

SAFETY DATA SHEET



Section 1. Identification

Product name Fuels, diesel
Other means of identification MB LS, Marine Distillate Fuels
SDS # SMF2114
Code SMF2114

Relevant identified uses of the substance or mixture and uses advised against

Product use Low Sulfur Marine Fuel

Supplier BP Products North America Inc.
150 West Warrenville Road
Naperville, Illinois 60563-8460
USA

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735
Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)

OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

Section 2. Hazards identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture ACUTE TOXICITY (inhalation) - Category 4
CARCINOGENICITY - Category 1
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2%

GHS label elements

Hazard pictograms



Signal word

Danger

Hazard statements

Harmful if inhaled.
May cause cancer.
Suspected of damaging the unborn child.
May be fatal if swallowed and enters airways.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Do not breathe vapor.

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Section 2. Hazards identification

Response	Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
Storage	Store locked up.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	<p>Prolonged or repeated contact may dry skin and cause irritation.</p> <p>This material can contain hydrogen sulfide (H₂S), a very toxic and extremely flammable gas.</p> <p>Will cause burns if hot material contacts eyes.</p> <p>Will cause burns if hot material contacts skin.</p> <p>This material may contain significant quantities of polycyclic aromatic hydrocarbons (PAHs), some of which have been shown by experimental studies to induce skin cancer.</p> <p>Note: High Pressure Applications</p> <p>Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.</p> <p>See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.</p>

Section 3. Composition/information on ingredients

Substance/mixture Substance

Ingredient name	CAS number	%
Residues (petroleum), hydrocracked	64741-75-9	100
Contains: Polycyclic aromatic hydrocarbons (PAHs)	mixture	0.2

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	Hot product - Flood with water to dissipate heat. In the event of any product remaining, do not try to remove it other than by continued irrigation with water. Obtain medical attention immediately. Cold product - Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Hot Product - Flood skin with cold water to dissipate heat, cover with clean cotton or gauze, obtain medical advice immediately. Cold Product - Wash contaminated skin with soap and water. Remove contaminated clothing and wash underlying skin as soon as reasonably practicable. Get medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention. EXPOSURE TO HYDROGEN SULFIDE (H ₂ S): Casualties suffering ill effects as a result of exposure to hydrogen sulfide should be immediately removed to fresh air and medical assistance obtained without delay. Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth to mouth method. Administer external cardiac massage if necessary. Seek medical attention immediately.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.

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Section 4. First aid measures

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias. Inhalation of hydrogen sulfide may cause central respiratory depression leading to coma and death. It is irritant to the respiratory tract causing chemical pneumonitis and pulmonary edema. The onset of pulmonary edema may be delayed for 24 to 48 hours. Treat with oxygen and ventilate as appropriate. Administer broncho-dilators if indicated and consider administration of corticosteroids. Keep casualty under surveillance for 48 hours in case pulmonary edema develops.

Note: High Pressure Applications

Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis.

Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

Specific treatments

No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water fog, foam, dry chemicals, or carbon dioxide.

Unsuitable extinguishing media

Do not use water jet.

Specific hazards arising from the chemical

Avoid spraying directly into storage containers because of the danger of boil-over. Boil-over is the rapid increase in volume caused by the presence of water in hot product and the subsequent overflow from a tank. Vapors can form explosive mixtures with air. Vapors are heavier than air and can spread along the ground or float on water surfaces to remote ignition sources. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst. Runoff to sewer may create fire or explosion hazard. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products

Combustion products may include the following:
carbon dioxide
carbon monoxide
sulfur oxides

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. No action shall be taken involving any personal risk or without suitable training. Use water spray to keep fire-exposed containers cool.

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Section 5. Fire-fighting measures

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. This material can contain hydrogen sulfide (H₂S), a very toxic and extremely flammable gas.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained positive pressure breathing apparatus (SCBA).

Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

Environmental precautions

Depending upon its temperature the product may be liquid, semi-solid or solid. Protect drains from spills and prevent entry of product, since this may result in blockage on cooling. Should blockage occur, notify the appropriate authority immediately.

Spillages in water or at sea:

Product less dense than water: In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, before working in the combustion/exhaust spaces of engines/boilers or before handling ash/dust produced by the combustion of product, the work area should be thoroughly dampened with water. This will help to minimize the amount of airborne contamination produced by the work activity. However, because of the risk of explosion, do not allow water to come into contact with hot ash/dust. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. Collect recovered product and other contaminated materials in suitable tanks or containers for recycle, recovery or safe disposal. Product which is denser than water will sink to the bottom, and usually no intervention will be feasible. If possible, collect the product and contaminated materials with mechanical means, and store/dispose of according to relevant regulations. In special situations (to be assessed on case-by-case basis, according to expert judgment and local conditions), excavations of trenches on the bottom to collect the product with sand may be a feasible option.

Methods and materials for containment and cleaning up

Small spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Dike spill area and do not allow product to reach sewage system and surface or ground water. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product. Dispose of via a licensed waste disposal contractor. Depending upon its temperature the product may be liquid, semi-solid or solid. Protect drains from spills and prevent entry of product, since this may result in blockage on cooling. Should blockage occur, notify the appropriate authority immediately. Scrape up bulk of solid material and remove liquid with sand or other suitable inert absorbent material. If necessary, clean the contaminated area using hot water and detergent: absorb the washings - do not wash into drains.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid contact of spilled material and runoff with soil and surface waterways. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Do not breathe vapor or mist. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid exposure during pregnancy. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. Contact with hot product may cause burns.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

When product is heated to high temperatures, vapor, mists or fumes will be given off and may condense, contaminating the skin or clothing of operatives. Prolonged or repeated contact with this condensate may give rise to dermatitis. Regular periodic self inspection of the skin is recommended, especially those areas subject to contamination. In the event of any localised changes in appearance or texture of the skin being noticed, medical advice should be sought without delay.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

This material can contain hydrogen sulfide (H₂S), a very toxic and extremely flammable gas. Vapors containing hydrogen sulfide may accumulate during storage or transport and may also be vented during filling of tanks. Hydrogen sulfide has a typical "bad egg" smell but at high concentrations the sense of smell is rapidly lost, therefore do not rely on sense of smell for detecting hydrogen sulfide. Use specially designed measuring instruments for determining its concentration.

Light hydrocarbon vapors can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapor in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. Entry to any tanks or other confined space requires a full risk assessment and appropriate control measures to be put in place in conformance with appropriate regulations and industry practice on confined space entry. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapor mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurized fuel pipes, the vapor or mists generated will create a flammability or explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Polycyclic aromatic hydrocarbons (PAHs)	<p>ACGIH TLV (United States). TWA: 0.2 mg/m³ 8 hours. Form: Benzene-soluble</p> <p>OSHA PEL (United States). TWA: 0.2 mg/m³ 8 hours. Form: Benzene-soluble</p>
Hydrogen Sulfide	<p>ACGIH TLV (United States). STEL: 5 ppm 15 minutes. Issued/Revised: 11/2009 TWA: 1 ppm 8 hours. Issued/Revised: 11/2009</p> <p>OSHA PEL Z2 (United States). AMP: 50 ppm 10 minutes. Issued/Revised: 6/1993 CEIL: 20 ppm Issued/Revised: 6/1993</p> <p>NIOSH REL (United States). CEIL: 10 ppm 10 minutes. Issued/Revised: 6/1994 CEIL: 15 mg/m³ 10 minutes. Issued/Revised: 6/1994</p>

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Hot material: to prevent thermal burns wear a helmet, full face visor and heat resistant neck flap / apron.

Cold material: wear safety glasses with side shields. Recommended: face shield

Skin protection

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Section 8. Exposure controls/personal protection

Hand protection

Recommended: Nitrile gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

Body protection

Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Cold material: Wear suitable protective clothing. Footwear highly resistant to chemicals. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static. When there is a risk of ignition wear inherently fire resistant protective clothes and gloves. Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes. When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: chemical-resistant protective suit

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: natural rubber (latex)

Respiratory protection

Use only with adequate ventilation. Avoid breathing vapor or mist. If ventilation is inadequate, use a NIOSH-certified respirator with an organic vapor cartridge and P95 particulate filter.

Where there is potential for exposure to hydrogen sulfide gas in excess of the permissible exposure limit, a certified supplied-air respirator operated in positive pressure mode should be worn. Personal gas monitors may also provide early warning of hydrogen sulfide.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Thermal hazards

Hot material: Wear suitable protective clothing to protect against heat and brief contact with flame. Protection should be provided for exposed areas of the neck and head.

Section 9. Physical and chemical properties

Appearance

Physical state	(product is a solid at 25°C)
Color	Straw. Yellow.
Odor	Oily, Kerosene [Strong]
Odor threshold	Not available.
pH	7 to 8
Melting point	Not available.
Boiling point	315.6 to 538°C (600 to 1000°F)
Flash point	125°C (257°F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state

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Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits	Lower: 0.5% Upper: 5%
Vapor pressure	<109.707 kPa (<825 mm Hg) at 50°C
Vapor density	7 [Air = 1]
Density	838 to 859 kg/m ³ (0.838 to 0.859 g/cm ³)
Relative density	0.85 [at 15°C]
Solubility	negligible
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 5 to 10 mm ² /s (5 to 10 cSt) at 40°C

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Exposure	Remarks
Residues (petroleum), hydrocracked	LC50 Inhalation Dusts and mists	Rat	4500 mg/m ³	4 hours	Based on Carbon black oil
	LC50 Inhalation Dusts and mists	Rat	4100 mg/m ³	4 hours	Based on Carbon black oil
	LD50 Dermal	Rabbit	>2000 mg/kg	-	Based on Catalytic cracked clarified oil (CCCO)
	LD50 Dermal	Rabbit	>2000 mg/kg	-	Based on Heavy fuel oil
	LD50 Oral	Rat	5270 mg/kg	-	Based on Catalytic cracked clarified oil (CCCO)
	LD50 Oral	Rat	4320 mg/kg	-	Based on Catalytic cracked clarified

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Section 11. Toxicological information

oil (CCCO)

Conclusion/Summary Not available.

Irritation/Corrosion

Product/ingredient name	Species	Result	Score	Exposure	Observation	Conc.	Remarks
Residues (petroleum), hydrocracked	Rabbit	Skin - Non-irritant to skin.	-	-	-	-	Based on Heavy fuel oil
	Rabbit	Eyes - Non-irritating to the eyes.	-	-	-	-	Based on Heavy fuel oil

Sensitizer

Product/ingredient name	Route of exposure	Species	Result	Remarks
Residues (petroleum), hydrocracked	skin	Guinea pig	Not sensitizing	Based on Heavy fuel oil

Mutagenicity

Product/ingredient name	Test	Experiment	Result	Remarks
Residues (petroleum), hydrocracked	Equivalent to OECD 476	Experiment: In vitro Subject: Mammal - species unspecified	Positive	Based on Catalytic cracked clarified oil (CCCO)
	Equivalent to OECD 471	Experiment: In vitro Subject: Non-mammalian species	Positive	Based on Catalytic cracked clarified oil (CCCO)
	Equivalent to OECD 475	Experiment: In vivo Subject: Unspecified Cell: Germ	Negative	Based on Catalytic cracked clarified oil (CCCO)
	Equivalent to OECD 474	Experiment: In vivo Subject: Unspecified Cell: Germ	Negative	Based on Catalytic cracked clarified oil (CCCO)

Conclusion/Summary Not classified. Based on available data, the classification criteria are not met.

Carcinogenicity

Product/ingredient name	Species	Route	Exposure	Test	Result	Remarks
Residues (petroleum), hydrocracked	Mouse	Dermal	Positive - Dermal - Unspecified	Lifetime	-	Based on Catalytic cracked clarified oil (CCCO)

Conclusion/Summary May cause cancer

Classification

Product/ingredient name	OSHA	IARC	NTP
Polycyclic aromatic hydrocarbons (PAHs)	-	-	Reasonably anticipated to be a human carcinogen.

NTP :

Possible - Reasonably anticipated to be human carcinogens.

Reproductive toxicity

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Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Result	Exposure
Residues (petroleum), hydrocracked	-	Negative	-	Rat	Dermal	70 days no effects observed
	-	-	Positive	Rat	Dermal	20 days Effects observed

Conclusion/Summary Development: Suspected of damaging the unborn child.
 Fertility: Based on available data, the classification criteria are not met.
 Effects on or via lactation: Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Residues (petroleum), hydrocracked	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Residues (petroleum), hydrocracked	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.
Skin contact No known significant effects or critical hazards.
Inhalation Harmful if inhaled.
Ingestion Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.
Skin contact Adverse symptoms may include the following:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
Inhalation Adverse symptoms may include the following:
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness
Ingestion Adverse symptoms may include the following:
 nausea or vomiting
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.
Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Section 11. Toxicological information

Potential delayed effects Not available.

Potential chronic health effects

General May cause damage to organs through prolonged or repeated exposure. Vapor, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer.

Carcinogenicity May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity Suspected of damaging the unborn child.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (dusts and mists)	1.5 mg/l

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Product/ingredient name	Species	Test/Result	Exposure	Effects	Remarks
Residues (petroleum), hydrocracked	Daphnia	Acute EL50 2 mg/l Nominal Fresh water	48 hours	Mobility	Based on Heavy fuel oil
	Fish	Acute LL50 79 mg/l Nominal Fresh water	96 hours	-	Based on residual fuel oil
	Daphnia	Chronic NOEL 0.27 mg/l Nominal Fresh water	21 days	Reproduction	-
	Fish	Chronic NOEL 0.1 mg/l Nominal Fresh water	28 days	Mortality	-

Conclusion/Summary Persistent per IMO criteria

Persistence and degradability

Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

Bioaccumulative potential

This material may accumulate in sediments.

Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other adverse effects No known significant effects or critical hazards.

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Section 12. Ecological information

Other ecological information This product has a density close to that of water. Spills are unlikely to form a distinct film on the water surface, and may become dispersed as globules if mixed or agitated. If released to water the product may sink.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Hydrogen sulfide; Hydrogen sulfide H2S	7783-06-4	Listed	U135

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3082	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Heavy fuel oil)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Heavy fuel oil)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Heavy fuel oil)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Heavy fuel oil)
Transport hazard class(es)	9 	9 	9 	9 
Packing group	III	III	III	III
Environmental hazards	No.	Yes.	Yes.	Yes.
Additional information	Reportable quantity 500 lbs / 227 kg [70.674 gal / 267.53 L] The classification of the product is due solely to the presence of one or more US DOT-listed 'Hazardous	The product is not regulated as a dangerous good when transported by road or rail.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules (EmS) F-A, S-F	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

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Section 14. Transport information

	substances that are subject to reportable quantity requirements and only applies to shipments of packages greater than, or equal to, the product reportable quantity. Package sizes less than the product reportable quantity are not regulated as hazardous materials.				
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Special precautions for user Not available.

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

Proper shipping name

MARPOL Annex 1 rules apply for bulk shipments by sea.
Category: fuel and residual oils, including ship's bunkers

Section 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b)

All components are listed or exempted.

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Hydrogen Sulfide	1	Yes.	500	-	100	-

SARA 304 RQ

10000 lbs / 4540 kg [1413.5 gal / 5350.6 L]

SARA 311/312

Classification

Immediate (acute) health hazard
Delayed (chronic) health hazard

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Hydrogen Sulfide	7783-06-4	1
	Polycyclic aromatic hydrocarbons (PAHs)	-	0.2
Supplier notification	Hydrogen Sulfide	7783-06-4	1
	Polycyclic aromatic hydrocarbons (PAHs)	-	0.2

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

The following components are listed: HYDROGEN SULFIDE

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New Jersey	The following components are listed: HYDROGEN SULFIDE; Polycyclic aromatic hydrocarbons (PAHs)
Pennsylvania	The following components are listed: HYDROGEN SULFIDE (H2S); Polycyclic aromatic hydrocarbons (PAHs)
California Prop. 65	WARNING: This product contains a chemical known to the State of California to cause cancer. cumene; Naphthalene
Other regulations	
Australia inventory (AICS)	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China inventory (IECSC)	Not determined.
Japan inventory (ENCS)	Not determined.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	Not determined.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

[Hazardous Material Information System \(U.S.A.\)](#)

Health	*	2
Flammability		1
Physical hazards		0
Personal protection		

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

[National Fire Protection Association \(U.S.A.\)](#)



[History](#)

Date of issue/Date of revision 10/08/2014.

Date of previous issue 04/23/2014.

[Key to abbreviations](#)

ACGIH = American Conference of Industrial Hygienists
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OEL = Occupational Exposure Limit
SDS = Safety Data Sheet
STEL = Short term exposure limit
TWA = Time weighted average
UN = United Nations
UN Number = United Nations Number, a four digit number assigned by the United

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Section 16. Other information

Nations Committee of Experts on the Transport of Dangerous Goods.

✔ Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

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