

Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Material Name : Shell Morlina S2 BL 5
Uses : Machine oil.

Product Code : 001D7736

Manufacturer/Supplier : Shell India Markets Private Limited
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation Description : Highly refined mineral oils and additives.

Hazardous Components

Chemical Identity	CAS	EINECS	Symbol(s)	R-phrases(s)	Conc.
Gas oils (petroleum), hydrodesulfurized	64742-79-6	265-182-8	N, Xn	R20; R38; R51/53; R65	90.00 - 100.00 %
Triphenyl phosphate	115-86-6	204-112-2	N	R50/53	0.10 - 0.24 %
Butylated hydroxytoluene	128-37-0	204-881-4	N	R50/53	0.10 - 0.24 %

Additional Information : The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346. Refer to chapter 16 for full text of EC R-phrases.

3. HAZARDS IDENTIFICATION

EC Classification : Harmful.
Dangerous for the environment.

Health Hazards : Harmful by inhalation. Irritating to skin. Repeated exposure may cause skin dryness or cracking. Harmful: may cause lung damage if swallowed. Used oil may contain harmful impurities.

Signs and Symptoms : If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of

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	respiratory symptoms may be delayed for several hours after exposure. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.
Safety Hazards	: Not classified as flammable but will burn.
Environmental Hazards	: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

Inhalation	: Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.
Skin Contact	: Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
Eye Contact	: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	: If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.
Advice to Physician	: Treat symptomatically. Potential for chemical pneumonitis. Consider: gastric lavage with protected airway, administration of activated charcoal. Call a doctor or poison control center for guidance.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific Hazards	: Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	: Do not use water in a jet.
Protective Equipment for Firefighters	: Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

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- Protective measures** : Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
- Clean Up Methods** : Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.
- Additional Advice** : Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

- General Precautions** : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
- Handling** : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.
- Storage** : Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F
- Recommended Materials** : For containers or container linings, use mild steel or high density polyethylene.
- Unsuitable Materials** : PVC.
- Additional Information** : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	IN OEL	TWA(Mist.)		5 mg/m3	
	IN OEL	STEL(Mist.)		10 mg/m3	
	ACGIH	TWA(Inhalable fraction.)		5 mg/m3	
Triphenyl phosphate	ACGIH	TWA		3 mg/m3	

- Exposure Controls** : The level of protection and types of controls necessary will vary

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- depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.
Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
- Personal Protective Equipment** : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- Respiratory Protection** : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].
- Hand Protection** : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
- Eye Protection** : Wear safety glasses or full face shield if splashes are likely to occur.
- Protective Clothing** : Skin protection not ordinarily required beyond standard issue work clothes. It is good practice to wear chemical resistant gloves.
- Monitoring Methods** : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
- Environmental Exposure Controls** : Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Clear light brown. Liquid at room temperature.
 Odour : Slight hydrocarbon.
 pH : Not applicable.
 Initial Boiling Point and Boiling Range : > 200 °C / 392 °F estimated value(s)

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Pour point	: Typical -30 °C / -22 °F
Flash point	: Typical 120 °C / 248 °F (COC)
Upper / lower Flammability or Explosion limits	: Typical 1 - 6 %(V)
Auto-ignition temperature	: > 220 °C / 428 °F
Vapour pressure	: ca. 0.1 hPa at 20 °C / 68 °F (estimated value(s))
Density	: Typical 869 kg/m ³ at 15 °C / 59 °F
Water solubility	: Negligible.
n-octanol/water partition coefficient (log Pow)	: > 3 (based on information on similar products)
Kinematic viscosity	: Typical 5 mm ² /s at 40 °C / 104 °F
Vapour density (air=1)	: Data not available
Evaporation rate (nBuAc=1)	: Data not available

10. STABILITY AND REACTIVITY

Stability	: Stable.
Conditions to Avoid	: Extremes of temperature and direct sunlight.
Materials to Avoid	: Strong oxidising agents.
Hazardous Decomposition Products	: Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	: Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	: Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	: May be harmful in contact with skin. LD50 > 2000 - <= 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	: Harmful if inhaled. LC50 > 1.0 - <= 5.0 mg/l / 4 h, Rat
Skin Irritation	: Causes skin irritation.
Eye Irritation	: Expected to be slightly irritating.
Respiratory Irritation	: Inhalation of vapours or mists may cause irritation.
Sensitisation	: Not expected to be a sensitiser.
Mutagenicity	: Not considered a mutagenic hazard.
Carcinogenicity	: Components are not known to be associated with carcinogenic effects.
Reproductive and Developmental Toxicity	: Not expected to be a hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity	: Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be toxic: LL/EL/IL50 1-10 mg/l (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract).
Mobility	: Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
Persistence/degradability	: Readily biodegradable.
Bioaccumulation	: Contains constituents with the potential to bioaccumulate.
Other Adverse Effects	: Product is a mixture of non-volatile components, which are not

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expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

- Material Disposal** : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
- Container Disposal** : Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
- Local Legislation** : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION**Land (as per ADR classification): Regulated**

- Class : 9
 Packing group : III
 Hazard identification no. : 90
 UN No. : 3082
 Danger label (primary risk) : 9
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Gas oils, (petroleum), hydrodesulphurised)
 Environmentally Hazardous : Yes

IMDG

- Identification number : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 Technical name : (Gas oils, (petroleum), hydrodesulphurised)
 Class / Division : 9
 Packing group : III
 Marine pollutant: : Yes

IATA (Country variations may apply)

- UN No. : 3082
 Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
 Technical name : (Gas oils, (petroleum), hydrodesulphurised)
 Class / Division : 9
 Packing group : III

15. REGULATORY INFORMATION

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

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EC Classification	:	Harmful. Dangerous for the environment.
EC Symbols	:	Xn Harmful. N Dangerous for the environment.
EC Risk Phrases	:	R20 Harmful by inhalation. R38 Irritating to skin. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R65 Harmful: may cause lung damage if swallowed.
EC Safety Phrases	:	S23 Do not breathe gas/fumes/vapour/spray. S24 Avoid contact with skin. S37 Wear suitable gloves. S61 Avoid release to the environment. Refer to special instructions/Safety data sheets. S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
Chemical Inventory Status		
EINECS	:	All components listed or polymer exempt.
TSCA	:	All components listed.
Classification triggering components	:	Contains Gas oils (petroleum), hydrodesulphurised.
Other Information	:	The Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 (amended version issued 2000). The Factories Act, 1948, The Second Schedule: Permissible levels of certain chemical substances in work environment, as amended through 1987. India Central motor Vehicles (Amendment) Rules 1993.

16. OTHER INFORMATION

R-phrases

R20	Harmful by inhalation.
R38	Irritating to skin.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

MSDS Version Number	:	2.3
MSDS Effective Date	:	24.11.2011
MSDS Revisions	:	A vertical bar () in the left margin indicates an amendment from the previous version.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product.
Disclaimer	:	This information is based on our current knowledge and is

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intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.