

# MATERIAL SAFETY DATA SHEET

## DRAGON SM 10W40

Date of the previous version: 2015-10-28

Revision Date: 2015-10-28

Version 1.00

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

#### 1.1. Product identifier

Product name DRAGON SM 10W40  
Pure substance/mixture Mixture

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

Recommended Use Gasoline engine oil.

#### 1.3. Details of the supplier of the safety data sheet

Manufacturer 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 6320 2000

### 2. HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

Classification  
Not classified

Symbol(s)  
Not classified

#### 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

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Disposal Not Classified

### 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 HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	-	> 75.0
MIXED PERFORMANCE ADDITIVE	Mixture	-	5.0 ~ 10.0
VISCOSITY MODIFIER ADDITIVE	Mixture	-	12.0 ~ 16.0
POLYMER, ESTERS OF METHACRYLIC ACID AND MIXED LONG CHAIN ALCOHOLS	Mixture	-	0.05 ~ 0.15

Hazardous ingredients Do not contain hazardous substance nor substance with European workplace exposure limits in concentration above regulatory thresholds

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.

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#### **4.3. Indication of immediate medical attention and special treatment needed, if necessary**

Notes to physician                      Treat symptomatically.

#### **5. FIRE-FIGHTING MEASURES**

##### **5.1. Extinguishing media**

Suitable extinguishing media        Carbon dioxide (CO<sub>2</sub>). ABC powder. Foam. Water spray or fog.

Unsuitable extinguishing media     Do not use a solid water stream as it may scatter and spread fire.

##### **5.2. Special hazards arising from the substance or mixture**

Special Hazard                         Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These maybe highly dangerous if inhaled in confined spaces or at high concentration.

##### **5.3. Advice for fire-fighters**

Special protective equipment for fire-fighters    Wear self-contained breathing apparatus and protective suit.

Other information                      Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

#### **6. ACCIDENTAL RELEASE MEASURES**

##### **6.1. Personal precautions, protective equipment and emergency procedures**

General Information                    Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

##### **6.2. Environmental precautions**

General Information                    Do not allow material to contaminate ground water system. Try to prevent the material from courses. Local authorities should be advised if significant spillages cannot be contained.

##### **6.3. Methods and material for containment and cleaning up**

Methods for containment              Dam up. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

##### **6.4. Reference to other sections**

Personal Protective Equipment       See Section 8 for more detail.

Waste treatment                        See section 13.

#### **7. HANDLING AND STORAGE**

##### **7.1. Precautions for safe handling**

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<b>Advice on safe handling</b>	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.
<b>Prevention of fire and explosion</b>	Take precautionary measures against static discharges. Ground/bond containers, tanks and transfer/receiving equipment.
<b>Hygiene measures</b>	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**

<b>Technical measures/Storage conditions</b>	Keep away from food, drink and animal feedingstuffs. Keep in a bonded 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.
<b>Materials to Avoid</b>	Strong oxidizing agents.

### **7.3. Specific end uses**

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1. Control parameters**

<b>Exposure limits</b>	Oil mist : 10mg/m <sup>3</sup> , for 15 minutes Oil mist : 5mg/m <sup>3</sup> , for 8 hours
<b>Legend</b>	See section 16.

**Exposure limits (Component Information)**

### **8.2. Exposure controls**

#### **Occupational Exposure Controls**

<b>Engineering Measures</b>	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.
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#### **Personal Protective Equipment**

<b>General Information</b>	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.
<b>Respiratory protection</b>	None under normal use conditions. 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.
<b>Eye Protection</b>	If splashes are likely to occur, wear: Safety glasses with side-shields.

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**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 Physical State @20°C Odor		Yellow to amber liquid Characteristic	
<b><u>Property</u></b> pH Boiling point/boiling range	<b><u>Values</u></b>	<b><u>Remarks</u></b> Not applicable Not applicable	<b><u>Method</u></b>
Flash point Evaporation rate Flammability Limits in Air Vapor Pressure Vapor density Density Water solubility Solubility in other solvents logPow Autoignition temperature Viscosity, kinematic Explosive properties Oxidizing Properties Possibility of hazardous reactions	226 °C        870 kg/m³           14.84 mm²/s Not explosive Not applicable Not applicable	No information available No information available No information available No information available @ 15 °C Insoluble No information available No information available No information available @ 100 °C	Cleveland Open Cup (COC)

#### **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.

#### **10.4. Conditions to Avoid**

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**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. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

##### **Acute toxicity- Component Information**

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
MIXED PERFORMANCE ADDITIVE	LD50 > 10000mg/kg (Rat)	LD50 > 2000mg/kg (Rabbit)	
VISCOSITY MODIFIER ADDITIVE	LD50 > 5000mg/kg (Rat)	LD50 > 2000mg/kg (Rat)	

##### **Sensitization**

**Sensitization** No information available.

##### **Specific effects**

**Carcinogenicity**  
**Mutagenicity**  
**Reproductive toxicity**

##### **Repeated Dose Toxicity**

**Subchronic toxicity** No information available.

##### **Target Organ Effects (STOT)**

**Target Organ Effects (STOT)** No information available.

##### **Other information**

**Other adverse effects** No information available.

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#### 12. ECOLOGICAL INFORMATION

##### 12.1. Toxicity

Not classified.

##### Aquatic toxicity - Product Information

No information available.

##### 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 (Acute effects) 1 - 10 mg/L (Chronic effects)	LC50 10 - 100mg/L	
VISCOSITY MODIFIER ADDITIVE			LC50 1000mg/L	EC50 1000mg/L

##### **Effects on terrestrial organisms**

No information available.

##### General Information

No information available.

##### 12.2. Persistence and degradability

##### General Information

Persistence No information available.

degradability

Chemical Name	Degradability
MIXED PERFORMANCE ADDITIVE	At least 25% of the components in this product show limited biodegradation based on OECD 301-type test data. At least 25% of the components in this product show moderate biodegradation based on OECD 302-type test data.
VISCOSITY MODIFIER ADDITIVE	At least 25% of the components in this product show moderate biodegradation based on OECD 301-type test data. At least 25% of the components in this product show moderate biodegradation based on OECD 302-type test data

##### 12.3. Bioaccumulative potential

##### Product Information

Chemical Name	Degradability
MIXED PERFORMANCE ADDITIVE	Less than 1.0% of the components potentially bioconcentrate, based on octanol/water coefficients.
VISCOSITY MODIFIER ADDITIVE	1 - 10% of the components potentially bioconcentrate, based on octanol/water coefficients.

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**logPow** 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**

**ADR/RID** Not regulated

**IMDG/IMO** Not regulated

**ICAO/IATA** Not regulated

**ADN** Not regulated

### **15. REGULATORY INFORMATION**

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

**European Union**

**International Inventories**



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### Further information

#### 15.2. Chemical Safety Assessment

Chemical Safety Assessment No information available

#### 16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3  
No information available

#### Abbreviations, acronyms

Legend Section 8

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

Revision Date: 2015-10-28

Revision Note \*\*\* Indicates updated section.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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