Safety Data Sheets

Section 1 – Identification

Product identifier	Antifreeze Water
Product code	SPC-0394
Recommended use of the chemical and restrictions on use	General cold and heat medium(Food factory), ice storage refrigerant
Manufacturer	MIMAKI ENGINEERING CO., LTD. 2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN +81-268-64-2413
Importer / Distributor Information	MIMAKI AUSTRALIA PTY LTD. Unit 14, 38-46 South Street, Rydalmere, NSW 2116, Australia + 61-2-8036-4500
Emergency telephone number	+61 2 8014 4558 (within Australia only) 18000 74234 (within Australia only) +65 3158 1074

Section 2 – Hazard(s) Identification

Classification of the hazardous chemical	
Physical Hazards	Not classified
Health Hazards	Not classified
Environmental Hazards	Not classified
Label elements, including precautionary statements	
Pictograms or Symbols	None
Signal Word	None
Hazard Statements	None
Precautionary Statements	None

Section 3 – Composition and Information on Ingredients

Substances or mixture　　Mixtures

Ingredients name	Contents	Chemical formula	CAS RN
Propylene glycol	55-60%	C3H8O2	57-55-6
Additive	3-7%	Unknown	Trade Secret
Water	35-40%	Unknown	7732-18-5

Section 4 – First Aid Measures

In case of inhalation	Immediately remove victim to fresh air. Keep victim warm by covering with a blanket and rest. If breathing is weak or stopped, loosen clothing and maintain an open airway and then, give artificial respiration. If unconscious but breathing or if conscious but breathing is difficult, it is effective to give oxygen. It is recommended to conduct under doctor's guidance.

	Never administer a dose without doctor's instructions. Never give anything by mouth to victim. Immediately get medical attention.
In case of skin contact	Remove contaminated clothing, shoes, etc. promptly. Cut it off necessary. Flush affected area with water or lukewarm water and wash off with soap. If visual change occurs or pain persists, get medical attention. If contact with hot liquid, immediately wash with water and sufficiently cool with ice water. Immediately get medical attention.
In case of eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse eyes with clean water for at least 15 minutes and get medical attention form an ophthalmologist immediately. Hold eyelids open and away from eyeballs with fingers to ensure that all surfaces are flushed thoroughly.
In case of ingestion	If conscious, induce vomiting by giving more than two cups of milk or water and get medical attention immediately. Never give water, etc to an unconscious person. Keep victim warm and get medical attention immediately.
Expected acute and delayed symptoms, most important sign and symptoms	If swallowed, it can cause diarrhea, vomit. If in eyes, it can cause inflammation. If on skin, it can cause inflammation. If inhaled mist, it can cause nausea.

Section 5 – Fire Fighting Measures

Suitable extinguishing equipment	Use water (water fog), dry powder, and alcohol-resistant foam.
Not suitable extinguishing media	Don't use fire hose.
Specific hazards arising from the chemical	Containers may explode when heated.
Special protective equipment and precautions for fire fighters	Wear safety glasses, protective clothing, and respiratory protection for the situation during fire fighting. Extinguish fire form upwind. Eliminate all sources of ignition form fire area. For initial fire, use water (water fog), dry powder, etc. for fighting fire. For large fire, it is effective to use foam (alcohol-resistant foam), etc to shut off air supply. Pouring water can be dangerous by expanding fire. Cool surrounding facilities, etc. with water spray. Prohibit unnecessary personnel from entering fire area. Immediately remove moveable container to a safe area.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Prohibit unnecessary personnel from entering spilled area separated by rope, etc. Wear suitable protective equipment during clean-up to prevent contact with water drop or inhalation of gas. Work from upwind and evacuate from downwind.
Environmental precautions	Since it is related to soil and water contamination, recover spills as much as possible.
Methods and materials for containment and cleaning up	Stop leakage, if it can be done without risk. In case of running off, prevent spread of the liquid and scoop or absorb with a proper absorbent. If inevitable, use a chemical. When using a chemical, it should meet the technical standards set by the Ordinance of the Ministry of Transport.

Section 7 – Handling and Storage

Handling

Technical measures	Keep good working environment. Prevent spills, overflow, scattering and generation of vapors. Prohibit the use of sources of fire, sparks and arcs around the handling place. Prohibit the use near sources of ignition of high temperature. Repair machinery containing residues after completely removing them in a safe place. Take precautionary measures against static discharge and wear conductive working clothes, shoes, etc. Since vapors are heavier than air, it is likely to stay in low areas. So, pay attention to ventilation and sources of fire, etc. Handle at room temperature and pay attention to mixing with water or impurities. If it is possible to contact with skin or eyes, wear protective equipment. If mist is generated, do not breathe mist by wearing respirators, etc. Use a pump, etc. to take out the product from a container. Use a thin tube and do not suck it with mouth. Do not weld, heat, puncture or cut containers. It can cause ignition of residues following explosion.

Storage

Suitable storage conditions	Keep container in a well-ventilated area. Protect from direct sunlight. Keep away from oxidizing agents.

Section 8 – Exposure controls and personal protection

Control Exposure Limits

1,2-Propylene glycol	CAS No. 57-55-6
Safe Work Australia.	150 ppm TWA total vapour and particulates ; 474 mg/m3 TWA total vapour and particulates ; 10 mg/m3 TWA particulates only

Engineering controls	If mist and vapor is generated, use enclosure of sources or local exhaust ventilation. Provide safety shower, basin and eye wash facilities near the place where the product is handled and indicate the location clearly.
Individual protection measures, for example personal protective equipment (PPE)	
Eye protection	Wear ordinary glass with side shields or safety goggles.
Skin protection	Wear long-sleeved working clothes. Take off wet clothing and wash before reuse.
Hand protection	Wear impermeable rubber gloves.
Respiratory protection	Wear gas mask for toxic gas, if necessary.

Section 9 – Physical and Chemical Properties

Appearance	
Physical state	Liquid
Color	Red clear
Odor	Almost odorless
Odor threshold	No data available
pH	8-9
Melting point/freezing point	≦-40 degrees C
Boiling Point	107 degrees C/101kPa
Flash point	None
Evaporation rate	No data available
Flammability(Solid,Gas)	No data available
Flammability or explosive limits	None
Vapor pressure	1.7kPa/20 degrees C
Vapor density	No data available
Relative density	No data available
Solubility	Soluble in water, low alcohols, acetone
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available

Viscosity	No data available

Section 10 - Stability and Reactivity

Chemical stability	Stable
Possibility of hazardous reactions	Explosion/ignition at room temperature hardly occurs, but if moisture is evaporated at high temperature, it is easy to ignite/burn. It can react with strong acids, strong oxidizing agents violently.
Conditions to avoid	No data. (No hazardous reactions under normal handling condition.)
Incompatible materials	Strong acids, strong oxidizing agents.
Hazardous decomposition products	No data.

Section 11 - Toxicological Information

Acute Toxicity	: (Annex) Acute toxicity(Oral, dermal, inhalation)					
	Content (%)	Oral	Dermal	Inhalation (Gas)	Inhalation (Vapor)	Inhalation (Dust, mist)
1.Propylene glycol	55-60%	Not classified	Not classified	Not applicable	Classification not possible	Classification not possible
2. Additive	3-7%	Classification not possible	Classification not possible	Not applicable	Classification not possible	Classification not possible
3.Water	35-40%	Not classified	Not classified	Not applicable	Not classified	Not classified
Total	100%					

Acute toxicity (Oral)	It contains acute toxicant (oral) on Annex. Acute toxicity (oral) estimation, ATEmix=33,333mg/kg is calculated by GHS criteria. The product as a mixture is classified as 'Acute toxicity (Oral): Not classified'.
Acute toxicity (Dermal)	It contains acute toxicant (dermal) on Annex. Acute toxicity (dermal) estimation, ATEmix=37,500mg/kg is calculated by GHS criteria. The product as a mixture is classified as 'Acute toxicity (Dermal): Not classified'.
Acute toxicity (Inhalation)	It contains acute toxicant (inhalation) on Annex. The product as a mixture is not possible to classify for acute toxicity(inhalation).

Skin corrosion/ Irritation	It contains skin irritants classified below. -Not classified: Water, Propylene glycol. The product as a mixture is classified as 'Skin corrosion/irritation: Not classified'. Skin corrosion/irritation of 3~7% of this mixture is unknown.
Serious eye damage/ irritation	It contains eye irritants classified below. -Not classified: Water, propylene glycol The product as a mixture is classified as 'Serious eye damage/eye irritation: Not classified'. Serious eye damage/eye irritation of 3~7% of this mixture is unknown.
Respiratory or skin sensitization	It contains respiratory sensitizers classified below. -Not classified: Water, propylene glycol The product as a mixture is classified as 'Respiratory sensitization: Not Classified'. Respiratory sensitization of 3~7% of this mixture is unknown. It contains skin sensitizers classified below. -Not classified: Water, propylene glycol The product as a mixture is classified as 'Skin sensitization: Not classified'. Skin sensitization of 3~7% of this mixture is unknown.
Germ cell mutagenicity	It contains germ cell mutagens classified below. -Not classified: Water, propylene glycol The product as a mixture is classified as 'Germ cell mutagenicity: Not classified'. Germ cell mutagenicity of 3~7% of this mixture is unknown.
Carcinogenicity	Classification is not possible due to lack of data.
Reproductive toxicity	Classification is not possible due to lack of data.
Specific target organ toxicity – Single exposure	It contains specific target organ toxicants(single exposure)classified below. -Not classified: Water, propylene glycol The product as a mixture is classified as 'Specific target organ toxicity (single exposure): Not classified'.
Specific target organ toxicity – Repeated exposure	It contains specific target organ toxicants(repeated exposure)classified below. -Not classified: Water :The product as a mixture is classified as 'Specific target organ toxicity(repeated exposure): Not classified'.
Aspiration hazard	Classification is not possible due to lack of data.

Section 12 – Ecological Information

Hazardous to the Aquatic Environment –	It contains hazardous substances(acute)to aquatic environment

Acute Toxicity	classified below. -Not classified: Water, propylene glycol The estimation of hazards to aquatic environment (acute) LC50=166.7mg/L is calculated by GHS criteria. The product as a mixture is classified as 'Hazards to aquatic environment (Acute): Not classified'. Hazards to aquatic environment (Acute) of 3~7% of this mixture is unknown.
Hazardous to the Aquatic Environment - Chronic Toxicity	It contains hazardous substances (chronic) to aquatic environment classified below. -Not classified: Water, propylene glycol The product as a mixture is classified as 'Hazards to aquatic environment (Chronic): Not classified'. Hazards to aquatic environment (Chronic) of 3~7% of this mixture is unknown.
Hazardous to the Ozone layer	No data.

Section 13 - Disposal considerations

Residual waste	Dispose the waste according to national and local regulations. Do not dump.
Contaminated container and packaging	Contaminated or empty container packaging are to be disposed according to national and local regulations.

Section 14 - Transport Information

International regulations	
ADG	Not regulated as dangerous goods for transport.
IATA	Not regulated as dangerous goods for transport.
ICAO	Not regulated as dangerous goods for transport.
IMDG	Not regulated as dangerous goods for transport.
Component Marine Pollutants (IMDG)	Not regulated as dangerous goods. This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

1,2-Propylene glycol	57-55-6
IBC Code:	Category Z

Section 15 - Regulatory Information

No main regulation	
Component Analysis - Inventory	All components are active on the TSCA Inventory List.

Section 16 - Other information

Literature References	1) The Japanese Occupational Hygiene Society recommendation on permissible exposure level, etc (OELs) 2) Thresholds limit values for chemical substances and physical agents and biological exposure indices. ACGIH 3) Material Safety Data Sheet (Propylene glycol), Japan Petrochemical Industry Association (1998)

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