

# SAFETY DATA SHEET

According to the Hazardous Products Regulations  
1907/2006/EC

## Albian Heavy Synthetic

Version	Revision Date:	SDS Number:	Print Date: 2018-02-21
7.1	2018-02-20	800001027449	Date of last issue: 02.02.2017
			Date of first issue: 26.02.2014

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### SECTION 1. IDENTIFICATION

Product name : Albian Heavy Synthetic

Product code : 001B3607

#### Manufacturer or supplier's details

Manufacturer/Supplier : **Shell Canada Products**  
400 - 4th Avenue S.W  
Calgary AB T2P 0J4  
Canada

Telephone : (+1) 8006611600  
Telefax : (+1) 4033848345

Emergency telephone number : CHEMTREC (24 hr): 1 (703) 527-3887 or 1 (800) 424-9300 (US)  
CANUTEC (24 hr): (+1) 613-996-6666; Toll Free: 1-888-CAN-UTEC (226-8832)

#### Recommended use of the chemical and restrictions on use

Recommended use : Refinery Feedstock.

Restrictions on use :  
This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids : Category 1

Aspiration hazard : Category 1

Skin irritation : Category 2

Acute toxicity (Inhalation) : Category 4

Specific target organ toxicity - single exposure (Inhalation) : Category 3 (Central nervous system)

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Germ cell mutagenicity : Category 1B  
Carcinogenicity : Category 1B  
Reproductive toxicity : Category 2  
Specific target organ toxicity - repeated exposure : Category 2 (Blood, Liver, thymus, spleen)  
Chronic aquatic toxicity : Category 2

### GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : **PHYSICAL HAZARDS:**  
H224 Extremely flammable liquid and vapour.  
**HEALTH HAZARDS:**  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H332 Harmful if inhaled.  
H336 May cause drowsiness or dizziness.  
H340 May cause genetic defects.  
H350 May cause cancer.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.  
**ENVIRONMENTAL HAZARDS:**  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P331 Do NOT induce vomiting.  
**Disposal:**  
P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

### Other hazards which do not result in classification

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Hydrogen sulphide (H<sub>2</sub>S), an extremely flammable and toxic gas, and other hazardous vapours may evolve and collect in the headspace of storage tanks, transport vessels and other enclosed containers.

May ignite on surfaces at temperatures above auto-ignition temperature.

Flammable vapours may be present even at temperatures below the flash point.

This material is a static accumulator.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

The following percentage of the mixture consists of ingredient(s) with unknown acute oral toxicity:  
< 5 %

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	: Substance
Substance name	: Albian Heavy Synthetic
Chemical nature	: Crude oil produced by an upgrading process and containing predominantly aliphatic, alicyclic and aromatic hydrocarbons. It may also contain small amounts of nitrogen, oxygen and sulphur compounds.

#### Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Crude, Synthetic Petroleum (other e.g. oil sand)	Not Assigned	0 - 100

Hydrogen sulphide may be present both in the liquid and the vapour. Composition is complex and varies with the source of the crude oil and the contributing process plants at that time., Refer to Chapter 8 for Occupational Exposure Guidelines.

#### Further information

Contains:

Chemical name	Identification number	Concentration [%]
n-Hexane	110-54-3, 203-777-6	0 - < 2
toluene	108-88-3, 203-625-9	0 - 1
Ethylbenzene	100-41-4, 202-849-4	0 - < 0.5
benzene	71-43-2, 200-753-7	0 - < 0.5
cumene	98-82-8, 202-704-5	0 - < 0.5
Naphthalene	91-20-3, 202-049-5	0 - < 0.5
Hydrogen sulfide	7783-06-4, 231-977-3	0 - < 0.01

### SECTION 4. FIRST-AID MEASURES

General advice	: Vapourisation of H <sub>2</sub> S that has been trapped in clothing can be dangerous to rescuers. Maintain respiratory protection to avoid contamination from the victim to rescuer. Mechanical ventilation should be used to resuscitate if at all possible.
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- If inhaled : Call emergency number for your location / facility.  
Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or Cardio-Pulmonary Resuscitation as required and transport to the nearest medical facility.
- In case of skin contact : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
- In case of eye contact : Flush eye with copious quantities of water.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
If persistent irritation occurs, obtain medical attention.
- If swallowed : Call emergency number for your location / facility.  
If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.
- Most important symptoms and effects, both acute and delayed : Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.  
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.  
If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.  
The onset of respiratory symptoms may be delayed for several hours after exposure.  
Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache and nausea.  
H<sub>2</sub>S has a broad range of effects dependent on the airborne concentration and length of exposure: 0.02 ppm odour threshold, smell of rotten eggs; 10 ppm eye and respiratory tract irritation; 100 ppm coughing, headache, dizziness, nausea, eye irritation, loss of sense of smell in minutes; 200 ppm potential for pulmonary oedema after >20-30 minutes; 500 ppm loss of consciousness after short exposures, potential for respiratory arrest; >1000ppm immediate loss of consciousness, may lead rapidly to death, prompt cardiopulmonary resuscitation may be required. Do not depend on sense of smell for warning. H<sub>2</sub>S causes rapid olfactory fatigue (deadens sense of smell). There is no evidence that H<sub>2</sub>S will accumulate in

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the body tissue after repeated exposure.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Notes to physician : Hydrogen sulphide (H<sub>2</sub>S) - CNS asphyxiant. May cause rhinitis, bronchitis and occasionally pulmonary oedema after severe exposure. CONSIDER: Oxygen therapy. Consult a Poison Control Center for guidance.  
Exposure to hydrogen sulphide at concentrations above the recommended occupational exposure standard may cause headache, dizziness, irritation of the eyes, upper respiratory tract, mouth and digestive tract, convulsions, respiratory paralysis, unconsciousness and even death.  
Call a doctor or poison control center for guidance.  
Potential for chemical pneumonitis.

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### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media : Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire.  
Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Specific hazards during fire-fighting : Hazardous combustion products may include:  
A complex mixture of airborne solid and liquid particulates and gases (smoke).  
Carbon monoxide may be evolved if incomplete combustion occurs.  
Oxides of sulphur.  
Unidentified organic and inorganic compounds.  
Oxides of nitrogen  
The vapour is heavier than air, spreads along the ground and distant ignition is possible.  
Will float and can be reignited on surface water.  
Flammable vapours may be present even at temperatures below the flash point.  
Hydrogen sulphide (H<sub>2</sub>S) and other toxic sulphur oxides may be given off when this material is heated. Do not depend on sense of smell for warning.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : If the fire cannot be extinguished the only course of action is to evacuate immediately.  
Keep adjacent containers cool by spraying with water.

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If possible remove containers from the danger zone.  
Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : May ignite on surfaces at temperatures above auto-ignition temperature.  
Do not breathe fumes, vapour.  
Do not operate electrical equipment.

Environmental precautions : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Methods and materials for containment and cleaning up : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

Observe all relevant local and international regulations.  
Remove contaminated clothing.  
Evacuate the area of all non-essential personnel.  
Avoid contact with skin, eyes and clothing.  
Ventilate contaminated area thoroughly.

Additional advice : For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.  
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.  
For guidance on disposal of spilled material see Chapter 13 of

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this Safety Data Sheet.  
Local authorities should be advised if significant spillages cannot be contained.  
Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

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### SECTION 7. HANDLING AND STORAGE

- General Precautions : Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.  
Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.  
Prevent spillages.  
For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier.
- Advice on safe handling : Ensure that all local regulations regarding handling and storage facilities are followed.  
When using do not eat or drink.  
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.  
Never siphon by mouth.  
The vapour is heavier than air, spreads along the ground and distant ignition is possible.  
Avoid exposure.  
Use only non-sparking tools.  
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.  
Bulk storage tanks should be diked (bundled).
- Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.  
If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.  
Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges.  
These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements.  
These activities may lead to static discharge e.g. spark formation.  
Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ( $\leq 1$  m/s until fill pipe submerged to twice its diameter, then  $\leq 7$  m/s). Avoid splash filling.  
Do NOT use compressed air for filling, discharging, or han-

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dling operations.

Hydrogen sulphide (H<sub>2</sub>S) and other toxic sulphur oxides may be given off when this material is heated. Do not depend on sense of smell for warning.

Hydrogen sulphide (H<sub>2</sub>S or Sour Gas) may be present when loading and unloading transport vessels. Stay upwind and away from newly opened hatches and allow to vent thoroughly before handling material. Steam may be used to vent hatches. Keep all sources of ignition away from loading area. See National Fire Protection Association (NFPA) Code 655 for specific information on the crushing, grinding, pulverizing or handling of sulphur.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling ( for large storage tanks) before opening hatches or manholes.

Avoid splash filling Keep containers closed when not in use. Do not use compressed air for filling discharge or handling. Contamination resulting from product transfer may give rise to light hydrocarbon vapour in the headspace of tanks that have previously contained gasoline. This vapour may explode if there is a source of ignition. Partly filled containers present a greater hazard than those that are full, therefore handling, transfer and sampling activities need special care.

### Storage

Other data : Drum and small container storage:  
Keep containers closed when not in use.  
Drums should be stacked to a maximum of 3 high.  
Use properly labeled and closable containers.  
Packaged product must be kept tightly closed and stored in a diked (bunded) well-ventilated area, away from, ignition sources and other sources of heat.  
Take suitable precautions when opening sealed containers, as pressure can build up during storage.  
Tank storage:  
Tanks must be specifically designed for use with this product.  
Bulk storage tanks should be diked (bunded).  
Locate tanks away from heat and other sources of ignition.  
Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.  
Electrostatic charges will be generated during pumping.  
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.



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The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

**Packaging material** : Suitable material: For containers, or container linings use mild steel, stainless steel., Aluminium may also be used for applications where it does not present an unnecessary fire hazard., Examples of suitable materials are: high density polyethylene (HDPE), polypropylene (PP), polyvinyl chloride (PVC), polyvinyl fluoride (PVDF), and fluoroelastomers (FKM), e.g. Viton, which have been specifically tested for compatibility with this product., For container linings, or coatings, use Epoxy (amine-cured), or Epoxy Novolac, or Phenolic Epoxy., For seals and gaskets use: fluoroelastomers (FKM), e.g. Viton A, B, or F , or Neoprene (CR), or nitrile (NBR, HNBR), or graphite, or expanded PTFE (e.g. Gore-Tex).  
Unsuitable material: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene., However, some may be suitable for glove materials.

**Container Advice** : Do not cut, drill, grind, weld or perform similar operations on or near containers. Containers, even those that have been emptied, can contain explosive vapours.

**Specific use(s)** : Not applicable.

See additional references that provide safe handling practices for liquids that are determined to be static accumulators:  
American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity).  
IEC/TS 60079-32-1: Electrostatic hazards, guidance

## SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
n-Hexane	110-54-3	TWA	500 ppm 1,800 mg/m <sup>3</sup>	OSHA Z-1

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		TWA	50 ppm	ACGIH
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm (10 minutes)	OSHA Z-2
cumene	98-82-8	TWA	50 ppm 245 mg/m3	OSHA Z-1
		TWA	50 ppm	ACGIH
benzene	71-43-2	TWA	0.5 ppm 1.6 mg/m3	Shell Internal Standard (SIS) for 8-12 hour TWA.
		STEL	2.5 ppm 8 mg/m3	Shell Internal Standard (SIS) for 15 min (STEL)
		TWA	0.5 ppm	ACGIH
		STEL	2.5 ppm	ACGIH
		PEL	1 ppm	OSHA CARC
		STEL	5 ppm	OSHA CARC
		TWA	10 ppm	OSHA Z-2
		CEIL	25 ppm	OSHA Z-2
		Peak	50 ppm (10 minutes)	OSHA Z-2
Ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
		TWA	100 ppm 435 mg/m3	NIOSH REL
		ST	125 ppm 545 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	OSHA Z-1
Naphthalene	91-20-3	TWA	10 ppm 50 mg/m3	NIOSH REL
		ST	15 ppm 75 mg/m3	NIOSH REL
		TWA	10 ppm 50 mg/m3	OSHA Z-1
		TWA	10 ppm	ACGIH
Hydrogen sulfide	7783-06-4	TWA	5 ppm 7 mg/m3	2009/161/EU
	Further information: This value is for information where there is no national limit value available.			
		STEL	10 ppm 14 mg/m3	2009/161/EU
	Further information: This value is for information where there is no national limit value available.			
		CEIL	20 ppm	OSHA Z-2
		Peak	50 ppm (10 minutes once)	OSHA Z-2

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			only if no other measured exposure occurs)	
		TWA	1 ppm	ACGIH
		STEL	5 ppm	ACGIH

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
n-Hexane	110-54-3	2,5-Hexanedione	Urine	End of shift at end of work-week	0.4 mg/l	ACGIH BEI
toluene	108-88-3	Toluene	In blood	Prior to last shift of work-week	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI
benzene	71-43-2	S-Phenylmercapturic acid	Urine	End of shift (As soon as possible after exposure ceases)	25 µg/g creatinine	ACGIH BEI
		t,t-Muconic acid	Urine	End of shift (As soon as possible after exposure ceases)	500 µg/g creatinine	ACGIH BEI
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid	Urine	End of shift (As soon as possible after	0.15 g/g creatinine	ACGIH BEI

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				exposure ceases)		
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### Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods <http://www.cdc.gov/niosh/>

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods <http://www.osha.gov/>

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances <http://www.hse.gov.uk/>

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany <http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil>

### Engineering measures

- : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
- Use sealed systems as far as possible.
  - Firewater monitors and deluge systems are recommended.
  - Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
  - Local exhaust ventilation is recommended.
  - Eye washes and showers for emergency use.

### General Information:

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Practice good housekeeping.

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or for

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subsequent recycle.

### Personal protective equipment

#### Hand protection

##### Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC. Longer term protection: Nitrile rubber. Incidental contact/Splash protection: Neoprene rubber. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

#### Eye protection

: Wear goggles for use against liquids and gas.

#### Skin and body protection

: Wear chemical resistant gloves/gauntlets, boots, and apron.

#### Protective measures

: Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

### Environmental exposure controls

#### General advice

: Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.  
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance

: liquid

#### Colour

: Brown to black

#### Odour

: Potential smell of rotten eggs and sulphur.

#### Odour Threshold

: Data not available

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pH	:	Not applicable
Melting point/freezing point	:	Data not available
Boiling point/boiling range	:	$\geq 10$ °C / 50 °F
Flash point	:	$\leq 23$ °C / 73 °F
Evaporation rate	:	Data not available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	Data not available
Relative vapour density	:	Data not available
Relative density	:	Data not available
Density	:	940.2 kg/m <sup>3</sup> (15.0 °C / 59.0 °F)
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	Data not available
Auto-ignition temperature	:	$> 220$ °C / 428 °F
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, kinematic	:	3 - 1000 mm <sup>2</sup> /s (40 °C / 104 °F)
Explosive properties	:	Classification Code: NOT CLASS: Not classified
Oxidizing properties	:	Not applicable
Conductivity	:	Low conductivity: $< 100$ pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semiconductive, the precautions are the same., A number of factors, for exam-

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ple liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid

### SECTION 10. STABILITY AND REACTIVITY

- Reactivity : Oxidises on contact with air.
- Chemical stability : Stable under normal conditions of use.
- Possibility of hazardous reactions : No hazardous reaction is expected when handled and stored according to provisions
- Conditions to avoid : Avoid heat, sparks, open flames and other ignition sources.  
In certain circumstances product can ignite due to static electricity.
- Incompatible materials : Strong oxidising agents.
- Hazardous decomposition products : Hazardous decomposition products are not expected to form during normal storage.  
Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

### SECTION 11. TOXICOLOGICAL INFORMATION

- Basis for assessment : Information given is based on data from components.

#### Information on likely routes of exposure

Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

#### Acute toxicity

##### Product:

- Acute oral toxicity : (Rat): Remarks: Low toxicity:  
LD50 >5000 mg/kg
- Acute inhalation toxicity : Remarks: Harmful if inhaled.  
LC50 > 1.0 - <= 5.0 mg/l
- Acute dermal toxicity : (Rabbit): Remarks: Low toxicity:  
LD50 >2000 mg/kg
- Acute toxicity (other routes of :

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administration)                      Remarks: Inhalation of vapours or mists may cause irritation to the respiratory system.

### Skin corrosion/irritation

**Product:**

Remarks: Irritating to skin.

### Serious eye damage/eye irritation

**Product:**

Remarks: Expected to be moderately irritating to eyes (but insufficient to classify).

### Respiratory or skin sensitisation

**Product:**

Remarks: Not a sensitiser.  
Based on available data, the classification criteria are not met.

### Germ cell mutagenicity

**Product:**

Genotoxicity in vivo                      : Remarks: May cause heritable genetic damage  
Contains Benzene, CAS # 71-43-2.  
Mutagenicity studies on gasoline and gasoline blending streams have shown predominantly negative results.

### Carcinogenicity

**Product:**

Remarks: Known human carcinogen.  
Contains Benzene, CAS # 71-43-2.  
May cause leukaemia (AML - acute myelogenous leukaemia).  
Inhalation exposure to mice causes liver tumours, which are not considered relevant to humans.

<b>IARC</b>	Group 2B: Possibly carcinogenic to humans	
	Ethylbenzene	100-41-4
	Naphthalene	91-20-3
	Group 1: Carcinogenic to humans	
	benzene	71-43-2
	Group 3: Not classifiable as to its carcinogenicity to humans	
	crude oil	8002-05-9



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### Group 1: Carcinogenic to humans

benzene 71-43-2

### Group 2B: Possibly carcinogenic to humans

Naphthalene 91-20-3

cumene 98-82-8

### OSHA

OSHA specifically regulated carcinogen

benzene 71-43-2

### NTP

Reasonably anticipated to be a human carcinogen

Naphthalene 91-20-3

Known to be human carcinogen

benzene 71-43-2

Reasonably anticipated to be a human carcinogen

benzene 71-43-2

Naphthalene 91-20-3

### Reproductive toxicity

#### Product:

Effects on fertility :

Remarks: Many case studies involving abuse during pregnancy indicate that toluene can cause birth defects, growth retardation and learning difficulties.

Causes foetotoxicity at doses which are maternally toxic.

Contains Toluene, CAS # 108-88-3.

May impair fertility at doses which produce other toxic effects.

Contains n-Hexane, CAS # 110-54-3.

### STOT - single exposure

#### Product:

Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

### STOT - repeated exposure

#### Product:

Remarks: May cause damage to organs or organ systems through prolonged or repeated expo-

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sure.  
Blood  
Liver  
thymus  
spleen  
Kidney: caused kidney effects in male rats which are not considered relevant to humans  
Peripheral nervous system: repeated exposure causes peripheral neuropathy in animals.  
Contains n-Hexane, CAS # 110-54-3.

### Aspiration toxicity

#### Product:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

### Further information

#### Product:

Remarks: Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.  
Prolonged and repeated exposures to high concentrations have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss.  
Abuse of vapours has been associated with organ damage and death.  
Contains Toluene, CAS # 108-88-3.  
Myelodysplastic syndrome (MDS) was observed in individuals exposed to very high levels (50 ppm to 300 ppm range) of benzene over a long period of time in the workplace. The relevance of these results to lower levels of exposure is not known.  
H<sub>2</sub>S has a broad range of effects dependent on the airborne concentration and length of exposure: 0.02 ppm odour threshold, smell of rotten eggs; 10 ppm eye and respiratory tract irritation; 100 ppm coughing, headache, dizziness, nausea, eye irritation, loss of sense of smell in minutes; 200 ppm potential for pulmonary oedema after >20-30 minutes; 500 ppm loss of consciousness after short exposures, potential for respiratory arrest; >1000ppm immediate loss of consciousness, may lead rapidly to death, prompt cardiopulmonary resuscitation may be required. Do not depend on sense of smell for warning. H<sub>2</sub>S causes rapid olfactory fatigue (deadens sense of smell). There is no evidence that H<sub>2</sub>S will accumulate in the body tissue after repeated exposure.

## SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Incomplete ecotoxicological data are available for this product.  
The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.  
Remarks

### Ecotoxicity

#### Product:

Toxicity to fish (Acute toxicity) :  
Remarks: LL/EL/IL50 1-10 mg/l

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Toxic

Toxicity to crustacean (Acute toxicity) :  
Remarks: LL/EL/IL50 1-10 mg/l  
Toxic

Toxicity to algae/aquatic plants (Acute toxicity) :  
Remarks: LL/EL/IL50 1-10 mg/l  
Toxic

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to crustacean (Chronic toxicity) : Remarks: Data not available

Toxicity to microorganisms (Acute toxicity) : Remarks: LL/EL/IL50 10-100 mg/l  
Harmful

### Persistence and degradability

#### Product:

Biodegradability : Remarks: Oxidises rapidly by photo-chemical reactions in air. Expected to be inherently biodegradable.

### Bioaccumulative potential

#### Product:

Bioaccumulation : Remarks: Contains components with the potential to bioaccumulate.

Partition coefficient: n-octanol/water : Remarks: Data not available

### Mobility in soil

#### Product:

Mobility : Remarks: Floats on water.  
If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.

### Other adverse effects

#### Product:

Additional ecological information : Films formed on water may affect oxygen transfer and damage organisms.

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### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

- Waste from residues : Recover or recycle if possible.  
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.  
Do not dispose into the environment, in drains or in water courses  
Do not dispose of tank water bottoms by allowing them to drain into the ground.  
Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
- Contaminated packaging : Send to drum recoverer or metal reclaimer.  
Drain container thoroughly.  
After draining, vent in a safe place away from sparks and fire.  
Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleaned drums.  
Do not pollute the soil, water or environment with the waste container.  
Comply with any local recovery or waste disposal regulations.

### SECTION 14. TRANSPORT INFORMATION

#### TDG

- UN number : 3494  
Proper shipping name : PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC  
Class : 3  
Subsidiary risk : 6.1  
Packing group : I  
Labels : 3 (6.1)  
Marine pollutant : no

#### International Regulations

##### IATA-DGR

- UN/ID No. : UN 3494  
Proper shipping name : PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC  
Class : 3  
Subsidiary risk : 6.1  
Packing group : I  
Labels : 3 (6.1)

##### IMDG-Code

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UN number	: UN 3494
Proper shipping name	: PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC
Class	: 3
Subsidiary risk	: 6.1
Packing group	: I
Labels	: 3 (6.1)
Marine pollutant	: yes

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

Pollution category	: Not applicable
Ship type	: Not applicable
Product name	: Not applicable

### Special precautions for user

Not applicable

**Additional Information** : MARPOL Annex 1 rules apply for bulk shipments by sea.

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## SECTION 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

### The components of this product are reported in the following inventories:

DSL : All components listed or polymer exempt.

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## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemi-

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icals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

This product is intended for use in closed systems only.

Revision Date : 2018-02-20

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.

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