Heavy Pyrolysis Oil

Version 1.10 Revision Date 2020-02-04

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

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
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1B
Specific target organ toxicity - repeated exposure, Category 1, Eyes, Blood
Aspiration hazard, Category 1

Labeling

Symbol(s) :

Signal Word : Danger

Hazard Statements : H304: May be fatal if swallowed and enters airways.
H317: May cause an allergic skin reaction.
H332: Harmful if inhaled.
H340: May cause genetic defects.
H350: May cause cancer.
H372: Causes damage to organs (Eyes, Blood) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapor/spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.
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 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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
Anthracene	120-12-7

SECTION 3: Composition/information on ingredients

Synonyms : HPO
HFO
Heavy Fuel Oil

Molecular formula : UVCB

Component	CAS-No.	Weight %
Steam Cracked Bottoms	64742-90-1	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
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.

SECTION 5: Firefighting measures

Flash point : 104°C (220°F)

Autoignition temperature : 348.3°C (658.9°F)

Unsuitable extinguishing media : High volume water jet.

Specific hazards during fire : Do not allow run-off from fire fighting to enter drains or water

fighting		courses.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
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,	hemolytic anemia, URT irr, cataract, A3, Skin,
	ACGIH	STEL	15 ppm,	hematologic eff, URT irr, eye irr, eye dam, (), A4, Skin,
	OSHA Z-1	TWA	10 ppm, 50 mg/m3	(b),
	OSHA Z-1-A	TWA	10 ppm, 50 mg/m3	
	OSHA Z-1-A	STEL	15 ppm, 75 mg/m3	
Biphenyl	ACGIH	TWA	0.2 ppm,	pulm func,
	OSHA Z-1	TWA	0.2 ppm, 1 mg/m3	(b),
	OSHA Z-1-A	TWA	0.2 ppm, 1 mg/m3	
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	

() Adopted values or notations enclosed are those for which changes are proposed in the NIC
(b) The value in mg/m3 is approximate.
A3 Confirmed animal carcinogen with unknown relevance to humans
A4 Not classifiable as a human carcinogen
cataract Cataract
eye dam Eye damage
eye irr Eye irritation
hematologic eff Hematologic effects
hemolytic anemia Hemolytic anemia
pulm func Pulmonary function
Skin Danger of cutaneous absorption
URT irr Upper Respiratory Tract irritation

Hazardous components without workplace control parameters

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/m³	1995-03-01
Phenanthrene	85-01-8	Immediately Dangerous to Life or Health Concentration Value 80 mg/m³	1995-03-01
Anthracene	120-12-7	Immediately Dangerous to Life or Health Concentration Value 80 mg/m³	1995-03-01

Engineering measures

Adequate ventilation to control airborned 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 : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved

respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as:. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, 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.
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°C (220°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
Pour point	:	No data available
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

SECTION 10: Stability and reactivity

Chemical stability : 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.

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

May cause skin irritation and/or dermatitis.

Heavy Pyrolysis Oil
Eye irritation : No eye irritation

Vapors may cause irritation to the eyes, respiratory system and the skin.

Heavy Pyrolysis Oil
Sensitization : May cause sensitization of susceptible persons by skin contact.

Heavy Pyrolysis Oil
Repeated dose toxicity : This information is not available.

Genotoxicity in vitro

Naphthalene : Test Type: Ames test
Result: negative

Test Type: Sister Chromatid Exchange Assay
Result: negative

Test Type: Unscheduled DNA synthesis assay
Result: negative

Genotoxicity in vivo

Naphthalene : Test Type: Mouse micronucleus assay
Result: negative

Heavy Pyrolysis Oil
Carcinogenicity : Remarks: This information is not available.

Developmental Toxicity

Naphthalene : Species: Rabbit
Application Route: oral gavage
Dose: 40, 200, 400 mg/kg
Test period: 29 d, GD 6-18
NOAEL Teratogenicity: 400 mg/kg

Heavy Pyrolysis Oil
Aspiration toxicity : May be fatal if swallowed and enters airways.
Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

CMR effects

Steam Cracked Bottoms : Carcinogenicity: Possible human carcinogen
Mutagenicity: In vivo tests showed mutagenic effects

Naphthalene Carcinogenicity: Limited evidence of carcinogenicity in animal

studies

Heavy Pyrolysis Oil
Further information : Solvents may degrease the skin.

SECTION 12: Ecological information

Toxicity to fish

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

Toxicity to daphnia and other aquatic invertebrates

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

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

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

the environment
Impact on Sewage Treatment : No data available

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°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)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

National legislation

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

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

CERCLA Reportable Quantity : 399 lbs

Naphthalene

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

SARA 302 Threshold Planning Quantity : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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:

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

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 12 (40 CFR 61):
: Naphthalene - 91-20-3
Biphenyl - 92-52-4

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 SOCMI Intermediate or Final VOC's (40 CFR 60.489):
: Biphenyl - 92-52-4

US State Regulations

Pennsylvania Right To Know
: Naphthalene - 91-20-3
Biphenyl - 92-52-4
Phenanthrene - 85-01-8
Naphthalene, trimethyl- - 28652-77-9
Anthracene - 120-12-7

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

Notification status

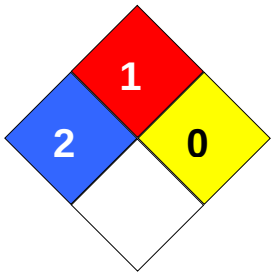
Europe REACH	:	Not in compliance with the inventory
Switzerland CH INV	:	Not in compliance with the inventory
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Canada DSL	:	On the inventory, or in compliance with the inventory
Australia AICS	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	On the inventory, or in compliance with the inventory
Japan ENCS	:	Not in compliance with the inventory
Korea KECI	:	A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations.

Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance.

Philippines PICCS	:	Not in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	Not 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%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
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%		