-------------|---|
| IARC | Group 2B: Possibly carcinogenic to humans |
| | Naphthalene 91-20-3 |
| NTP | Known to be human carcinogen |
| | Phenanthrene 85-01-8 |
| | Anthracene 120-12-7 |
| | Reasonably anticipated to be a human carcinogen |
| | Naphthalene 91-20-3 |
| | Phenanthrene 85-01-8 |

SECTION 3: Composition/information on ingredients

Synonyms : HPO

SDS Number:100000014923

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HFO
Heavy Fuel Oil

Molecular formula : UVCB

| Component | CAS-No. | Weight % |
|------------------------------|-------------|----------|
| Fuel oil, no. 6 | 68553-00-4 | 0 - 100 |
| Aromatic hydrocarbons, C9-11 | 70693-06-0 | 0 - 100 |
| Naphthalene | 91-20-3 | 20 - 30 |
| Biphenyl | 92-52-4 | 1 - 10 |
| Phenanthrene | 85-01-8 | 1 - 10 |
| Anthracene | 120-12-7 | 1 - 10 |
| Substituted Aromatic Amine | Proprietary | 0.1 - 1 |

SECTION 4: First aid measures

- General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.
- If inhaled : Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
- In case of eye contact : Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

- Flash point : 104.44°C (219.99°F)
- Autoignition temperature : 348.3°C (658.9°F)
- Unsuitable extinguishing media : High volume water jet.
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

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Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Fire and explosion protection : Normal measures for preventive fire protection.

SECTION 6: Accidental release measures

Personal precautions : Use personal protective equipment. Ensure adequate ventilation.

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage**Handling**

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Use : Odorant, Fuel, Solvent

SECTION 8: Exposure controls/personal protection**Ingredients with workplace control parameters**

US

| Components | Basis | Value | Control parameters | Note |
|-------------|-------|-------|--------------------|-----------|
| Naphthalene | ACGIH | TWA | 10 ppm, | A3, Skin, |

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| | ACGIH | STEL | 15 ppm, | hematologic eff, URT irr, eye irr, eye dam, (), A4, Skin, |
|------------------------|------------|------|--------------------|---|
| | OSHA Z-1 | TWA | 10 ppm, 50 mg/m3 | |
| | OSHA Z-1-A | TWA | 10 ppm, 50 mg/m3 | |
| | OSHA Z-1-A | STEL | 15 ppm, 75 mg/m3 | |
| 2-Methylnaphthalene | ACGIH | TWA | 0.5 ppm, | A4, Skin, |
| Biphenyl | ACGIH | TWA | 0.2 ppm, | |
| | OSHA Z-1 | TWA | 0.2 ppm, 1 mg/m3 | |
| | OSHA Z-1-A | TWA | 0.2 ppm, 1 mg/m3 | |
| 1-Methylnaphthalene | ACGIH | TWA | 0.5 ppm, | A4, Skin, |
| Indene | ACGIH | TWA | 5 ppm, | |
| | OSHA Z-1-A | TWA | 10 ppm, 45 mg/m3 | |
| Xylenes | OSHA Z-1 | TWA | 100 ppm, 435 mg/m3 | |
| | OSHA Z-1-A | STEL | 150 ppm, 655 mg/m3 | |
| | OSHA Z-1-A | TWA | 100 ppm, 435 mg/m3 | |
| | ACGIH | TWA | 100 ppm, | A4, |
| | ACGIH | STEL | 150 ppm, | A4, |
| Phenanthrene | OSHA Z-1-A | TWA | 0.2 mg/m3 | |
| | OSHA Z-1 | TWA | 0.2 mg/m3 | |
| Anthracene | OSHA Z-1-A | TWA | 0.2 mg/m3 | |
| | OSHA Z-1 | TWA | 0.2 mg/m3 | |
| 1,2,4-Trimethylbenzene | ACGIH | TWA | 25 ppm, | |
| | OSHA Z-1-A | TWA | 25 ppm, 125 mg/m3 | |
| Dicyclopentadiene | ACGIH | TWA | 0.5 ppm, | |
| | OSHA Z-1-A | TWA | 5 ppm, 30 mg/m3 | |
| | ACGIH | STEL | 1 ppm, | |

- () Adopted values or notations enclosed are those for which changes are proposed in the NIC
A3 Confirmed animal carcinogen with unknown relevance to humans
A4 Not classifiable as a human carcinogen
eye dam Eye damage
eye irr Eye irritation
hematologic eff Hematologic effects
Skin Danger of cutaneous absorption
URT irr Upper Respiratory Tract irritation

Immediately Dangerous to Life or Health Concentrations (IDLH)

| Substance name | CAS-No. | Control parameters | Update |
|----------------|-----------|---|------------|
| Naphthalene | 91-20-3 | Immediately Dangerous to Life or Health Concentration Value 250 parts per million | 1995-03-01 |
| Biphenyl | 92-52-4 | Immediately Dangerous to Life or Health Concentration Value 100 mg/m ³ | 1995-03-01 |
| Xylenes | 1330-20-7 | Immediately Dangerous to Life or Health Concentration Value 900 parts per million | 2017-09-01 |
| Phenanthrene | 85-01-8 | Immediately Dangerous to Life or Health Concentration Value 80 mg/m ³ | 2017-09-01 |
| Anthracene | 120-12-7 | Immediately Dangerous to Life or Health Concentration Value 80 mg/m ³ | 2017-09-01 |

Biological exposure indices**US**

| Substance name | CAS-No. | Control parameters | Sampling time | Update |
|----------------|---------|---|------------------------------------|------------|
| Phenanthrene | 85-01-8 | 1-Hydroxypyrene: 2.5 µg/l Adjusted for the Pyrene to Benzo(a)pyrene ratio of the PAH mixture to which workers are exposed (Urine) Background () With hydrolyses () | End of shift at end of workweek | 2018-03-20 |
| | | 3-hydroxybenzo(a)pyrene: Nonquantitative (Urine) With hydrolyses () | End of shift at end of workweek | 2018-03-20 |

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| | | | | |
|--------------|-----------|--|--|------------|
| Anthracene | 120-12-7 | 1-Hydroxypyrene: 2.5 µg/l Adjusted for the Pyrene to Benzo(a)pyrene ratio of the PAH mixture to which workers are exposed (Urine) Background () With hydrolyses () | End of shift at end of workweek | 2018-03-20 |
| | | 3-hydroxybenzo(a)pyrene: Nonquantitative (Urine) With hydrolyses () | End of shift at end of workweek | 2018-03-20 |
| Xylenes | 1330-20-7 | Methylhippuric acids: 1.5 g/g creatinine (Urine) | End of shift (As soon as possible after exposure ceases) | 2013-03-01 |
| Phenanthrene | 85-01-8 | 1-Hydroxypyrene: 2.5 µg/l Adjusted for the Pyrene to Benzo(a)pyrene ratio of the PAH mixture to which workers are exposed (Urine) Background () With hydrolyses () | End of shift at end of workweek | 2018-03-20 |
| | | 3-hydroxybenzo(a)pyrene: Nonquantitative (Urine) With hydrolyses () | End of shift at end of workweek | 2018-03-20 |
| Anthracene | 120-12-7 | 1-Hydroxypyrene: 2.5 µg/l Adjusted for the Pyrene to Benzo(a)pyrene ratio of the PAH mixture to which workers are exposed (Urine) Background () With hydrolyses () | End of shift at end of workweek | 2018-03-20 |
| | | 3-hydroxybenzo(a)pyrene: Nonquantitative (Urine) With hydrolyses () | End of shift at end of workweek | 2018-03-20 |

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as:. A positive pressure, air-supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.

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- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate. Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Footwear protecting against chemicals.
- Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

- Physical state : liquid
Color : dark brown

Safety data

- Flash point : 104.44°C (219.99°F)
- Lower explosion limit : No data available
- Upper explosion limit : No data available
- Oxidizing properties : No
- Autoignition temperature : 348.3°C (658.9°F)
- Molecular formula : UVCB
- Molecular weight : Not applicable
- pH : Not applicable
- Melting point/range : No data available
- Freezing point : No data available
- Boiling point/boiling range : 169.4-579.4°C (336.9-1,074.9°F)
- Vapor pressure : No data available
- Relative density : 1
- Water solubility : Insoluble
- Partition coefficient: n-octanol/water : No data available
- Viscosity, kinematic : 10 - 100 cSt
at 98.9°C (210.0°F)
- Relative vapor density : No data available
- Evaporation rate : 1

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SECTION 10: Stability and reactivity

- Reactivity** : Stable under recommended storage conditions.
No decomposition if stored and applied as directed.
- Chemical stability** : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
No decomposition if stored and applied as directed.
- Possibility of hazardous reactions**
- Hazardous reactions** : Further information: No decomposition if stored and applied as directed.
- Conditions to avoid** : Heat, flames and sparks.
No data available.
- Other data** : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

- Heavy Pyrolysis Oil**
Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat
- Heavy Pyrolysis Oil**
Acute inhalation toxicity : LC50: > 3.7 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: dust/mist
- Heavy Pyrolysis Oil**
Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: Rabbit
- Heavy Pyrolysis Oil**
Skin irritation : No skin irritation
- Heavy Pyrolysis Oil**
Eye irritation : No eye irritation
- Heavy Pyrolysis Oil**
Sensitization : May cause sensitization of susceptible persons by skin contact. Estimated based on individual component values.
Causes sensitization.

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| | |
|---|---|
| Heavy Pyrolysis Oil Repeated dose toxicity | : This information is not available. |
| Heavy Pyrolysis Oil Genotoxicity in vitro | : Remarks: No data available |
| Heavy Pyrolysis Oil Genotoxicity in vivo | : Remarks: No data available |
| Heavy Pyrolysis Oil Carcinogenicity | : Remarks: This information is not available. |
| Heavy Pyrolysis Oil Reproductive toxicity | : This information is not available. |
| Heavy Pyrolysis Oil Developmental Toxicity | : This information is not available. |
| Heavy Pyrolysis Oil Aspiration toxicity | : May be fatal if swallowed and enters airways. |
| CMR effects | |
| Fuel oil, no. 6 | : Carcinogenicity: Possible human carcinogen Reproductive toxicity: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments. |
| Naphthalene | Carcinogenicity: Limited evidence of carcinogenicity in animal studies |
| Heavy Pyrolysis Oil Further information | : Solvents may degrease the skin. |

SECTION 12: Ecological information**Ecotoxicity effects****Toxicity to fish**

Aromatic hydrocarbons, C9-11 : LC50: 0.84 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)

Naphthalene : LC50: 3.2 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates

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Aromatic hydrocarbons, C9-11 : EC50: 0.55 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Naphthalene LC50: 2.16 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Phenanthrene 0.1 mg/l
Exposure time: 96 h
Species: Daphnia pulex (Water flea)

Anthracene 0.035 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae

Aromatic hydrocarbons, C9-11 : NOEC: 0.07 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)

Naphthalene EC50: 2.96 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (algae)

M-Factor

HPO : M-Factor (Acute Aquat. Tox.) 1
M-Factor (Chron. Aquat. Tox.) 1

Biodegradability : This material is not expected to be readily biodegradable.
Expected to be ultimately biodegradable

Elimination information (persistence and degradability)

Bioaccumulation : Does not significantly accumulate in organisms.

Mobility : No data available

Results of PBT assessment
Substituted Aromatic Amine : This substance is not considered to be persistent, bioaccumulating and toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Very toxic to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic : Very toxic to aquatic life.

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hazard
 Long-term (chronic) aquatic : Very toxic to aquatic life with long lasting effects.
 hazard
 Toxicity Data on Soil : No data available

Other organisms relevant to : No data available
 the environment
 Impact on Sewage : No data available
 Treatment

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (STEAM CRACKED BOTTOMS), 9, III, MARINE POLLUTANT, (NAPHTHALENE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (STEAM CRACKED BOTTOMS), 9, III, (104.44 °C c.c.), MARINE POLLUTANT, (NAPHTHALENE, BIPHENYL)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3257, 9: NOT PERMITTED FOR TRANSPORT

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (STEAM CRACKED BOTTOMS), 9, III, (D), ENVIRONMENTALLY HAZARDOUS, (NAPHTHALENE, BIPHENYL)

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RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

99, UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (STEAM CRACKED BOTTOMS), 9, III, ENVIRONMENTALLY HAZARDOUS, (NAPHTHALENE, BIPHENYL)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (STEAM CRACKED BOTTOMS), 9, III, ENVIRONMENTALLY HAZARDOUS, (NAPHTHALENE, BIPHENYL)

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information**National legislation**

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard
Reproductive toxicity

CERCLA Reportable Quantity : 122 lbs
Naphthalene

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:
: Naphthalene - 91-20-3
Biphenyl - 92-52-4
Xylenes - 1330-20-7
Phenanthrene - 85-01-8
Anthracene - 120-12-7
1,2,4-Trimethylbenzene - 95-63-6

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Dicyclopentadiene - 77-73-6

Clean Air Act

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

- : Naphthalene - 91-20-3
- Biphenyl - 92-52-4
- Xylenes - 1330-20-7
- Phenanthrene - 85-01-8
- Anthracene - 120-12-7

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

- : 2-Methylnaphthalene - 91-57-6
- Biphenyl - 92-52-4
- 1-Methylnaphthalene - 90-12-0
- Xylenes - 1330-20-7
- 1-ethylnaphthalene - 1127-76-0

US State Regulations**Pennsylvania Right To Know**

- : Aromatic hydrocarbons, C9-11 - 70693-06-0
- Fuel oil, no. 6 - 68553-00-4
- Naphthalene - 91-20-3
- C24 to > C60 heavy cracked naphtha -
- Tricyclo[5.2.1.0_{2,6}]decane - 6004-38-2
- 2-Methylnaphthalene - 91-57-6
- Biphenyl - 92-52-4
- 1-Methylnaphthalene - 90-12-0
- Naphthalene, dimethyl- - 28804-88-8
- Naphthalene, trimethyl- - 28652-77-9
- Indene - 95-13-6
- 2,3-Dihydro-1H-Indene - 496-11-7
- Xylenes - 1330-20-7
- Phenanthrene - 85-01-8
- Anthracene - 120-12-7
- 1,2,4-Trimethylbenzene - 95-63-6
- Dicyclopentadiene - 77-73-6

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California Prop. 65 Components : WARNING! This product contains a chemical known in the State of California to cause cancer.

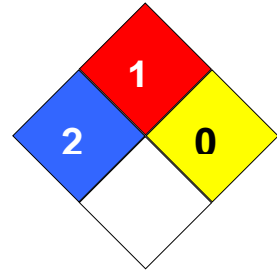
| | |
|--------------|----------|
| Naphthalene | 91-20-3 |
| Phenanthrene | 85-01-8 |
| Anthracene | 120-12-7 |

Notification status

| | |
|-------------------------------------|---|
| Europe REACH | : Not in compliance with the inventory |
| Switzerland CH INV | : Not in compliance with the inventory |
| United States of America (USA) TSCA | : On or in compliance with the active portion of the TSCA inventory |
| Canada DSL | : On the inventory, or in compliance with the inventory |
| Australia AIIC | : On the inventory, or in compliance with the inventory |
| New Zealand NZIoC | : Not in compliance with the inventory |
| Japan ENCS | : Not in compliance with the inventory |
| Philippines PICCS | : Not in compliance with the inventory |
| Taiwan TCSI | : Not in compliance with the inventory |
| Korea KECI | : Not in compliance with the inventory |
| China IECSC | : On the inventory, or in compliance with the inventory |

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
Fire Hazard: 1
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : PE0011

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet

| | | | |
|-------|---|-------|--------------------------------------|
| ACGIH | American Conference of Government Industrial Hygienists | LD50 | Lethal Dose 50% |
| AIIC | Australian Inventory of Industrial Chemicals | LOAEL | Lowest Observed Adverse Effect Level |
| DSL | Canada, Domestic Substances List | NFPA | National Fire Protection Agency |

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| | | | |
|--------|--|-------|--|
| NDSL | Canada, Non-Domestic Substances List | NIOSH | National Institute for Occupational Safety & Health |
| CNS | Central Nervous System | NTP | National Toxicology Program |
| CAS | Chemical Abstract Service | NZIoC | New Zealand Inventory of Chemicals |
| EC50 | Effective Concentration | NOAEL | No Observable Adverse Effect Level |
| EC50 | Effective Concentration 50% | NOEC | No Observed Effect Concentration |
| EGEST | EOSCA Generic Exposure Scenario Tool | OSHA | Occupational Safety & Health Administration |
| EOSCA | European Oilfield Specialty Chemicals Association | PEL | Permissible Exposure Limit |
| EINECS | European Inventory of Existing Chemical Substances | PICCS | Philippines Inventory of Commercial Chemical Substances |
| MAK | Germany Maximum Concentration Values | PRNT | Presumed Not Toxic |
| GHS | Globally Harmonized System | RCRA | Resource Conservation Recovery Act |
| >= | Greater Than or Equal To | STEL | Short-term Exposure Limit |
| IC50 | Inhibition Concentration 50% | SARA | Superfund Amendments and Reauthorization Act. |
| IARC | International Agency for Research on Cancer | TLV | Threshold Limit Value |
| IECSC | Inventory of Existing Chemical Substances in China | TWA | Time Weighted Average |
| ENCS | Japan, Inventory of Existing and New Chemical Substances | TSCA | Toxic Substance Control Act |
| KECI | Korea, Existing Chemical Inventory | UVCB | Unknown or Variable Composition, Complex Reaction Products, and Biological Materials |
| <= | Less Than or Equal To | WHMIS | Workplace Hazardous Materials Information System |
| LC50 | Lethal Concentration 50% | ATE | Acute toxicity estimate |