

Material Safety Data Sheet (MSDS)

1. Chemical Product & Company Identification

A. Product Name : Wixelent High-quality antifreeze

B. Intended Use

: Engine Coolant for Automobiles

C. Manufacturer & Supplier information

- Manufacturer : Kukdong Jeyen Co., Ltd (☎ +82-31-680-0505 Fax. +82-31-680-0507)
- Address : #1173-4 Wonjeong-ri Poseung-eup Pyeongtaek-si Gyeonggi-do Korea Rep.
- Supplier : Kukdong Jeyen Co., Ltd (☎ +82-31-680-0505 Fax. +82-31-680-0507)
- Address : #1173-4 Wonjeong-ri Poseung-eup Pyeongtaek-si Gyeonggi-do Korea Rep.

2. Hazard Identification

A. Hazard Identification

1) **Physicochemical** : Not Classified

2) **Health hazards** :

Specific target organ toxicity following repeat exposure : Category 2

3) **Environmental hazards** : Not Classified

B. Precautionary Statement(s) & Warning Label

1) Symbols



2) Signal Word : Caution

3) Hazard Statement(s)

H373 - May causes damage to organ(central nervous system, respiratory tract, heart) through prolonged or repeated exposure.

4) Precautionary Statement(s)

■ Precautionary

P260 : Do not breathe dust/fume/gas/mist/vapours/spray.

■ Response

P314 : Get medical advice/attention if you feel unwell.

■ Storage : Not Classified

■ Disposal

P501 : Dispose of contents and container in accordance with applicable regulations.

C. Other hazards.

Chemicals Name	NFPA Ratings		
	Health	Fire	Reactivity
1. ETHYLENE GLYCOL	0	1	0
2. WATER	0	0	0
3. SODIUM BENZOATE	0	1	0

3. Composition / Information on ingredients

Chemical Name	Other name	CAS No.	%
1) ETHYLENE GLYCOL	1,2-Ethanediol 1,2-Dihydroxyethane	107-21-1	90 ~ 95 %
2) WATER	DIHYDROGEN OXIDE	7732-18-5	3 ~ 10 %
3) SODIUM BENZOATE	Benzoic Acid, sodium salt	532-32-1	Max 2 %

4. First aid Measures

A. Eye Contact :

Move to fresh air. Flush thoroughly with water at least 15 minutes.
Get medical assistance.

B. Skin contact :

Wash contact areas with soap and water.
Remove contaminated clothing and shoes.
Get medical aid if irritation develops and persists.
Wash clothing before reuse.

C. Inhalation :

If inhaled, remove to fresh air.
If not breathing give artificial respiration.
Get medical aid.

D. Ingestion :

Potential for aspiration if swallowed.
Get medical aid immediately.
Do not induce vomiting unless directed to do so by medical personnel.
Never give anything by mouth to an unconscious person.
If vomiting occurs naturally, have victim lean forward.

E. Likely Acute or Delayed symptoms/Effects :

1) Inhalation

Short term exposure : Irritation, Sleepinss, Headache, Dizziness, Blood disorder.
Long term exposure : Irritation, Headache.

2) Skin contact

Short term exposure : Vomiting, Gastraigia, Headache, Dizziness, Sleepinss, Hallucination, Convulsions, Coma,
Allergic reaction.
Long term exposure : Irritation, Allergic reaction

3) Eye contact

Short term exposure : Irritation
Long term exposure : No data available

4) Ingestion

Short term exposure : Vomiting, Gastraigia, Headache, Dizziness, Sleepinss, Hallucination, Convulsions, Coma.
Long term exposure : Kidney trouble

F. Emergency measure / notes to physician

: Support vital functions. Correct for dehydration and manage fluid balance.
Administer ethanol (orally or by IV (intravenously)) or fomepizole (4-methylpyrazole or antizol)) therapy by IV as an antidote

to inhibit the oramation of toxic metabolities.

5. Fire Fighting Measures

A. Extinguishing media :

- 1) Suitable extinguishing media
: Fog, foam, dry Chemical powder
- 2) Unsuitable extinguishing media
: No data available
- 3) Unusual fire (Big fire)
: Do use extinguishing media with Water fog.

B. Unusual fire & Explosion hazard :

- 1) Hazardous combustion product : CO (carbon monoxide), CO₂ (carbon dioxide)
- 2) Fire & Explosion hazard : Slightly flammable to flammable in presence of open flames and sparks, of heat.
Non-flammable in presence of shocks.

C. Special fire fighting procedure / protection of firefighters :

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental Release Measure

A. Personal precautions :

Shut off allsources of ignition.
Wear self-contained breathing apparatus.

B. Environmental precautions :

- 1) Atmsphere release : No data available
- 2) Soil release : No data available
- 3) Underwater release : No data available

C. Spill cleanup methods

- 1) Small liquid spill : Use a non-combustible material like sand to soak up the product and place into a containe
for later disposal.
- 2) Large spillages : No data available

7. Handling and Storage

A. Handling

Keep away from heat.
Keep away from sources of ignition.
Empty containers pose a fir risk.
Evaporate the residue under a fume hood.
Ground all equipment containing material.
Do not ingest.
Do not breathe gas/fumes/vaper/spray.
Wear suitable protective clothing.
If ingested, seek medical advice.
Immediately and show the container or the label.
Keep away from incompatibles such as oxidizing agents, acids, alkalis.

B. Storage

- Keep container tightly closed.
- Keep container in a cool.
- Well-ventilated area.

8. Exposure Controls / Personal Protction

A. Exposure limin value :

1) ETYLENE GLYCOL

- Korea : TWA : C 100
STEL : -
- ACGIH : VTL-TWA : 100 mg/m³ 10 mg/m³ (aerosol only)
VTL-STEL : -
- OSHA : No data available

2) WATER

- Korea : TWA : No data available
STEL : No data available
- ACGIH : VTL-TWA : No data available
VTL-STEL : No data available
- OSHA : No data avail

3) SODIUM BENZOATE

- Korea : TWA : No data available
STEL : No data available
- ACGIH : VTL-TWA : No data available
VTL-STEL : No data available
- OSHA : No data avail

B. Engineering Control :

- Adequate ventilation (localize ventilation) should be provided in workplaces.
- Use non sparking tools.

C. Personal protective equipment

1) Respiratory protection

- Prevent inhalation of the solvents.
- If required to control exposure, use only suitable respirators and components tested and approved under appropriate government standards such as NIOSH.

2) Eye protection

- Wear approved chemical safety glasses or goggles where eye exposure is reasonably probable.
- Eye wash fountain is recommended.

3) Hand protection

- Wear protective gloves.
- Butyl rubber gloves are recommended.

4) Skin / Body protection

- Wear protective cloths.

9. Physical and Chemical properties

A. Appearance : Physical state - liquid, Color - Green

B. Odor : Softly peculiar smell

- C. Odor Threshold** : No data available
- D. pH** : 7.0 ~ 8.0
- E. Melting Point / Freezing Point** : -34 °C (by 50% solution)
- F. Boiling Point / range** : 173 °C / more than 150 °C
- G. Flash Point** : More than 111 °C
- H. Evaporation rate** : No data available
- I. Flammability Limit (Lower/Upper)** : 15.3% / 3.2%
- J. Vapor pressure** : No data available
- K. Solubility in water** : Soluble
- L. Vapor density (Air=1)** : No data available
- M. Specific Gravity** : 1.130 ~ 1.140
- N. Partition Coefficient (n-Octanol/Water)** : No data available
- O. Auto-ignition temperature** : 398 °C
- P. Thermal decomposition** : No data available
- Q. Viscosity** : 36.01 cst(15 °C), 18.09 cst (25 °C)
- R. Molecular weight** : Not Applicable / Mixture

10. Stability and Reactivity

- A. Stability** : Stable under normal temperatures and pressures.
- B. Possibility of hazardous reaction** : Has not been reported.
- C. Condition to avoid** : Ignition source.
Excess heat, flame.
- D. Incompatible material** : Oxidizing agents, acid, alkalis.
- E. Hazardous decomposition products** : Hydrocarbon compounds.

11. Toxicological Information

A. Route of exposure

- 1) Inhalation : No data available
- 2) Ingestion : No data available
- 3) Skin contact : No data available
- 4) Eye contact : No data available

B. Delayed, Immediate, and Chronic effects of Short-and Long-term Exposure

1) ETHYLENE GLYCOL

- Acute toxicity
 - Oral : LD50 7712 mg/kg Rat
 - Skin : LD50 3500 mg/kg Mouse
 - Inhalation : Steam LC50 2.5 mg / l 6 hr Rat
- Skin contact : Skin - Rabbit(Ethylene glycol) Result: No skin irritation
- Eye contact or Irritation : Eyes - Rabbit(Ethylene glycol) Result: Mild eye irritation - 24 h
- Sensitization : No data available
- Carcinogenicity :
 - KOSHA : Not listed
 - OSHA : Not listed
 - NTP : Not listed
 - IARC (GROUP) : Not listed

ACGIH : A4

EC : Not listed

- Mutagenesis : No data available
- Reproductive toxicity : Laboratory experiments have shown teratogenic effects. Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
- Specified target organ general toxicity - single exposure : No data available
- Specified target organ general toxicity - repetitive exposure : May cause damage to organs through prolonged or repeated exposure. - Kidney
- Aspiration respiratory organs hazard : No data available

2) WATER

- Acute toxicity
 - Oral : LD50 90000mg/kg Rat
 - Skin : No data available
 - Inhalation : No data available
- Skin contact : No data available
- Eye contact or Irritation : No data available
- Sensitization : No data available
- Carcinogenicity :
 - KOSHA : Not listed
 - 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

3) SODIUM BENZOATE

- Acute toxicity
 - Oral : LD50 2000mg/kg Rat
 - Skin : No data available
 - Inhalation : No data available
- Skin contact : No data available
- Eye contact or Irritation : No data available
- Sensitization : No data available
- Carcinogenicity :
 - KOSHA : Not listed
 - 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

12. Ecological Information

A. Ecotoxicity

1) ETHYLENE GLYCOL

- Fishes : No data available
- Crustacea : LC50MIN100mg/ℓ48hrDaphnia magna(OECD Guideline 202, GLP)
- Seaweeds : No data available

2) WATER

- Fishes : No data available
- Crustacea : No data available
- Seaweeds : No data available

3) SODIUM BENZOATE

- Fishes : LC50 MIN 100mg/ℓ 96hr Pimephales promelas
- Crustacea : LC50 MIN 100mg/ℓ 48hr Daphnia magna
- Seaweeds : No data available

B. Persistence and Degradability

1) ETHYLENE GLYCOL

- Persistence : No data available
- Degradability : BOD 0.78mg/ℓ COD 1.19mg/ℓ BOD5/COD 0.66

2) WATER

- Persistence : log Kow - 1.38
- Degradability : No data available

3) SODIUM BENZOATE

- Persistence : No data available
- Degradability : 90 (%) 7 day

C. Bio accumulation

1) ETHYLENE GLYCOL

- Accumulation : BCF 200

2) WATER

- Accumulation : No data available

3) SODIUM BENZOATE

- Accumulation : No data available

D. Ozone layer hazard : Not applicable

E. Mobility in Soil : No data available

F. Other Information : No data available

13. Disposal Consideration

A. Disposal method : Dispose in accordance with all applicable regulations.

B. Disposal instruction : No data available

C. Waste code : No data available

14. Transportation 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

15. Regulatory Information

A. Regulation

1) ETHYLENE GLYCOL

E.U : Hazard symbols : Acute Tox. 4 *

Risk phrases : H302

Safety phrases : S2

U.S

OSHA regulation (29 CFR1910.119) : No

CERCLA 103 regulation(40 CFR 302.4) : 2267.95kg 5000lb

EPCRA 302 regulation(40 CFR355.30) : No

EPCRA 304 regulation(40 CFR355.40) : No

EPCRA 313 regulation(40 CFR372.65) : Yes

US. Toxic Substances Control Act : Listed

CEPA - Domestic Substances List (DSL) : Listed

2) WATER

E.U : Hazard symbols : No

Risk phrases : No

Safety phrases : No

U.S

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

3) SODIUM BENZOATE

E.U : Hazard symbols : No

Risk phrases : No

Safety phrases : No

U.S

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

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 **KUKDONG JEYEN 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.

A. Issue date :

2013. 04. 01

B. Last revision :

2017. 06. 01 (Rev. 4) - Accordance with GHS regulation