

MATERIAL SAFETY DATA SHEET

S-OIL SEVEN RED1 10W40

Date of the previous version: 2016-04-25

Revision Date: 2016-04-25

Version 1

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

1.1. Product identifier

Product name S-OIL SEVEN RED1 10W40
Pure substance/mixture Mixture

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

Recommended Use LPG Engine Oil

1.3. Details of the supplier of the safety data sheet

Supplier S-OIL CORPORATION
192, Baekbeom-ro, Mapo-gu,
Seoul 121-805, Korea

For further information, please contact:

Contact Point HSSEQ
E-mail Address dolyoo@s-oil-total.com

1.4. Emergency telephone number

Korea + 82 2 3772-5733

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS Classification

2.2. Label elements

GHS label elements, including precautionary statements

Symbol(s) Not Classified

Signal Words Not Classified

2.3. GHS Hazard Statements

Not classified.

2.4. GHS Precautionary Statements

Prevention Not Classified

Response Not Classified

Storage Not Classified

Disposal Not Classified

MATERIAL SAFETY DATA SHEET**S-OIL SEVEN RED1 10W40**

Date of the previous version: 2016-04-25

Revision Date: 2016-04-25

Version 1

2.5. Other hazards**Physical-Chemical Properties** Contaminated surfaces will be extremely slippery.**Environmental properties** Should not be released into the environment**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1. Mixture**

Chemical Name	CAS-No	EC-No	Weight %
Severely hydrogenated heavy paraffinic distillate	64742-54-7	265-157-1	80.0 ~ 85.0
Mixed Performance Additive	-	-	5.0 ~ 10.0
Viscosity Modifier Additive	-	-	5.0 ~ 10.0
Motor Oil Additive	-	-	< 1.0
Polymer Esters of Methacrylic Acid and Mixed Mixed long chain Alcohols	-	-	< 1.0

Additional information Product containing mineral oil with less than 3% DMSO extract as measured by IP 346**4. FIRST AID MEASURES****4.1. Description of first-aid measures**

General advice IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

Eye contact Rinse thoroughly with plenty of water, also under the eyelids.

Skin contact Remove contaminated clothing and shoes. Wash skin with soap and water. Wash contaminated clothing before reuse. High pressure jets may cause skin damage. In this case, the casualty should be sent immediately to hospital.

Inhalation Move to fresh air.

Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

4.2. Most important symptoms and effects, both acute and delayed

Eye contact Not classified.

Skin contact Not classified. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

Inhalation Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.

Ingestion Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

MATERIAL SAFETY DATA SHEET

S-OIL SEVEN RED1 10W40

Date of the previous version: 2016-04-25

Revision Date: 2016-04-25

Version 1

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	When using, do not eat, drink or smoke. For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.
Prevention of fire and explosion	Take precautionary measures against static discharges. Ground/bond containers, tanks and transfer/receiving equipment.
Hygiene measures	Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep away from food, drink and animal feedingstuffs. Keep in a banded area. Keep container tightly closed. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from frost, heat and sunlight. Protect from moisture.
Materials to Avoid	Strong oxidizing agents.

7.3. Specific end uses

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits	oil mist : 10mg/m ³ , for 15 minutes; oil mist : 5mg/m ³ , for 8 hours
Legend	See section 16.

8.2. Exposure controls

Occupational Exposure Controls

Engineering Measures	Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.
----------------------	--

Personal Protective Equipment

General Information	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapour/particulate (EN 14387). The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

MATERIAL SAFETY DATA SHEET

S-OIL SEVEN RED1 10W40

Date of the previous version: 2016-04-25

Revision Date: 2016-04-25

Version 1

Eye Protection	If splashes are likely to occur, wear: Safety glasses with side-shields.
Skin and body protection	Wear suitable protective clothing. Protective shoes or boots. Long sleeved clothing.
Hand Protection	Hydrocarbon-proof gloves. Fluorinated rubber. Nitrile rubber. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves.

Environmental exposure controls

General Information The product should not be allowed to enter drains, water courses or the soil.

9. PHYSICAL AND CHEMICAL PROPERTIES
--

9.1. Information on basic physical and chemical properties

Color		Yellow To amber	
Physical State @20°C		liquid	
Odor		Characteristic	
<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH		Not applicable	
Boiling point/boiling range		Not applicable	
Flash point	246 °C 475 °F		Cleveland Open Cup (COC) Cleveland Open Cup (COC)
Evaporation rate		No information available	
Flammability Limits in Air		No information available	
Vapor Pressure		No information available	
Vapor density		No information available	
Density	860 kg/m ³	@ 15 °C	
Water solubility	Negligible	Insoluble	
Solubility in other solvents		No information available	
logPow		No information available	
Autoignition temperature	Not applicable		
Viscosity, kinematic	13.60 mm ² /s	@ 100 °C	
Explosive properties	Not explosive		
Oxidizing Properties	Not applicable		
Possibility of hazardous reactions	Not applicable		

9.2. Other information

10. STABILITY AND REACTIVITY

10.1. Reactivity

General Information No information available.

10.2. Chemical stability

Stability. Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions None under normal processing.

MATERIAL SAFETY DATA SHEET

S-OIL SEVEN RED1 10W40

Date of the previous version: 2016-04-25

Revision Date: 2016-04-25

Version 1

10.4. Conditions to Avoid

Conditions to Avoid Heat (temperatures above flash point), sparks, ignition points, flames, static electricity.

10.5. Incompatible Materials

Materials to Avoid Strong oxidizing agents.

10.6. Hazardous Decomposition Products

Hazardous Decomposition Product None under normal use.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity Local effects Product Information

Skin contact . Not classified. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

Eye contact . Not classified.

Inhalation . Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.

Ingestion . Not classified.

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Severely hydrogenated heavy paraffinic distillate	LD50 > 5,000mg/kg (Rat)	LD50 > 5,000mg/kg (Rabbit)	
Mixed Performance Additive	LD50 > 10,000mg/kg (Rat)	LD50 > 2,000mg/kg (Rabbit)	
Viscosity Modifier Additive	LD50 > 5,000mg/kg (Rat)	LD50 > 2,000mg/kg (Rabbit)	
Motor Oil Additive	LD50 > 10,000mg/kg (Rat)	LD50 > 2,000mg/kg (Rabbit)	

Eye contact

Mixed Performance Additive Weak to moderate eye irritant. Does not meet Canadian D2B or EU R36 criteria. Based on data from components or similar materials. Vapors formed from heating may cause eye irritation.

Additive 1 Weak to moderate eye irritant. Does not meet EU R36 criteria. Based on data from similar materials.

Sensitization

Sensitization Not classified as a sensitizer.

Specific effects

Carcinogenicity

This product is not classified carcinogenic.

Mutagenicity

This product is not classified as mutagenic.

Reproductive toxicity

This product does not present any known or suspected reproductive hazards.

MATERIAL SAFETY DATA SHEET

S-OIL SEVEN RED1 10W40

Date of the previous version: 2016-04-25

Revision Date: 2016-04-25

Version 1

Repeated Dose Toxicity

Subchronic toxicity No information available.

Target Organ Effects (STOT)

Target Organ Effects (STOT) No information available.

Other information

Other adverse effects Characteristic skin lesions (pimples) may develop following prolonged and repeated exposures (contact with contaminated clothing).

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Acute aquatic toxicity - Product Information

No information available.

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Mixed Performance Additive		EC50 10-100mg/L	LC50 10-100 mg/L	
Viscosity Modifier Additive			LC50 >1,000mg/L	EC50 >1,000mg/L
Motor Oil Additive	EC50 10-100mg/L	EC50 1-10mg/L		

Chronic aquatic toxicity - Product Information

No information available.

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Mixed Performance Additive		EC50 1-10mg/L		
Motor Oil Additive		EC50 10-100mg/L		

Effects on terrestrial organisms No information available.

12.2. Persistence and degradability

Chemical Name	Biodegradation
Mixed Performance Additive	Min 25% (OECD 301)
Viscosity Modifier Additive	Min 25% (OECD 301)
Motor Oil Additive	Min 25% (OECD 301, 302)

General Information No information available.

MATERIAL SAFETY DATA SHEET**S-OIL SEVEN RED1 10W40**

Date of the previous version: 2016-04-25

Revision Date: 2016-04-25

Version 1

12.3. Bioaccumulative potential

Product Information	No information available.
logPow	No information available
Component Information	No information available.

12.4. Mobility in soil

Soil	Given its physical and chemical characteristics, the product generally shows low soil mobility.
Air	Loss by evaporation is limited.
Water	Insoluble. The product spreads on the surface of the water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment	No information available.
-------------------------	---------------------------

12.6. Other adverse effects

General Information	No information available
---------------------	--------------------------

13. DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Waste from Residues / Unused Products	Should not be released into the environment. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
EWC Waste Disposal No.	The following Waste Codes are only suggestions: 13 01 10. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

<u>ADR/RID</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated
<u>ICAO/IATA</u>	Not regulated
<u>ADN</u>	Not regulated

15. REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

MATERIAL SAFETY DATA SHEET

S-OIL SEVEN RED1 10W40

Date of the previous version: 2016-04-25

Revision Date: 2016-04-25

Version 1

International Inventories

EINECS/ELINCS

TSCA

KECL

Legend

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

KECL - Korean Existing and Evaluated Chemical Substances

Further information

15.2. Chemical Safety Assessment

Chemical Safety Assessment No information available

16. OTHER INFORMATION

Abbreviations, acronyms

Legend Section 8

+	Sensitizer	*	Skin designation
**	Hazard Designation	C:	Carcinogen
M:	Mutagen	R:	Toxic to reproduction

Revision Date: 2016-04-25

Revision Note: *** Indicates updated section.

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the safety data sheet