Safety Data Sheet

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

Material Name : **Shell Long Life-OAT - 45 degrees C Antifreeze/Coolant**

Recommended Use / Restrictions of Use : Antifreeze and coolant.

Product Code : 001C4856

Supplier : **100004**
Shell (China) Limited
China Beijing
Jian Guo Men Wai Ave 1
China World Tower 2, 32F

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Email Contact for MSDS : If you have any enquiries about the content of this MSDS please email lubricantSDS@shell.com

2. HAZARDS IDENTIFICATION

GHS Classification : Acute toxicity, Category 4
Specific target organ toxicity - repeated exposure, Category 2, Kidney.

GHS Label Elements
Symbol(s) :



Signal Words : Warning

Hazard Statement : PHYSICAL HAZARDS:
Not classified as a physical hazard under GHS criteria.

HEALTH HAZARDS:
H302: Harmful if swallowed.
H373: May cause damage to organs or organ systems through prolonged or repeated exposure.

ENVIRONMENTAL HAZARDS:
Not classified as a health hazard under GHS criteria.

GHS Precautionary Statements

Prevention : P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.

Safety Data Sheet

Response : P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330: Rinse mouth.

Storage : No precautionary phrases.

Disposal: : P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other Hazards which do not result in classification : Not classified as flammable but will burn.

Intentional abuse, misuse or other massive exposure may cause multiple organ damage and or death.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture Description : Mixture of monoethylene glycol and inhibitor package.

Classification of components according to GHS

Chemical Identity	Synonyms	CAS	Hazard Class (category)	Hazard Statement	Conc.
Ethanediol		107-21-1	Acute Tox., 4;	H302;	50.00 - 75.00 %

Additional Information : Does not contain any amines, nitrates, phosphates, borates or silicates.

Refer to Ch 16 for full text of R- and H- phrases.

4. FIRST AID MEASURES

General Information : DO NOT DELAY. Keep victim calm. Obtain medical treatment immediately.

The first aid measures for different exposure routes:

Inhalation : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

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 : DO NOT DELAY. 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.

Most Important Symptoms/Effects, Acute & Delayed : Kidney toxicity may be recognized by blood in the urine or increased or decreased urine flow. Other signs and symptoms can include nausea, vomiting, abdominal cramps, diarrhoea,

Safety Data Sheet

		lumbar pain shortly after ingestion, and possibly narcosis and death. High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued exposure may result in unconsciousness and/or death.
Immediate medical attention, special treatment	:	IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT! The preferred treatment is immediate transportation to a medical facility and use of appropriate treatment including possible administration of activated charcoal, gastric lavage and or gastric aspiration. If none of the above are immediately available and a delay of more than one hour is anticipated before such medical attention can be obtained, induction of vomiting may be appropriate using IPECAC syrup (Contraindicated if there are any signs of CNS depression). This should be considered on a case by case basis following specialist advice. Specific other treatments may include ethanol therapy, fomepizole, treatment of acidosis and haemodialysis. Seek specialist advice without delay.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific hazards arising from Chemicals	:	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 & Precautions for Fire Fighters	:	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.

Personal Precautions, Protective Equipment and Emergency Procedures	:	Avoid contact with skin and eyes.
Environmental Precautions	:	Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Methods and Material for	:	For large liquid spills (> 1 drum), transfer by mechanical means

Safety Data Sheet

Containment and Cleaning up		such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
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.
Precautions for Safe 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.
Conditions for Safe Storage	:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Store at ambient temperature.
Recommended Materials	:	For containers or container linings, use mild steel or high density polyethylene.
Unsuitable Materials	:	Zinc. Avoid contact with galvanized materials.
Other Advice	:	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
Ethanediol	ACGIH	Ceiling(Aerosol.)		100 mg/m3	

Safety Data Sheet

	CN OEL	TWA		20 mg/m3	
	CN OEL	STEL		40 mg/m3	

Material	Source	Hazard Designation
Ethanediol	ACGIH	Not classifiable as a human carcinogen.

Biological Exposure Index (BEI)

Data not available

Appropriate Engineering Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Individual Protection Measures : 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

Safety Data Sheet

		occur.
Protective Clothing	:	Skin protection not ordinarily required beyond standard issue work clothes.
Thermal Hazards	:	Not applicable.
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	:	Orange. Liquid at room temperature.
Odour	:	Characteristic
Odour threshold	:	Data not available
pH	:	Typical 7.8 - 9.5
Initial Boiling Point and Boiling Range	:	> 100 °C / 212 °F estimated value(s)
Freezing Point	:	Typical -46 °C / -51 °F Data not available
Flash point	:	Data not available
Upper / lower Flammability or Explosion limits	:	3 - 15 %(V)
Auto-ignition temperature	:	> 200 °C / 392 °F
Vapour pressure	:	Data not available
Relative Density	:	Typical 1.070 - 1.085 at 15 °C / 59 °F
Density	:	Typical 1,070 - 1,085 kg/m3 at 15 °C / 59 °F
Water solubility	:	Completely Soluble
Solubility in other solvents	:	Data not available
n-octanol/water partition coefficient (log Pow)	:	Data not available
Dynamic viscosity	:	Data not available
Kinematic viscosity	:	Not applicable.
Vapour density (air=1)	:	Data not available
Evaporation rate (nBuAc=1)	:	Data not available
Decomposition Temperature	:	Data not available
Flammability	:	Data not available

10. STABILITY AND REACTIVITY

Chemical stability	:	Stable.
Possibility of Hazardous Reactions	:	Reacts with strong oxidising agents.
Conditions to Avoid	:	Extremes of temperature and direct sunlight.
Incompatible Materials	:	Strong oxidising agents.

Safety Data Sheet

Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological effects

Basis for Assessment	:	Information given is based on data on the components and the toxicology of similar products.
Likely Routes of Exposure	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.
Acute Oral Toxicity	:	Harmful if swallowed. LD50 >500 - 2000 mg/kg , Rat There is a marked difference in acute oral toxicity between rodents and man, man being more susceptible than rodents. The estimated fatal dose for man is 100 milliliters (1/2 cup). This material has also been shown to be toxic and potentially lethal by ingestion to cats and dogs. Ingestion may cause drowsiness and dizziness.
Acute Dermal Toxicity	:	Low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Low toxicity: LC50 >5 mg/l , 4 h, Rat
Skin Corrosion/Irritation	:	Expected to be slightly irritating.
Serious Eye Damage/Irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation.
Respiratory or Skin Sensitisation	:	Not expected to be a skin sensitiser.
Aspiration Hazard	:	Not considered an aspiration hazard.
Germ Cell Mutagenicity	:	Not considered a mutagenic hazard.
Carcinogenicity	:	Components are not known to be associated with carcinogenic effects.
Reproductive and Developmental Toxicity	:	Causes foetotoxicity in animals; considered to be secondary to maternal toxicity.
Specific target organ toxicity - single exposure	:	Ingestion may cause drowsiness and dizziness. Inhalation of vapours or mists may cause irritation to the respiratory system.
Specific target organ toxicity - repeated exposure	:	Kidney: can cause kidney damage.

12. ECOLOGICAL INFORMATION

Basis for Assessment	:	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.

Ecotoxicity:

Acute Toxicity	:	Expected to be practically non toxic: LC/EC/IC50 > 100 mg/l (to aquatic organisms)
Microorganisms	:	Data not available
Mobility	:	Dissolves in water. If product enters soil, it will be highly mobile and may contaminate groundwater.
Persistence/degradability	:	Readily biodegradable.
Bioaccumulative Potential	:	Not expected to bioaccumulate significantly.
Other Adverse Effects	:	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. Hazardous Waste.

14. TRANSPORT INFORMATION

Land (as per ADR classification): Not regulated
This material is not classified as dangerous under ADR regulations.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)
This material is either not classified as dangerous under IATA regulations or needs to follow country specific requirements.

15. REGULATORY INFORMATION

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

Safety Data Sheet

Chemical Inventory Status

EINECS	:	All components listed.
TSCA	:	All components listed.
INV (CN)	:	All components listed.
Classification triggering components	:	Contains ethanediol. Contains bittering agent.
Other Information	:	GB 6944-2005: Classification and Code of Dangerous Goods. GB/T 16483-2008: Safety Data Sheet for Chemical Products Content and Order of Sections. GB 13690-2009: Classification and Labels of Dangerous Chemical Substances Commonly Used. GB 12268-2005: List of Dangerous Goods. GBZ 2.1-2007: Occupational Exposure Limits for Hazardous Agents in the Workplace Part 1: Chemical Hazardous Agents. National Catalogue of Hazardous Wastes.

16. OTHER INFORMATION

Hazard Statement

H302 Harmful if swallowed.

MSDS Version Number	:	1.2
MSDS Effective Date	:	2012/03/20
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 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.