SAFETY DATA SHEET

INITIAL DATE	19 Apr. 2017
REVISION DATE	
REVISION No.	1

SECTION 1: [CHEMICAL PRODUCT AND COMPANY IDENTIFICATION]

SDS No. : SWA-1611-01E

PRODUCT NAME : GLASSY 80 LONG LIFE COOLANT

MANUFACTURER : SHOWA INDUSTRIES CO., LTD.

ADDRESS : 764 Washinosu, Yorocho, Yorogun, Gifu, 503-1261 JAPAN

DEPT. IN CHARGE : QUALITY ASSURANCE DEPARTMENT

TELEPHONE : 81-584-32-3105 FAX : 81-584-32-3107

SECTION 2: [HAZARDS IDENTIFICATION]

MOST IMPORTANT HAZARDS:

Harmful if swallowed. The product is irritating to the eyes and respiratory tract.

HEALTH HAZARDS;

The product may cause effects on the kidneys and central nervous system. This may result in renal failure and brain injury. Exposure could cause lowering of

consciousness.

ENVIRONMENTAL EFFECTS; No information.

PHYSICAL & CHEMICAL DANGERS; Non-flammable.

SPECIAL HAZARDS: Causes damage to organs. Causes mild skin irritation and eye irritation.

OVERVIEW OF EMERGENCY EXPECTED: May give off irritating or toxic gases on combustion.

GHS CLASSIFICATION:

Acute toxicity (Inhalation; Dusts and mists) ; Category 4
Skin corrosion / Irritation ; Category 2
Serious eye damage / Eye irritation ; Category 2B
Specific target organ systemic toxicity (Single exposure) ; Category 1 *1)
Category 3 *2)

*1) central nervous system, blood system, kidney

*2) respiratory tract irritation, narcotic effects

** Classification according to 「Globally Harmonized System of Classification and Labelling of Chemicals (UN GHS)」.

**Hazards which are not indicated in above summary are [Not classified], [Not applicable] or [Classification not possible].

GHS LABEL ELEMENTS:

PICTOGRAM;



SIGNAL WORD ; **Danger**

HAZARD STATEMENT:

Harmful if inhaled.

Causes skin irritation.

Causes eye irritation.

Causes damage to organs (central nervous system, blood system, kidney).

May cause respiratory irritation.

May cause drowsiness or dizziness.

PRECAUTIONARY STATEMENT:

A SAFETY MEASURE;

Use only outdoors or in a well-ventilated area.

Wash hands thoroughly after handling.

Wear protective gloves.

Do not breathe mist/vapours.

Do not eat, drink or smoke when using this product.

FIRST-AID MEASURES;

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN: Wash with plenty of water.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists, get medical advice/attention.

IF EXPOSED OR CONCERNED: Call a POISON CENTER or doctor/physician.

STORAGE;

Store in a well-ventilated place. Keep container tightly closed.

Keep locked up.

DISPOSAL;

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3: [COMPOSITION / INFORMATION ON INGREDIENTS]

SUBSTANCE OR MIXTURE: Mixture

Chemical Name	Concentration (wt%)	CAS No.	MITI No. *3)	EINECS
ETHYLENE GLYCOL	73 ~ 75	107-21-1	2-230	203-473-3
WATER	20 ~ 22	7732-18-5	_	231-791-2
MOLYBDENUM AND ITS COMPOUNDS ((T-4)-Disodium molybdate dehydrate)	< 1	10102-40-6	1-478	_
OTHERS	< 6	Closed	Closed	Closed

^{*3)} MITI No.; Japanese Ministry of International Trade and Industry registration number

SECTION 4: [FIRST AID MEASURES]

INHALATION : If large amounts of mist/vapours has been inhaled, immediately remove the exposed person to fresh air and keep quiet. Get medical advice/attention if you feel unwell.

SKIN CONTACT: Remove contaminated clothes. Rinse skin with plenty of water and then wash skin with soap. Get medical advice/attention if there is a change in appearance or if there is pain.

EYE CONTACT : Firstly, rinse with plenty of water for at least 15 minutes (remove contact lenses if easily possible), then get medical advice/attention.

INGESTION : Rinse mouth with water and drink plenty of water. Induce vomiting. Immediately get medical advice/attention. Never give anything by mouth to an unconscious person.

THE EXPECTED ACUTE AND TARDIVE SYMPTON: No information about product.

◆ETHYLENE GLYCOL

Inhalation : Cough. Dizziness. Headache.

Skin : Dry skin. Eyes : Redness. Pain.

Ingestion : Abdominal pain. Dullness. Nausea. Unconsciousness. Vomiting.

THE MOST IMPORTANT SYMPTOMS AND EFFECTS: No information. PROTECTION FOR FIRST AIDS: Use of suitable protective equipment.

SPECIAL NOTES FOR DOCTORS: No information.

SECTION 5: [FIRE-FIGHTING MEASURES]

SUITABLE EXTINGUISHING MEDIA:

Water spray, Carbon dioxide, Foam, Dry chemical, Dry sand, etc

UNSUITABLE EXTINGUISHING MEDIA: No information.

SPECIFIC HAZARDS WITH REGARD TO FIRE-FIGHTING:

This product may give off irritating or toxic gases in a fire.

SPECIFIC METHODS OF FIRE-FIGHTING:

Prohibit the entrance except the person concerned.

Move container from fire area if it can be done without risk.

Keep fire-exposed containers cool by spraying with water.

The fire-fighting should be performed from the windward side, with suitable respiratory protective device, if necessary.

PROTECTION FOR FIREFIGHTERS:

Fighters should wear protective clothing, respirator, rubber boots and fireproof clothing.

SECTION 6: [ACCIDENTAL RELEASE MEASURES]

PERSONAL PRECAUTIONS/PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Rope off the leakage place to prohibit the entry of person.

Wear appropriate personal protective equipments (Refer to section 8) when clean-up working, and avoid contact.

Work from the windward side.

In the case of indoor, open the windows/doors and ventilate it enough.

ENVIRONMENTAL PRECAUTIONS:

Take precautions to minimize effect on environment. Particularly ensure that the product is not directly discharged to the ground or to the water drainage gutters, rivers or lakes.

METHODS FOR CLEANING UP:

Collect by absorbing into dry sand, waste or other materials.

In case of large spills, to prevent effluent with sandbags, and recovered as much as possible by using pumps.

Return spilled liquid to a sealable container and move to a safe location.

Wash away with plenty of water.

Dispose of contaminated waste material in accordance with relevant regulations.

PREVENTION OF SECONDARY HAZARDS:

Immediately remove all ignition sources. (Smoking, sparks, and naked flames in the vicinity are prohibited.)

SECTION 7: [HANDLING AND STORAGE]

HANDLING:

TECHNICAL MEASURES; Use personal protective equipments as required. See section 8.

LOCAL EXHAUST VENTILATION / GENERAL VENTILATION;

Install local exhaust ventilation and general ventilation system. See section 8.

PRECAUTIONS FOR SAFE HANDLING;

Handle in a well-ventilated place. Reseal container after each use.

Handle it carefully not to be scattered.

Wash hands, face, mouth and eyes thoroughly after handling.

Do not eat, drink, or smoke during work.

EVASION OF THE CONTACT; Refer to section 10.

STORAGE:

STORAGE CONDITIONS;

Protect from sunlight. Store in a well-ventilated place. Keep cool.

Storage facilities should be built by a fireproof construction.

Keep away from strong oxidants, strong bases and strong acids.

Keep out of reach of children and store locked up.

CONTAINER MATERIAL;

Keep container tightly closed. Use containers without breakage, corrosion and leakage.

SECTION 8: [EXPOSURE CONTROLS / PERSONAL PROTECTION]

MANAGEMENT CONCENTRATION : No information. OCCUPATIONAL EXPOSURE LIMITS : No information.

< Reference value> Ethylene glycol (aerosol only); Ceiling 100mg/m³ - ACGIH(2016)

EQUIPMENT MEASURES:

When handling in the factory, install local exhaust ventilation and general ventilation system.

Install eye washers and safety showers in worksites where the product is handled, and display them clearly.

PROTECTIVE EQUIPMENTS:

RESPIRATORY PROTECTION ; Respiratory protection mask if necessary.

HAND PROTECTION ; Impervious protective gloves.

(Nitrile gloves, Neoprene gloves, etc.)

EYE PROTECTION ; Safety glasses with side-shields, Goggles, Face protection.

SKIN PROTECTION ; Protective clothing, Safety boots, Safety helmets.

HYGIENE MEASURES: Wash hands thoroughly after handling.

Take off contaminated clothing and wash before reuse.

SECTION 9: [PHYSICAL AND CHEMICAL PROPERTIES]

APPEARANCE : Green liquid.

ODOR : Little. pH : $7.7 \sim 8.7$

DENSITY : $1,104 \sim 1,124 \text{ kg/m}^3 (20^{\circ}\text{C})$

SOLUBILITY (water): Miscible.

SECTION 10: **(STABILITY AND REACTIVITY)**

CHEMICAL STABILITY: Stable under normal handling conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

No dangerous reaction known under conditions of normal use.

CONDITIONS TO AVOID: High temperature, Direct sunlight

MATERIALS TO AVOID : Strong oxidants, Strong acids. Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: May give off irritating or toxic gases on heating.

SECTION 11: [TOXICOLOGICAL INFORMATION]

ACUTE TOXICITY (INHALATION; DUSTS AND MISTS):

Additivity formula decision. Based on the result that calculated value was the range of Category 4, this product decided to be Category 4.

SKIN CORROSION / IRRITATION:

Components of Category 2 have been included in the more than concentrations triggering classification.

SERIOUS EYE DAMAGE / EYE IRRITATION:

Components of Category 2B(Eye irritation) have been included in the more than concentrations triggering classification.

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE):

Components of Category 1(central nervous system, blood system, kidney) and Category 3(respiratory tract irritation, narcotic effects) have been included in the more than concentrations triggering classification.

SECTION 12: [ECOLOGICAL INFORMATION]

ECOTOXICITY : No information.
PERSISTENCE/DEGRADABILITY : No information.
BIOACCUMULATION : No information.
MOBILITY IN THE SOIL : No information.

HAZARDOUS TO THE OZONE LAYER:

Can not be classified because the substance is not listed in the Annex to the Montreal Protocol.

SECTION 13: [DISPOSAL CONSIDERATIONS]

RESIDUES:

Disposal methods must be in compliance with all regulations.

This product or used the waste must be entrusted with processing in industrial waste disposer.

CONTAMINATED CONTAINER AND PACKAGING:

Discard container after using up the contents.

Dispose of the container in accordance with local/regional/national/international regulations.

SECTION 14: [TRANSPORT INFORMATION]

UN NO. (NAME AND DESCRIPTION) : Not applicable.
UN HAZARD CLASS : Not applicable.
UN PACK GROUP : Not applicable.

SPECIFIC PRECAUTIONARY TRANSPORT MEASURES AND CONDITIONS:

When transporting, protect from direct sunlight and take on cargo without breakage of container and leakage.

Follow all regulations in your country.

SECTION 15: [REGULATORY INFORMATION]

JAPANESE REGULATIONS

1) Industrial Safety and Health Act;

Dangerous and Harmful Substances Subject to Notify Their Names, etc.

Dangerous and Harmful Substances Subject to Indicate Their Names, etc.

2) Law Relating to the Prevention of Marine Pollution and Maritime Disaster;

Toxic Liquid Substance. (Include substances of Category Y and Z.)

3) Waste Management and Public Cleansing Law; Industrial Waste.

SECTION 16: [OTHER INFORMATION]

This information is based upon technical information (Japanese Safety Data Sheet) believed to be reliable. But hazard identification and toxicological information are not comprehensive. So be careful enough about handling.

The data on this sheet relates only to the specific product designated herein. Manufacturer assumes no legal responsibility for the use of these data.