

SAFETY DATA SHEET



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

1.1 Product identifier

Product name	Fuels, diesel
Other means of identification	Distillate Marine Fuels DMA, DMA LS DMB, DMB LS DMZ, DMZ LS F-76
SDS no.	SMF2110
Historic SDS no.	SMI2110
EC number	269-822-7
CAS number	68334-30-5
Product type	Liquid.

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

Use of the substance/mixture	Fuel for marine engines. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
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1.3 Details of the supplier of the safety data sheet

Supplier	BP Global Investments Salah & Co LLC PO Box 2309 Postal Code 211 Salalah Sultanate of Oman
E-mail address	MSDSadvice@bp.com

1.4 Emergency telephone number

EMERGENCY TELEPHONE NUMBER	+968 23219350 (24 hours)
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	UVCB
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]	

Acute Tox. 4, H332
Skin Irrit. 2, H315
Carc. 2, H351
STOT RE 2, H373
Asp. Tox. 1, H304
Aquatic Chronic 2, H411

Classification according to Directive 67/548/EEC [DSD]

Carc. Cat. 3; R40
Xn; R20, R65
Xi; R38
N; R51/53

See Section 16 for the full text of the R phrases or H statements declared above.

See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

2.2 Label elements

Hazard pictograms



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SECTION 2: Hazards identification

Signal word	Danger
Hazard statements	H332 - Harmful if inhaled. H315 - Causes skin irritation. H351 - Suspected of causing cancer. H304 - May be fatal if swallowed and enters airways. H373 - May cause damage to organs through prolonged or repeated exposure. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements	
Prevention	P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P280 - Wear protective gloves/clothing and eye/face protection. P273 - Avoid release to the environment.
Response	P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. P332 + P313 - If skin irritation occurs: Get medical advice/attention.
Storage	Not applicable.
Disposal	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	Not applicable.
Special packaging requirements	
Containers to be fitted with child-resistant fastenings	Not applicable.
Tactile warning of danger	Not applicable.
2.3 Other hazards	
Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII	Not available.
Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	Not available.
Other hazards which do not result in classification	This material may contain significant quantities of polycyclic aromatic hydrocarbons (PAHs), some of which have been shown by experimental studies to induce skin cancer. Note: High Pressure Applications Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.

SECTION 3: Composition/information on ingredients

Substance/mixture UVCB
Complex hydrocarbon substance. May Contain 2% Sulphur or Sulfur (Maximum)

Classification

Product/ingredient name	CAS no.	%	67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	Type
Fuels, diesel	68334-30-5	100	Carc. Cat. 3; R40 Xn; R20, R65 Xi; R38 N; R51/53	Acute Tox. 4, H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[*]

See Section 16 for the full text of the R-phrases declared above.

See Section 16 for the full text of the H statements declared above.

Type

- [*] Substance
- [A] Constituent
- [B] Impurity
- [C] Stabilising additive

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SECTION 3: Composition/information on ingredients

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Wash clothing before reuse. Clean shoes thoroughly before reuse. 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.
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.
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.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

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. 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, discoloured 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 minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.
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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.
Unsuitable extinguishing media	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	In a fire or if heated, a pressure increase will occur and the container may burst. Vapours can form explosive mixtures with air. Vapours are heavier than air and can spread along the ground or float on water surfaces to remote ignition sources. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Hazardous combustion products	Combustion products may include the following: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide) sulphur oxides (SO, SO ₂ , etc.)

5.3 Advice for firefighters

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SECTION 5: Firefighting measures

Special precautions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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 spilt material. Floors may be slippery; use care to avoid falling. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Eliminate all ignition sources. No flares, smoking or flames in hazard area.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapour, 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".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material 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. Use spark-proof tools and explosion-proof equipment. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach the 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 spilt product. Dispose of via a licensed waste disposal contractor. Use spark-proof tools and explosion-proof equipment. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 5 for firefighting measures.
See Section 8 for information on appropriate personal protective equipment.
See Section 12 for environmental precautions.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not swallow. Aspiration hazard. Can enter lungs and cause damage. Never siphon by mouth. Avoid contact of spilt material and runoff with soil and surface waterways. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Take precautionary measures against electrostatic discharges. Do not reuse container. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use only non-sparking tools.

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.

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SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

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

Light hydrocarbon vapours 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 vapour 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 into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. 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/vapour mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurised fuel pipes, the vapour 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.

7.3 Specific end use(s)

Recommendations

See section 1.2 and Exposure scenarios in annex, if applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name

Exposure limit values

Fuels, diesel

ACGIH TLV (United States). Absorbed through skin.

TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hours. Issued/
Revised: 1/2007 Form: Inhalable fraction and vapor

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

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived No Effect Level

Product/ingredient name	Type	Exposure	Value	Population	Effects	
Fuels, diesel	DNEL	Short term Inhalation	15 minutes	4300 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	8 hours TWA	2.9 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	8 hours TWA	68 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	15 minutes	2600 mg/m ³	Consumers	Systemic
	DNEL	Long term Dermal	TWA	1.3 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	24 hours TWA	20 mg/m ³	Consumers	Systemic

Predicted No Effect Concentration

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No PNECs available

8.2 Exposure controls

Appropriate engineering controls

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

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. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

If local exhaust ventilation or other methods of ventilation are not possible or are insufficient, wear suitable respiratory protective devices. Wear suitable respiratory protective devices if there is a risk of exposure limits being exceeded. The choice of suitable respiratory device will depend upon a risk assessment of the workplace environment and the task being carried out. If required, the respiratory device must be certified as safe in defined explosive atmospheres (EX Label). Respiratory protective devices must be checked to ensure they fit correctly each time they are worn. Please consult European standard EN 529 for further guidance on the selection, use, care and maintenance of respiratory protective devices.

Suitable breathing apparatus (independent of ambient atmosphere) must be worn if any of the following situations apply.

- When the workplace atmosphere is considered to be immediately dangerous to life and health.
- When there is a risk of the workplace atmosphere being oxygen deficient.
- When the workplace atmosphere is uncontrolled.
- When the workplace atmosphere is unknown.
- When there is a risk of loss of consciousness or asphyxiation
- When entry into a confined space is required.
- When there is a risk of gases being released that could be a fire or explosion hazard.
- When the concentration of contaminants in the atmosphere exceeds the level of protection (maximum allowed concentration) given by a filtering device
- When the contaminants have a low odour that would not be tasted or smelt by the wearer of a filtering device if the filter became exhausted or saturated.
- When there is a risk of hydrogen sulphide exposure limits being exceeded.

If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/ aerosol/particulates) that may arise when handling the product.

Recommended: Gas filter suitable for gases and vapours. Filter type: A
 Combined filter suitable for gases, vapours and particles (dust, smoke, mist, aerosol). Filter type: AP

Eye/face protection

Chemical splash goggles.

Skin protection

Hand protection

General Information:

Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).

Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.

Wear chemical resistant gloves.
 Recommended: Nitrile gloves.
 Do not re-use gloves.
 Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis.
 Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade

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SECTION 8: Exposure controls/personal protection

cut and puncture).
The frequency of replacement will depend upon the circumstances of use.

Breakthrough time:

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type. Our recommendations on the selection of gloves are as follows:

Continuous contact:

Gloves with a minimum breakthrough time of 240 minutes, or >480 minutes if suitable gloves can be obtained.

If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

Short-term / splash protection:

Recommended breakthrough times as above.

It is recognised that for short-term, transient exposures, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.

Glove Thickness:

For general applications, we recommend gloves with a thickness typically greater than 0.35 mm.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

Skin and body

Wear suitable protective clothing.

Footwear highly resistant to chemicals.

When there is a risk of ignition wear inherently fire resistant protective clothes and gloves.

Refer to standard: ISO 11612

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.

Refer to standard: EN 1149

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination.

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.

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.

SECTION 8: Exposure controls/personal protection

Personal protective equipment (Pictograms)



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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Colour	Amber./ Dark Brown.
Odour	Gas oil
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	150 to 385°C (302 to 725°F)
Pour point	-6 °C
Flash point	Closed cup: >60°C (>140°F) [Pensky-Martens.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Lower: 0.6% Upper: 6.5%
Vapour pressure	<0.04 kPa (<0.301 mm Hg) at 20°C
Vapour density	>2 [Air = 1]
Relative density	Not available.
Density	<900 kg/m ³ (<0.9 g/cm ³) at 15°C
Solubility(ies)	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	250°C (482°F)
Decomposition temperature	Not available.
Viscosity	Kinematic: 2 to 11 mm ² /s (2 to 11 cSt) at 40°C
Explosive properties	Not available.
Oxidising properties	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

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

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result / Route	Test authority / Number	Species	Dose	Exposure	Remarks
Fuels, diesel	LC50 Inhalation Dusts and mists	Equivalent to OECD 403	Rat	4.1 mg/l	4 hours	Based on Diesel fuel
	LD50 Dermal	Equivalent to OECD 434	Rabbit	>4300 mg/kg	-	Based on No. 2 Heating Oil.
	LD50 Dermal	Equivalent to OECD 434	Rabbit	>4300 mg/kg	-	Based on Diesel fuel
	LD50 Oral	Equivalent to OECD 401	Rat	17900 mg/kg	-	Based on No. 2 Heating Oil.
	LD50 Oral	Equivalent to OECD 420	Rat	7600 mg/kg	-	Based on Diesel fuel

Irritation/Corrosion

Product/ingredient name	Test authority / Test number	Species	Route / Result	Test concentration	Remarks
Fuels, diesel	Equivalent to OECD 404	Rabbit	Skin - Irritation	-	Based on No. 2 Heating Oil.
	Equivalent to OECD 404	Rabbit	Skin - Irritation	-	Based on Diesel fuel
	Equivalent to OECD 405	Rabbit	Eyes - Non-irritating to the eyes.	-	Based on No. 2 Heating Oil.
	Equivalent to OECD 405	Rabbit	Eyes - Non-irritating to the eyes.	-	Based on Diesel fuel

Sensitiser

Product/ingredient name	Route	Test authority / Test number	Species	Result	Remarks
Fuels, diesel	skin	Equivalent to OECD 406	Guinea pig	Not sensitising	Based on No. 2 Heating Oil.
	skin	Equivalent to OECD 406	Guinea pig	Not sensitising	Based on Diesel fuel

GERM CELL MUTAGENICITY

Product/ingredient name	Test authority / Test number	Cell	Type	Result	Remarks
Fuels, diesel	OECD 471	-	Experiment: In vitro Subject: Non-mammalian species	Positive	Based on Diesel fuel
	Equivalent to OECD 476	Cell: Germ	Experiment: In vitro Subject: Mammalian-Animal	Negative	Based on Heating Oil.
	not guideline	Cell: Somatic	Experiment: In vivo Subject: Unspecified	Negative	Based on Heating Oil.

Conclusion/Summary

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

Carcinogenicity

Product/ingredient name	Test authority / Test number	Species	Route	Exposure	Result	Remarks
Fuels, diesel	Equivalent to OECD 451	Mouse	Dermal	2 years	Positive	Based on Heating Oil.

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Conclusion/Summary Suspected of causing cancer.

Reproductive toxicity

Product/ingredient name	Test authority / Test number	Species	Route	Exposure	Developmental	Maternal toxicity	Fertility	Remarks
Fuels, diesel	Equivalent to OECD 414	Rat	Dermal	20 days	Negative	-	-	Effects observed at maternally toxic doses. (Based on Condensates (petroleum), vacuum tower)
	Equivalent to OECD 414	Rat	Dermal	10 days	Negative	-	-	Effects observed at maternally toxic doses. (Based on Diesel fuel)
	Equivalent to OECD 414	Rat	Dermal	10 days	Negative	-	-	Effects observed at maternally toxic doses. (Based on No. 2 Heating Oil.)

Conclusion/Summary Development: Not classified. Based on available data, the classification criteria are not met.
 Fertility: Not classified. Based on available data, the classification criteria are not met.
 Effects on or via lactation: Not classified. Based on available data, the classification criteria are not met.

Aspiration hazard

Conclusion/Summary May be fatal if swallowed and enters airways. Classification on basis substance is a hydrocarbon and has a kinematic viscosity of 20.5 mm²/s or less, measured at 40°C.

Specific target organ toxicity

Product / Ingredient Name	Hazard	Test authority / Test number	Species	Route	Type	Dose	Exposure	Target organs	Remarks
Fuels, diesel	STOT - RE	Equivalent to OECD 411	Rat	Dermal	LOAEL	20 to 200 mg/kg bw/day	90 days	blood	Based on Condensates (petroleum), vacuum tower
	STOT - SE	Equivalent to OECD 434	Rabbit	Dermal	LOAEL	>2000 mg/kg	-	-	Based on Heating Oil.
	STOT - SE	Equivalent to OECD 401	Rat	Oral	LOAEL	>2000 mg/kg	-	-	Based on Heating Oil.
	STOT - RE	Equivalent to OECD 413	Rat	Inhalation	NOAEC	>0.2 mg/l /6 hours	90 days	-	Based on Diesel fuel
	STOT - SE	Equivalent to OECD 403	Rat	Inhalation	LOAEL	>5 mg/l	4 hours	-	Based on Diesel fuel

Conclusion/Summary STOT - RE: May cause damage to organs through prolonged or repeated exposure.
 STOT - SE: Not classified. Based on available data, the classification criteria are not met.

Information on the likely routes of exposure

Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Inhalation

Harmful if inhaled.

Ingestion

Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

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SECTION 11: Toxicological information

Skin contact Causes skin irritation.
Eye contact No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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

Skin contact Adverse symptoms may include the following:
 irritation
 redness

Eye contact Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

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

Inhalation Vapour, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs. Vapour, mist or fume may irritate the nose, mouth and respiratory tract.

Ingestion If swallowed, may irritate the mouth, throat and digestive system. If swallowed, may cause abdominal pain, stomach cramps, nausea, vomiting, diarrhoea, dizziness and drowsiness.

Skin contact As with all such products containing potentially harmful levels of PCAs, prolonged or repeated skin contact may eventually result in dermatitis or more serious irreversible skin disorders including cancer.

Eye contact Vapour, mist or fume may cause eye irritation. Exposure to vapour, mist or fume may cause stinging, redness and watering of the eyes.

Potential chronic health effects

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

Carcinogenicity Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Test authority / Test number	Species	Type / Result	Exposure	Effects	Remarks	
Fuels, diesel	Modelled data	-	Micro-organism	EL50 >1000 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	Modelled data	-	Micro-organism	NOELR 3.217 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	OECD	201	Algae	Acute EL50 22 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	OECD	202	Daphnia	Acute EL50 210 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	OECD	202	Daphnia	Acute EL50 68 mg/l	48 hours	Mobility	Based on

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SECTION 12: Ecological information

			Nominal	Fresh water				Diesel fuel
OECD	201	Algae	Acute ErL50	78 mg/l	72 hours	(growth rate)	Based on	Diesel fuel
			Nominal	Fresh water			Based on	Diesel fuel
OECD	203	Fish	Acute LL50	65 mg/l	96 hours	Mortality	Based on	Diesel fuel
			Nominal	Fresh water			Based on	Diesel fuel
OECD	203	Fish	Acute LL50	21 mg/l	96 hours	Mortality	Based on	Diesel fuel
			Nominal	Fresh water			Based on	Diesel fuel
OECD	201	Algae	Acute NOELR	10 mg/l	72 hours	(growth rate)	Based on	Diesel fuel
			Nominal	Fresh water			Based on	Diesel fuel
OECD	201	Algae	Acute NOELR	1 mg/l	72 hours	(growth rate)	Based on	Diesel fuel
			Nominal	Fresh water			Based on	Diesel fuel
OECD	202	Daphnia	Acute NOELR	46 mg/l	48 hours	Mobility	Based on	Diesel fuel
			Nominal	Fresh water			Based on	Diesel fuel
Modelled data	-	Fish	Chronic NOEL	0.083 mg/l	14 days	Mortality	Based on	Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
			Nominal	Fresh water			Based on	Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
Modelled data	-	Daphnia	Chronic NOELR	0.2 mg/l	21 days	Immobilisation	Based on	Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
			Nominal	Fresh water			Based on	Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel

Environmental hazards Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

IOPC Persistent/not persistent. oil: Persistent

Product/ingredient name	Test authority / Test number	Result - Exposure	Remarks
Fuels, diesel	OECD 301 F	60 % - Readily - 28 days	Based on Diesel fuel
	OECD 301 F	57.5 % - Not readily - 28 days	Based on Diesel fuel
	Equivalent to EPA OTS 796. 3100	35 % - Not readily - 28 days	Based on Gas Oils (petroleum), solvent refined

12.3 Bioaccumulative potential

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

12.4 Mobility in soil

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

Mobility Spillages may penetrate the soil causing ground water contamination. This material may accumulate in sediments.

12.5 Results of PBT and vPvB assessment

PBT Not available.

vPvB Not available.

12.6 Other adverse effects

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Hazardous waste Yes.

European waste catalogue (EWC)

Waste code	Waste designation
13 07 01*	fuel oil and diesel

However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user.

Packaging

Methods of disposal Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Special precautions 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1202	UN1202	UN1202	UN1202
14.2 UN proper shipping name	Diesel fuel	Diesel fuel	Diesel fuel. Marine pollutant (Fuels, diesel)	Diesel fuel
14.3 Transport hazard class(es)	3  	3  	3  	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	No.
Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Hazard identification number 30 Tunnel code D/E	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Remarks Table C Danger: 3+ (N2, CMR, F)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules (EmS) F-E, S-E	The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user Not available.

ADR/RID Classification code: F1

ADN Classification code: F1

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

Other regulations

REACH Status

The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

United States inventory (TSCA 8b)

All components are listed or exempted.

Australia inventory (AICS)

All components are listed or exempted.

Canada inventory

All components are listed or exempted.

China inventory (IECSC)

All components are listed or exempted.

Japan inventory (ENCS)

Not determined.

Korea inventory (KECI)

All components are listed or exempted.

Philippines inventory (PICCS)

All components are listed or exempted.

15.2 Chemical Safety Assessment

Not applicable.

SECTION 16: Other information

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 CSA = Chemical Safety Assessment
 CSR = Chemical Safety Report
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 DPD = Dangerous Preparations Directive [1999/45/EC]
 DSD = Dangerous Substances Directive [67/548/EEC]
 EINECS = European Inventory of Existing Commercial chemical Substances
 ES = Exposure Scenario
 EUH statement = CLP-specific Hazard statement
 EWC = European Waste Catalogue
 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)
 OECD = Organisation for Economic Co-operation and Development
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 RRN = REACH Registration Number
 SADT = Self-Accelerating Decomposition Temperature
 SVHC = Substances of Very High Concern
 STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
 STOT-SE = Specific Target Organ Toxicity - Single Exposure
 TWA = Time weighted average

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SECTION 16: Other information

UN = United Nations
 UVCB = Complex hydrocarbon substance
 VOC = Volatile Organic Compound
 vPvB = Very Persistent and Very Bioaccumulative

Full text of abbreviated H statements

H226 Flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H332 Harmful if inhaled.
 H332 (inhalation) Harmful if inhaled.
 H351 Suspected of causing cancer.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H373 (bone marrow, liver and thymus) May cause damage to organs through prolonged or repeated exposure. (bone marrow, liver and thymus)
 H411 Toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4, H332 ACUTE TOXICITY (inhalation) - Category 4
 Aquatic Chronic 2, H411 LONG-TERM AQUATIC HAZARD - Category 2
 Asp. Tox. 1, H304 ASPIRATION HAZARD - Category 1
 Carc. 2, H351 CARCINOGENICITY - Category 2
 Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3
 Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
 STOT RE 2, H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 STOT RE 2, H373 (bone marrow, liver and thymus) SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (bone marrow, liver and thymus) - Category 2

Full text of abbreviated R phrases

R40- Limited evidence of a carcinogenic effect.
 R20- Harmful by inhalation.
 R65- Harmful: may cause lung damage if swallowed.
 R38- Irritating to skin.
 R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications [DSD/DPD]

Carc. Cat. 3 - Carcinogen category 3
 Xn - Harmful
 Xi - Irritant
 N - Dangerous for the environment

History

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Date of previous issue No previous validation.
Prepared by Product Stewardship

 **Indicates information that has changed from previously issued version.**

Notice to reader

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