

# Safety Data Sheet (SDS)

according to Regulation (EC) No. 1907/2006

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Trade Name : Deicing Fluid (DA70)

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

Type of use : Deicing / Anti icing Fluid for high-speed train

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

Manufacturer : KD Finechem Co., Ltd (☎ +82-31-680-0505)

Address : 286, Pyeongtaekhang-ro, Poseung-eup, Pyeongtaek-si, Gyeonggi-do, Korea

Supplier : KD Finechem Co., Ltd (☎ +82-31-680-0505)

Address : 286, Pyeongtaekhang-ro, Poseung-eup, Pyeongtaek-si, Gyeonggi-do, Korea

### 1.4. Emergency telephone number

☎ TEL. +82-31-680-0505 / FAX. +82-31-680-0507

## SECTION 2 Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

- 1) Physicochemical : Not Classified
- 2) Health hazards : Not Classified
- 3) Environmental hazards : Not Classified

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

- 1) Pictogram

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

- 2) Signal Word : -

- 3) Hazard Statement(s)

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

- 4) Precautionary Statement(s)

- Precautionary  
Not Classified
- Response  
Not Classified
- Storage  
Not Classified
- Disposal  
Not Classified

**2.3 Other hazards.**

Chemicals Name \ NFPA Ratings	Health	Fire	Reactivity
1. Propylene Glycol	0	1	0
2. WATER	0	0	0

**SECTION 3 Composition/information on ingredients**

Chemical Name	CAS No.	EC No.	%	Classification
1. Propylene Glycol	57-55-6	200-338-0	98 ~ 99 %	Not Classified
	REACH Registration No.		-	
2. WATER	7732-18-5	231-791-2	1 ~ 2 %	Not Classified
	REACH Registration No.		-	

**SECTION 4 First aid measures****4.1 Description of first aid measures****4.1.1. General advice**

Get medical advice/attention if you feel unwell

**4.1.2. Following inhalation**

After inhalation: fresh air.

**4.1.3. Following skin contact**

Wash off with soap and plenty of water.

**4.1.4 Following eye contact**

Flush eyes with water as a precaution.

**4.1.5 Following injection**

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

**4.1.6 Self-protection of the first aider**

A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5 Firefighting measures****5.1. Extinguishing media**

Suitable extinguishing media :

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides

Combustible. Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

#### **5.3. Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

#### **5.4 Further information**

Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **SECTION 6 Accidental release measures**

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

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

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

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

For disposal see section 13.

## **SECTION 7 Handling and storage**

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

For precautions see section 2.2.

#### **7.2. Conditions for safe storage, including any incompatibilities**

Recommended storage conditions - room temperature atmospheric pressure

Tightly closed.

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

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## **SECTION 8 Exposure controls/personal protection**

#### **8.1 Control parameters**

Exposure limit value

## 1. Propylene Glycol

### Occupational exposure limit values (Workplace Exposure Limits)

**KOREA OEL** : No Data available

**ACGIH** : No Data available

**OSHA** : No Data available

**NIOSH** : No Data available

### DNELs (Derived no effect levels) :

No data available

### PNECs (Predicted no effect concentrations) :

No data available

## 2. WATER

### Occupational exposure limit values (Workplace Exposure Limits)

**KOREA OEL** : No Data available

**ACGIH** : No Data available

**OSHA** : No Data available

**NIOSH** : No Data available

### DNELs (Derived no effect levels) :

No data available

### PNECs (Predicted no effect concentrations) :

No data available

## 8.2 Exposure controls

### 8.2.1. Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

Wash hands before breaks and at the end of workday.

### 8.2.2. Personal protective equipment

#### 8.2.2.1. Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### 8.2.2.2. Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### 8.2.2.3. Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.

If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### 8.2.2.4. Thermal hazards

No specific measures.

### 8.2.3. Environmental exposure controls

Prevent further leakage or spillage if safe to do so.

Do not let product enter drains.

Discharge into the environment must be avoided.

## SECTION 9 Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**A. Appearance** : Physical state - liquid, Color - colorless and transparent

**B. Odor** : Softly peculiar smell

**C. Odor Threshold** : No data available

**D. pH** : 9.0 ~ 11.0

**E. Melting Point / Freezing Point** : - 12 °C

**F. Boiling Point / range** : More than 104°C

**G. Flash Point** : More than 104 °C

**H. Evaporation rate** : No data available

**I. Flammability Limit (Lower/Upper)** : 2.6 ~ 12.5 % (Propylene glycol)

**J. Vapor pressure** : 0.129 mmHg (at 25 °C) (Propylene glycol)

**K. Solubility in water** : Soluble

**L. Vapor density (Air=1)** : 1.0361 (Propylene glycol)

**M. Specific Gravity** : 1.030 ~ 1.050

**N. Partition Coefficient (n-Octanol/Water)** : -1.36 (Log Kow)

**O. Auto-ignition temperature** : 371°C

**P. Thermal decomposition** : No data available

**Q. Viscosity** : No data available

**R. Molecular weight** : Not Applicable / Mixture

## SECTION 10 Stability and reactivity

**10.1 Reactivity** : No data available

**10.2 Chemical stability** : Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions** : No data available

**10.4 Conditions to avoid** : No data available

**10.5 Incompatible materials** : Strong acids, Strong oxidizing agents, Strong bases, Aldehydes, Aluminum

**10.6 Hazardous decomposition products**

In the event of fire: see section 5

## SECTION 11 Toxicological information

### 11.1 Information on toxicological effects

## 1. Propylene Glycol

### Acute toxicity

Oral : LD50 22000 mg/kg Rat (ECHA)

Inhalation : No data available

Dermal : LD50 22000 mg/kg Rat (ECHA)

Skin contact : Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)

Eye contact or Irritation : Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)

Sensitization : Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406)

### Carcinogenicity :

OSHA : Not listed

NTP : Not listed

IARC (GROUP) : Not listed

ACGIH : A4

EC : Not listed

Mutagenesis : Chromosome aberration test in vitro Human lymphocytes Result: negative (ECHA)

Ames test S. typhimurium Result: negative (ECHA)

Mouse - male - Bone marrow Result: negative Remarks: (ECHA)

Rat - male - Bone marrow Result: negative Remarks: (ECHA)

Rat - male Result: negative Remarks: (ECHA)

Reproductive toxicity : No data available

Specified target organ general toxicity - single exposure : No data available

Specified target organ general toxicity - repetitive exposure : No data available

Aspiration respiratory organs hazard : No data available

Signs and Symptoms of Exposure : No data available

Additional Information : Repeated dose toxicity - Rat - male - Oral - 2 yr -

NOAEL (No observed adverse effect level) - 1.700 mg/kgRemarks: (ECHA)

## 2. WATER

### Acute toxicity

Oral : LD50 90000mg/kg Rat

Inhalation : No data available

Dermal : No data available

Skin contact : No data available

Eye contact or Irritation : No data available

Sensitization : No data available

### Carcinogenicity :

OSHA : Not listed

NTP : Not listed

IARC (GROUP) : Not listed

ACGIH : Not listed

EC: Not listed

Mutagenesis : No data available

Reproductive toxicity : No data available

Specified target organ general toxicity - single exposure : No data available

Specified target organ general toxicity - repetitive exposure : No data available

Aspiration respiratory organs hazard : No data available

Signs and Symptoms of Exposure : No data available

Additional Information : No data available

#### 11.2 Further information

No data available

## SECTION 12 Ecological information

### 12.1 Toxicity

#### 1. Propylene Glycol

Fishes : LC50 - *Oncorhynchus mykiss* (rainbow trout) - 40.613 mg/L - 96 h Remarks: (ECHA)

Crustacea : LC50 - *Ceriodaphnia dubia* (water flea) - 18.340 mg/L - 48h (US-EPA)

Seaweeds : ErC50 - *Pseudokirchneriella subcapitata* (green algae) - 19.000 mg/L - 96 h (OECD Test Guideline 201)

#### 2. WATER

Fishes : No data available

Crustacea : No data available

Seaweeds : No data available

### 12.2 Persistence and Degradability

#### 1. Propylene Glycol

Persistence : 0.085 (Pow, 20.5°C)

Degradability : aerobic Dissolved organic carbon (DOC) - Exposure time 28 d Result: 98,3 % - Readily biodegradable.  
(OECD Test Guideline 301F)

#### 2. WATER

Persistence : log Kow - 1.38

Degradability : No data available

### 12.3 Bioaccumulative potential

#### 1. Propylene Glycol

Accumulation : No data available

#### 2. WATER

Accumulation : No data available

### 12.4 Mobility in Soil

#### 1. Propylene Glycol : No data available

#### 2. WATER : No data available.

### 12.5 Result of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

Discharge into the environment must be avoided.

## SECTION 13 Disposal considerations

### 13.1 Waste treatment methods

#### Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

##### 13.1.1. Product / Packaging disposal

Offer surplus and non-recyclable solutions to a licensed disposal company.

Dispose of as unused product.

##### 13.1.2. Waste treatment-relevant information

Can be incinerated together with household waste in compliance with applicable technical regulations following consultation with approved waste disposal management companies and authorities in charge.

##### 13.1.3. Sewage disposal-relevant information

Release to the environment or sewage system is prohibited. Must be treated as hazardous waste.

##### 13.1.4. Other disposal recommendations

Handle contaminated packages in the same way as the substance itself.

## SECTION 14 Transport information

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN proper shipping name

ADR/RID : Not regulated as dangerous goods

IMDG : Not regulated as dangerous goods

IATA : Not regulated as dangerous goods

### 14.3. Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

### 14.4. Packing group

ADR/RID: -

IMDG: -

IATA: -

### 14.5. Environmental hazards

ADR/RID: -

IMDG: -

IATA: -

### 14.6. Special precautions for user

No data available

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available

## SECTION 15 Regulatory Information

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

#### 1. Propylene Glycol

##### E.U

Harmonised Classification : Not Classified

Major Accident Hazard Legislation : SEVESO III(Directive 2012/18/EU) - Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : not regulated



Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants (POPs) and amending Directive 79/117/EEC : not regulated

Substances of very high concern (SVHC) : not regulated

Take note of Dir 94/33/EC on the protection of young people at work.

#### **U.S & CANADA**

OSHA regulation (29 CFR1910.119) : No

CERCLA 103 regulation(40 CFR 302.4) : No

EPCRA 302 regulation(40 CFR355.30) : No

EPCRA 304 regulation(40 CFR355.40) : No

EPCRA 313 regulation(40 CFR372.65) : No

US. Toxic Substances Control Act : Listed

CEPA - Domestic Substances List (DSL) : Listed

CALIFORNIA PROPOSITION 65 : No

## **2. Water**

#### **E.U**

Harmonised Classification : Not Classified

Major Accident Hazard Legislation : SEVESO III(Directive 2012/18/EU) - Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : not regulated

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Substances of very high concern (SVHC) : not regulated

#### **U.S & CANADA**

OSHA regulation (29 CFR1910.119) : No

CERCLA 103 regulation(40 CFR 302.4) : No

EPCRA 302 regulation(40 CFR355.30) : No

EPCRA 304 regulation(40 CFR355.40) : No

EPCRA 313 regulation(40 CFR372.65) : No

US. Toxic Substances Control Act : Listed

CEPA - Domestic Substances List (DSL) : Listed

CALIFORNIA PROPOSITION 65 : No

## **15.2 Chemical safety assessment**

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

## **SECTION 16 Other Information**

The information presented herein is believed to be factual as it has been derived from the works from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warrant or representation for which KD Finechem Co., LTD. Bears legal responsibility. The user should review any recommendation in the specific context of the intended use to determine whether they are appropriate.

### **(i) Indication of changes**

**A. Issue date :**

01.Jul. 2021

**B. Last revision :**

2nd 03.Jan. 2023 (Ver. 1.1)

**(ii) Abbreviations and acronyms**

ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route

CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC

IATA = International Air Transport Association

IMDG = International Maritime Dangerous Goods Code

LEL = Lower Explosive Limit/Lower Explosion Limit

UEL = Upper Explosion Limit/Upper Explosive Limit

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals

EC50 = Median Effective Concentration

LC50 = Median lethal concentration

LD50 = Median lethal dose

TLV = Threshold limits

TWA = time weighted average

STEL = Short term exposure limit

CEPA = CANADIAN ENVIRONMENTAL PROTECTION ACT

OSHA Occupational Chemical Database