

Classification	MSDS	Material Safety Data Sheet	Date of issue	2020.01.30
no.	9746	SK Enspray 99	Rev.	6

1. Identification

Product Name	SK Enspray 99
Intended use	Mineral Base Oil
Company	HANYU SK ETS CO.,LTD.
Address	1883, NAMBUSUNHWAN-RO, GWANAK-GU, SEOUL, 151-849
Tel	+82-2-3498-5254
Fax	+82-2-2264-6651

2. Hazards Identification

Classification Physical and chemical substances not classified as dangerous under GHS criteria
inhalation: Category 2

Labeling

Hazard Pictogram



Signal Word

Warning

Hazard Statement

If swallowed and enters airways may be harmful.

Precautionary Statement

Prevention
response

No special precautions
P271 Use only outdoors or in a well-ventilated area.
P301+P310 If swallowed immediately call a help center or physician.
P331 Do not induce vomiting
P312 If you feel uncomfortable, call a poison center or physician.

Storage

Save sealed.

Disposal

If it specified in the regulations Dispose of contents and container in accordance with regulations.

NFPA HAZARD ID :

Health : 1

Flammability : 1

Reactivity : 0

3. Composition / Information on Ingredients

INGREDIENT	CAS No	WT(%)
Distillates(Petroleum) hydrotreated light paraffinic	8042-47-5 (64742-55-8)	98.0 ~ 99.0
Inert Ingredient (Oleic acid)	112-80-1	1.0 ~ 2.0

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+ GLYCERYL MONOOLEATE	25496-72-4
+ Alpha-dodecyl-omega-hydroxy-polyoxyethylene	9002-92-0
+ Trade Secrets)	Trade Secrets

4. First Aid Measures

Eye Contact	Get emergency medical care Follow my eye immediately wash the skin with running water for at least 20 minutes of contact with material
Skin Contact	If you feel uncomfortable, call a poison center or physician. Get emergency medical care Remove contaminated clothing and shoes and please isolate the contaminated area Follow my eye immediately wash the skin with running water for at least 20 minutes of contact with material Mild skin contact with contaminated sites Prevent the spread
Inhalation	exposed or concerned: Get medical exposure action • advice. Exposure to dust or fume removal in case of excess clean air and have a cough or other symptoms please seek medical attention. If inhaled substances, do not eat or artificial respiration by mouth-to-gugangbeop Please use proper respiratory medical equipment
Ingestion	If exposed or concerned: Get medical exposure action • advice. If inhaled substances, do not eat or artificial respiration by mouth-to-gugangbeop Please use proper respiratory medical equipment

5. Fire-Fighting Measures

Suitable (unsuitable) extinguishing	Use the digestion of alcohol foam, carbon dioxide or water spray associated with this material When you use the choke digestion, dry sand or earth
Specific hazards arising from the chemical	Decomposes at high temperatures that can produce toxic gases Containers may explode when heated Decomposes at high temperatures that can produce toxic gases Containers may explode when heated Some, but not easy to win ignition Nonflammable, the material itself is heated to burn, but decomposition may cause corrosive / toxic fumes
Wear protective equipment during fire fighting operations	Wear suitable protective character structure. Please digestion by keeping a safe distance outside the region Please also be aware that melt transport Dug ditches for the disposal of the street and please do not be digested material is scattered Move containers from fire area if without risk The maximum distance from the tank fire extinguishing or suppression equipment please use the unattended After the tank fire fighting is evolving please let it cool containers with large amount of water The high in the tank fire, pressure relief devices or discoloration of tank when you step down immediately,

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Please step away from tank to tank fire, flame hwpssain
 In the case of a large fire, tank fire extinguishing equipment, if available and possible
 unattended please leave ridden retire

6. Accidental Release Measures

Precautions, protective equipment and emergency human	<p>Avoid inhalation of the (dust, fumes, gas, mist, vapors, spray). Wipe spills immediately that, please follow the Reserve Section precautions. Please isolate the contaminated area. If you do not need to enter someone that does not have the protective equipment Do not enter. Remove all sources of ignition. You stop the leak if without risk Do not touch damaged containers or leakage of water without wearing suitable protective clothing Covered with a plastic sheet please stop the spread Please note that materials and conditions to avoid</p>
Measures to Protect the Environment	Waterways, sewers, basements, Prevent entry into confined spaces
Methods for cleaning up	<p>Spills with an inert material that absorbs (eg, dry sand or earth), and Put a chemical waste container. Remove the air castle Prevent scattered by dust, and then wetted with water. Follow me absorb the liquid and rinse the contaminated area with detergent and water.</p>

7. Handling and storage

Handling	<p>Do not handle until all safety precautions have been read and understood. Avoid inhalation of the (dust, fumes, gas, mist, vapors, spray). Use only outdoors or in a well-ventilated area. Since the container is emptied may retain product residues. Follow the precautions after all MSDS / label. Please use care in handling / storage. Please carefully open the cap before opening. Please note that materials and conditions to avoid</p>
Safe storage	<p>Store in a storage place to lock. Empty drums are completely drained back into the drum and prevent proper place immediately Keep proper placement of controls.</p> <p>Store in a storage place to lock. Empty drums are completely drained back into the drum and prevent proper place immediately Keep proper placement of controls.</p>

8. Exposure controls and personal protection

Exposure of the chemical and biological exposure limit, etc.

ACGIH

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DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)

Not available

Oleic acid

Not applicable

GLYCERYL MONOOLEATE

Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene

Not available

Biological exposure limit

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC

Not available

Oleic acid

Not applicable

GLYCERYL MONOOLEATE

Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene

Not available

Engineering Controls

Process isolation, use of local exhaust ventilation, or other engineering controls to control Keep the air levels below the exposure guidelines. If that occurs during operation of dust, fume or mist, ventilation Please ensure that air pollution is kept below exposure limits

Personal protective equipment

Wear protective breathing pilhan the authenticity of the Korea Occupational Safety and Health Agency for the physical and chemical properties of the material is exposed

9. Physical and Chemical Properties

Appearance	Bright and clear liquid
Odor	Characteristic, mineral oil
Odor Threshold	Not established
pH	Not established
Melting Point / Freezing Point	Not Applicable
Initial Boiling Point and Boiling Range	285~440°C
Flash Point	198°C
Evaporation Rate	Not established
Flammability	Not applicabloe
Upper/Lower Flammability or Explosive Limits	Not established
Vapor Pressure	37.8°C: <0.01 mmHg
Solubility in Water	Emulsifiable
Vapor Density	>1 (Air = 1)

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Relative Density@15°C	0.830
Auto-ignition Temperature	Not established
Decomposition Temperature	Not established
Viscosity	40°C: 12cSt

10. Stability and Reactivity

Chemical stability and the possibility of adverse reactions

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	Decomposes at high temperatures that can produce toxic gases Containers may explode when heated Some, but not easy to win ignition Nonflammable, the material itself is heated to burn, but decomposition may cause corrosive / toxic fumes
Oleic acid	Containers may explode when heated Some, but not easy to win ignition Nonflammable, the material itself is heated to burn, but decomposition may cause corrosive / toxic fumes Fire-irritating, corrosive and toxic gases may cause the
GLYCERYL MONOOLEATE)	Stable at normal temperatures and pressure conditions Containers may explode when heated Some, but not easy to win ignition Fire, irritating and toxic gases may cause the Inhalation of substances that may be harmful Some liquids are dizziness, vapors that may cause choking, which can be caused
Alpha-dodecyl-omega-hydroxy-polyoxyethylene	Containers may explode when heated Some, but not easy to win ignition Nonflammable, the material itself is heated to burn, but decomposition may cause corrosive / toxic fumes Fire-irritating, corrosive and toxic gases may cause the
Conditions to avoid	Heat, sparks, open flames, such as the ignition source
Materials to avoid	Combustible material, reducing substance, Irritating and toxic gases
Hazardous decomposition products	Corrosive / toxic fumes Irritating, corrosive and toxic gases Stimulation and highly toxic gases may be generated by thermal decomposition or combustion while riding

11. Toxicological Information

Information on the likely routes of exposure

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	Not available
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Oleic acid
 Short-term exposure can cause respiratory distress
 Short term exposure irritation, nausea, vomiting, diarrhea Causes
 Short-term or long-term exposure causes irritation
 Short Term Exposure Causes irritation

GLYCERYL MONOOLEATE
 Not available
 Short-term exposure, may cause mild irritation

Alpha-dodecyl-omega-hydroxy-polyoxyethylene
 Not available

Health Hazard Information

Acute toxicity

Oral

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC) LD50 > 5000 mg/kg Rat

Oleic acid LD50 > 15000 mg/kg

GLYCERYL MONOOLEATE LD50 > 5000 mg/kg Rat (Glyco)

Alpha-dodecyl-omega-hydroxy-polyoxyethylene LD50 8600 mg/kg Rat

Transdermal

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC) LD50 > 2000 mg/kg Rabbit

Oleic acid Not available

GLYCERYL MONOOLEATE Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene Not available

Inhalation

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC) Mist LC50 2.18 mg/l 4 hr Rat

Oleic acid Not available

GLYCERYL MONOOLEATE Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene Not available

Skin corrosive or irritant

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC) Mild (rabbit)

Oleic acid Human stimulation

GLYCERYL MONOOLEATE 500 mg (rabbit- mild)

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Alpha-dodecyl-omega-hydroxy-polyoxyethylene	May cause skin irritation.
Serious eye damage or irritation	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	Unstimulated (rabbit)
Oleic acid	If irritation Rabbit
GLYCERYL MONOOLEATE	100 mg (rabbit- mild)
Alpha-dodecyl-omega-hydroxy-polyoxyethylene	Causes eye irritation
Respiratory sensitization	Not available
Skin sensitization	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	Non-irritable (Guinea Pig)
Oleic acid	Not available
GLYCERYL MONOOLEATE	Not available
Alpha-dodecyl-omega-hydroxy-polyoxyethylene	Not available
Carcinogenic	
IARC	Not available
OSHA	Not available
ACGIH	Not available
NTP	Not available
EU CLP	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	The DMSO extract by IP 346 of this substance is less than 3%. (Typical 0.2% with maximum 0.5%). Consequently it is not classified as a carcinogen.
Oleic acid	Not available
GLYCERYL MONOOLEATE	Not available
Alpha-dodecyl-omega-hydroxy-polyoxyethylene	Not available
Mutagenicity	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	Not available
Oleic acid	Not available

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GLYCERYL MONOOLEATE

Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene

In vitro – Salmonella typhimurium/TA98, TA100, TA1535, TA1537 (Reverse mutation test: Ames test): With or without metabolic activation system, regardless Negative, CHO Cells / chromosome aberration test: regardless of the presence or absence of metabolic activation system Negative

In vivo – Mouse bone marrow / micronucleus test: Negative (voice), mouse bone marrow / sister chromatid exchange test, chromosome aberration test: Negative

Reproductive toxicity

Not available

Specific target organ toxicity (single exposure)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)

Not available

Oleic acid

Not available

GLYCERYL MONOOLEATE

Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene

Causes irritation if inhaled prayer

Repeated Dose Toxicity

Not available

Aspiration hazard

Not available

12. Ecological Information

Ecotoxicity

fish

DISTILLATES (PETROLEUM), HYDROTREATED LC50 > 5000 mg/l 96 hr Oncorhynchus mykiss
LIGHT PARAFFINIC)

Oleic acid LC50 205 mg/l 96 hr Pimephales promelas

GLYCERYL MONOOLEATE LC50 0.239 mg/l 96 hr 7|E|

Alpha-dodecyl-omega-hydroxy-polyoxyethylene LC50 1.5 mg/l 96 hr

Shellfish

DISTILLATES (PETROLEUM), HYDROTREATED EC50 > 1000 mg/l 48 hr Daphnia magna
LIGHT PARAFFINIC)

Oleic acid LC50 > 2.8 mg/l 48 hr Daphnia magna

GLYCERYL MONOOLEATE EC50 0.028 mg/l 48 hr Daphnia magna

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Alpha-dodecyl-omega-hydroxy-polyoxyethylene LC50 6.46 mg/l 48 hr

Birds

DISTILLATES (PETROLEUM), HYDROTREATED Not available
LIGHT PARAFFINIC)

Oleic acid Not available

GLYCERYL MONOOLEATE EC50 0.022 mg/l 96 hr

Alpha-dodecyl-omega-hydroxy-polyoxyethylene Not available

Persistence and degradability

Persistence

DISTILLATES (PETROLEUM), HYDROTREATED log Kow 3.9 ~ 6 Estimates
LIGHT PARAFFINIC)

Oleic acid log Kow 7.73

GLYCERYL MONOOLEATE Not applicable

Alpha-dodecyl-omega-hydroxy-polyoxyethylene log Kow 3.4

degradability

DISTILLATES (PETROLEUM), HYDROTREATED Not available
LIGHT PARAFFINIC)

Oleic acid BOD 0.32 mg/l

GLYCERYL MONOOLEATE Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene Not available

Bioaccumulative potential

DISTILLATES (PETROLEUM), HYDROTREATED Not available
LIGHT PARAFFINIC)

Oleic acid BCF 44,000

GLYCERYL MONOOLEATE BCF 535.7

Alpha-dodecyl-omega-hydroxy-polyoxyethylene Not available

Biodegradability

DISTILLATES (PETROLEUM), HYDROTREATED 6 (%) 28 day (Aerobic, home sewer, not easily degradable)
LIGHT PARAFFINIC)

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Oleic acid 47 ~ 52 (%) 5 day

GLYCERYL MONOOLEATE Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene Not available

Mobility in soil Not available

Other adverse effects

DISTILLATES (PETROLEUM), HYDROTREATED Fish: NOEC(Pimephales promelas) >5000 mg/L/7일
LIGHT PARAFFINIC

Oleic acid Not available

GLYCERYL MONOOLEATE Not available

Alpha-dodecyl-omega-hydroxy-polyoxyethylene Not available

Others This product does not contain chemical substances notified in the regulation on the manufacture of certain substances for the protection of ozone layer.

13. Disposal considerations

This product is a controlled waste. Collect and dispose of waste product at an authorized facility, in conformance with national and local regulations, and in accordance with EEC Directives on the disposal of waste oil.

14. Transport Information

UN No.	UN None Transport hazard class:
Proper Shipping Name	Not applicable
Transport hazard class	Not applicable
Packaging Group	Not applicable
Marine Pollutant	Not available

15. Regulatory information

OSHA	Not applicable
CERCLA	Not applicable
EPCRA 302	Not applicable

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EPCRA 304	Not applicable
EPCRA 313	Not applicable
USA management information (Rotterdam Convention material)	Not applicable
USA management information (Stockholm Convention material)	Not applicable
USA management information (the Montreal Protocol substances)	Not applicable
EU classification information (Classification)	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	Carc. Cat. 2; R45
Oleic acid	Not applicable
GLYCERYL MONOOLEATE	Not applicable
Alpha-dodecyl-omega-hydroxy-polyoxyethylene	Not applicable
EU classification information (phrases)	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	R45
Oleic acid	Not applicable
GLYCERYL MONOOLEATE	Not applicable
Alpha-dodecyl-omega-hydroxy-polyoxyethylene	Not applicable
EU classification information (Safety phrases)	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC)	S53, S45
Oleic acid	Not applicable
GLYCERYL MONOOLEATE	Not applicable
Alpha-dodecyl-omega-hydroxy-polyoxyethylene	Not applicable

16. Other Information

Date	2015-03-16
Revision	6
Revision Date	2019.01.30.

○ Written MSDS provided by the Korea Occupational Safety and Health Agency with reference to the MSDS, edit, modify materials

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