



1. Identification of the substance/preparation and company/undertaking

Product name	Marine Residual Fuel Oil - RME and RMG
SDS no.	SSA9012
Use of the substance/mixture	fuel and residual oils, including ship's bunkers For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Supplier	BP Southern Africa (Pty) Ltd 10 Junction Road Parktown, Johannesburg South Africa
EMERGENCY TELEPHONE NUMBER	+27 31 480 1221
OTHER PRODUCT INFORMATION	031-4801422
E-mail address	MSDSadvice@bp.com

2. Hazards identification

This substance is classified as dangerous according to Directive 67/548/EEC as amended and adapted.

Human health hazards	May cause cancer. Possible risk of harm to the unborn child. Also harmful by inhalation. Also harmful: danger of serious damage to health by prolonged exposure in contact with skin. Repeated exposure may cause skin dryness or cracking.
Environmental hazards	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Additional hazards	This material can contain hydrogen sulphide (H ₂ S), a very toxic and extremely flammable gas. This material may contain significant quantities of polycyclic aromatic hydrocarbons (PCAs), 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.

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

3. Composition/information on ingredients

Complex mixture of middle distillate hydrocarbons, with carbon numbers in C10 to C28 range. Contains small quantities of polycyclic aromatic hydrocarbons (PAHs).

South Africa

Chemical name	CAS no.	%	EINECS / ELINCS.	Classification
Fuel oil, residual	68476-33-5	50 - 100	270-675-6	Carc. Cat. 2; R45 Repr. Cat. 3; R63 Xn; R20, R48/21 R66 N; R50/53

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

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] PBT-substance

[4] vPvB-substance

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

4 . 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	Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.
Inhalation	Get medical attention immediately. 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. EXPOSURE TO HYDROGEN SULPHIDE: Casualties suffering ill effects as a result of exposure to hydrogen sulphide 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	Get medical attention immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.
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 sulphide may cause central respiratory depression leading to coma and death. It is irritant to the respiratory tract causing chemical pneumonitis and pulmonary oedema. The onset of pulmonary oedema 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 oedema develops.

5 . Fire-fighting measures

Extinguishing media	
Suitable	In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.
Not suitable	Do not use water jet.
Hazardous decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
Unusual fire/explosion hazards	Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
Special fire-fighting procedures	Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. This material is very toxic to aquatic organisms. Move containers from fire area if this can be done without risk. No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Use water spray to keep fire-exposed containers cool.
Protection of 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.

6 . Accidental release measures

Personal precautions - For non-emergency personnel	Eliminate all ignition sources. 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. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Ensure good ventilation. Put on appropriate personal protective equipment. This material can contain hydrogen sulphide (H ₂ S), a very toxic and extremely flammable gas. 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 positive pressure breathing apparatus (SCBA).
Personal precautions - 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".
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.

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 spilled product. Dispose of via a licensed waste disposal contractor.

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.

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.

7. Handling and storage

Handling - Protective measures

Put on appropriate personal protective equipment. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid contact of spilled 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. Store and use away from heat, sparks, open flame or any other ignition source. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Do not reuse container. Empty containers retain product residue and can be hazardous.

Handling - 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.

Storage

Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). 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. Explosive air/vapour mixtures can occur, particularly in unventilated or confined spaces. If hydrogen sulphide is present, the flammable limits can be from 4.3 to 45.5% by volume and its presence may promote the formation of pyrophoric iron compounds. 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. 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. 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. This material can contain hydrogen sulphide (H₂S), a very toxic and extremely flammable gas. Vapours containing hydrogen sulphide may accumulate during storage or transport and may also be vented during filling of tanks. Hydrogen sulphide 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 sulphide. Use specially designed measuring instruments for determining its concentration. 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.

Eliminate all ignition sources. 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. Do not store in unlabelled containers. Separate from oxidising materials. Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in a segregated and approved area. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Ingredient name

Occupational exposure limits

South Africa

Fuel oil, residual

ACGIH TLV (United States).

TWA: 0.2 mg/m³, (Benzene-soluble)

Hydrogen Sulphide

[Air contaminant]

DOL OEL (South Africa).

STEL: 21 mg/m³ 15 minutes. Issued/Revised: 8/1995

STEL: 15 ppm 15 minutes. Issued/Revised: 8/1995

TWA: 14 mg/m³ 8 hours. Issued/Revised: 8/1995

TWA: 10 ppm 8 hours. Issued/Revised: 8/1995

ACGIH TLVs

For information and guidance, the ACGIH values are included. For further information on these please consult your supplier.

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.

Exposure controls

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Occupational exposure controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours 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.

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.

Personal protective equipment

Respiratory protection

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.

Hand protection

Wear chemical resistant gloves.

Recommended: Nitrile gloves.

Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture).

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.

The frequency of replacement will depend upon the circumstances of use.

Eye protection

Chemical splash goggles.

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.

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 (Pictograms)



9 . Physical and chemical properties

General information

Appearance

Physical state

Viscous liquid.

Colour

Black.

Important health, safety and environmental information

Flash point

Closed cup: 71°C (159.8°F)

Explosion limits

Lower: 0.6%

Upper: 6.5%

Vapour density

>1 [Air = 1]

Viscosity

Kinematic: 30 to 700 mm²/s (30 to 700 cSt) at 50°C

Pour point

330 °C

Density

1010 kg/m³ (1.01 g/cm³) at 15°C

Solubility

insoluble in water.

10 . Stability and reactivity

Stability	The product is stable.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
Materials to avoid	Reactive or incompatible with the following materials: oxidising materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Effects and symptoms

Eyes	May cause eye irritation. Potential risk of transient stinging or redness if accidental eye contact occurs. Exposure to vapour, mist or fume may cause stinging, redness and watering of the eyes. Vapour, mist or fume may cause eye irritation.
Skin	May cause skin irritation. 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.
Inhalation	Harmful by inhalation. 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 and diarrhoea.
Chronic effects	Harmful: danger of serious damage to health by prolonged exposure in contact with skin. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Vapour, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer.
Other chronic toxicity data	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.
Carcinogenic effects	May cause cancer. Risk of cancer depends on duration and level of exposure. This material may contain greater than 0.1% naphthalene. Naphthalene has been evaluated for carcinogenicity in laboratory rodents in studies sponsored by the National Toxicology Program (NTP). Results of these studies show some evidence of carcinogenic activity in female mice, and clear evidence of carcinogenic activity in male and female rats. Tumors were observed in the lung for female mice in the nose for rats. Nonneoplastic lesions of the nose and respiratory tract were also observed in these studies. Naphthalene has been reported to cause developmental toxicity in mice, but developmental toxicity was not observed in NTP sponsored studies in rats and rabbits. Ingestion or inhalation of naphthalene can result in hemolysis and other blood abnormalities, and individuals (and infants) deficient in glucose-6-phosphatase dehydrogenase may be especially susceptible to these effects. Inhalation of naphthalene may cause headache and nausea. Airborne exposure can result in eye irritation. Naphthalene exposure has been associated with cataracts in animals and humans.
Developmental effects	Possible risk of harm to the unborn child.

12 . Ecological information

Persistence/degradability	Inherently biodegradable
Mobility	Spillages may penetrate the soil causing ground water contamination. This material may accumulate in sediments.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Environmental hazards	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 . Disposal considerations

Disposal considerations / Waste information	The generation of waste should be avoided or minimised wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
Other information	At sea, used or unwanted product should be stored for eventual discharge into port approved waste oil disposal facilities. Empty packages may contain some remaining product. Hazard warning labels are a guide to the safe handling of empty packaging and should not be removed. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Dusts generated during the removal of ash deposits from engine/boiler combustion surfaces or exhaust spaces, will be harmful if inhaled and may cause nausea and eye, nose and throat irritation. Repeated contact may result in serious irreversible disorders. Before working in combustion/exhaust spaces or handling fuel oil ash/dust the area should be thoroughly damped down with water. If this is not possible, wear full breathing apparatus or positive pressure filter sets. Protective clothing must always be worn. When inspecting combustion/exhaust spaces, wear full face dust respirator and protective clothing.









Unused product

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.

14 . Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
ADR/RID Classification	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	9	III	 	Tunnel code (E)
ADN Classification	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)	9	III	 	Remarks Table:C.Danger: 9+(N2, CMR, F or S).
IMDG Classification	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.. Marine pollutant	9	III	 	Emergency schedules (EmS) F-A, S-F
ICAO/IATA Classification	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	9	III	 	-

PG* : Packing group

ADN Classification code: M6

15 . Regulatory information

Label requirements

Hazard symbol or symbols



Dangerous for the environment

Indication of danger

Risk phrases

R45- May cause cancer.
 R63- Possible risk of harm to the unborn child.
 R20- Also harmful by inhalation.
 R48/21- Also harmful: danger of serious damage to health by prolonged exposure in contact with skin.
 R66- Repeated exposure may cause skin dryness or cracking.
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases

S53- Avoid exposure - obtain special instructions before use.
 S36/37- Wear suitable protective clothing and gloves.
 S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

Contains

Fuel oil, residual

Chemical name

EC number

Substance Identification

Fuel oil, residual

Additional warning phrases

Repeated exposure may cause skin dryness or cracking.

Restrictions on the Marketing and Use Directive

For non-fuel uses - "Restricted to Professional Users. Attention - avoid exposure - obtain special instructions before use". Must be marked on packaging.

Other regulations

REACH Status

For the REACH status of this product please consult your company contact, as identified in Section 1.

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)

All components are listed or exempted.

Korea inventory (KECI)

Not determined.

Philippines inventory (PICCS)

Not determined.

National regulations

National legislation: Occupational Health and Safety Act (Act 85 of 1993).

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16 . Other information

Full text of R-phrases referred to in sections 2 and 3

R45- May cause cancer.
R63- Possible risk of harm to the unborn child.
R20- Also harmful by inhalation.
R48/21- Also harmful: danger of serious damage to health by prolonged exposure in contact with skin.
R66- Repeated exposure may cause skin dryness or cracking.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

History

Date of issue/ Date of revision

26/06/2012.

Date of previous issue

No previous validation.

Prepared by

Product Stewardship

Notice to reader

✔ Indicates information that has changed from previously issued version.

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 us.

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.