

Safety Data Sheet



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

1.1 Production identifiers

Product name : ETHYLENE GLYCOL INDUSTRIAL
Brand : CJ Chemicals LLC
CAS-No. : 107-21-1

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

Identified uses : Laboratory chemicals, synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : CJ Chemicals LLC
3469 E Grand River Rd #112
Howell, MI 48843
United States

Telephone : +1 (888) 274-1044

1.4 Emergency Telephone

Emergency Phone # : 1-800-424-9300 CHEMTREC (USA)
1-703-527-3887 CHEMTREC (international) 24 hours/day; 7 days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4
Eye irritation : Category 2B
Specific target organ systemic toxicity - single exposure (Oral) : Category 2 (Kidney, Liver)
Specific target organ systemic toxicity - repeated exposure (Oral) : Category 2 (Kidney, Central nervous system)

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H302 Harmful if swallowed.
H320 Causes eye irritation.

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Precautionary Statements : **Prevention:**
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P309 IF exposed or if you feel unwell:
P313 Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous ingredients

| Chemical Name | CAS-No. | Concentration (%) |
|-----------------|----------|-------------------|
| Ethylene glycol | 107-21-1 | 95 - 100 |

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.

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Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire fighting : No data is available on the product itself.

Hazardous combustion products : No hazardous combustion products are known

Specific extinguishing methods : No data is available on the product itself.

Further information : Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

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- Advice on safe handling : Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : Strong acids

Strong bases

Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Ingredients | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|-----------------|----------|-------------------------------|--|----------|
| Ethylene glycol | 107-21-1 | C (Aerosol only) | 100 mg/m ³ | ACGIH |
| | | C | 50 ppm 125 mg/m ³ | OSHA PEL |

Personal protective equipment

- Respiratory protection : Wear a full face respirator conforming to EN 136 with type A/P2 filter or better
- Respiratory protection : In the case of vapor formation use a respirator with an approved filter.
- Respiratory protection : No personal respiratory protective equipment normally required.
- Hand protection
Material : PVC
Neoprene
Nitrile rubber
- Break through time : > 8 h
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Safety glasses with side-shields

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Eye wash bottle with pure water
Tightly fitting safety goggles.

Skin and body protection : Wear suitable coveralls to prevent exposure to the skin.
impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless

Odor : sweet

Odor Threshold : No data is available on the product itself.

pH : 6.5

Melting point : -13 °C

Freezing point : -12.7 °C

Boiling point : 197.4 °C

Flash point : 111.1 °C
Method: Pensky-Martens closed cup, closed cup

Evaporation rate : < 1

Flammability (solid, gas) : No data is available on the product itself.

Upper explosion limit : 15.3 %(V)

Lower explosion limit : 3.2 %(V)

Vapor pressure : < 0.1333 hPa (20 °C)

Relative vapor density : 2.2

Relative density : 1.1

Density : 1.113 g/cm³
Method: DIN 51757

Solubility(ies)

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Water solubility : 1,000 g/l completely miscible (20 °C)

Solubility in other solvents : Solvent: Methanol
Description: soluble

Partition coefficient: n-octanol/water : log Pow: -1.36

Autoignition temperature : 398 °C

Decomposition temperature : > 500 °C

Viscosity

 Viscosity, dynamic : 21 mPa.s (20 °C)
 Method: DIN Method, other
 16.1 mPa.s

 Viscosity, kinematic : 18.7 mm²/s (20 °C)

Oxidizing properties : None.

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

Molecular weight : 62.07 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : The product is chemically stable.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.

Conditions to avoid : No data available

Incompatible materials : Incompatible with oxidizing agents.

Hazardous decomposition products : Carbon monoxide
Carbon dioxide (CO₂)
Aldehydes
Ketones

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product : Acute toxicity estimate : 1,616 mg/kg
Method: Calculation method

Acute inhalation toxicity : No data available

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Acute dermal toxicity - Product : LD50 (Rabbit): 9,530 mg/kg

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Product:

Remarks: Vapors may cause irritation to the eyes, respiratory system and the skin.

Respiratory or skin sensitization

Ingredients:

Ethylene glycol:
Routes of exposure: Skin
Species: Guinea pig
Result: Does not cause skin sensitization.

Ingredients:

Ethylene glycol:
Assessment: Mild eye irritation

Germ cell mutagenicity

Ingredients:

Ethylene glycol:
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Result: negative

Ingredients:

Ethylene glycol:
Genotoxicity in vivo : Cell type: Germ
Application Route: Oral
Dose: 1000 mg/kg
Result: negative

Carcinogenicity

Ingredients:

Ethylene glycol:
Species: Rat, (male and female)
Application Route: Oral
Exposure time: 24 month(s)
Dose: 1000 mg/kg
Frequency of Treatment: 7 daily
Result: negative

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Species: Mouse, (male and female)
Application Route: Oral
Exposure time: 103 weeks
Dose: 1500 mg/kg
Result: negative

Carcinogenicity - Assessment : No data available

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Effects on fertility : No data available

Ingredients:

Ethylene glycol:
Effects on fetal development : Species: Rabbit, male and female
Application Route: Oral
Result: No teratogenic effects.

Reproductive toxicity - Assessment : No data available

STOT-single exposure

Ingredients:

Ethylene glycol:
Target Organs: Kidney, Central nervous system
Assessment: May cause damage to organs.

STOT-repeated exposure

Ingredients:

Ethylene glycol:
Target Organs: Kidney, Central nervous system, Liver
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Ingredients:

Ethylene glycol:
Species: Rat, male and female

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NOAEL (No observed adverse effect level): 200 mg/kg/d
Application Route: Ingestion
Exposure time: 17,280 h
Method: Chronic toxicity

Species: Rat, male
NOAEL (No observed adverse effect level): 150 mg/kg/d
Application Route: Ingestion
Exposure time: 8,640 h
Number of exposures: 7 d
Method: Chronic toxicity

Ingredients:

Ethylene glycol:
Repeated dose toxicity - Assessment : Mild eye irritation

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

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Ethylene glycol:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 72,860 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water

Ingredients:

Ethylene glycol:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Ingredients:

Ethylene glycol:
Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 6,500 - 13,000 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : No data available

Ingredients:

Ethylene glycol:
Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 15,380 mg/l
Exposure time: 7 d
Test Type: static test
Test substance: Fresh water

Ingredients:

Ethylene glycol:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (Water flea)): 8,590 mg/l
Exposure time: 7 d
Test Type: static test
Test substance: Fresh water

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to bacteria : No data available

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment

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Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

Persistence and degradability

Ingredients:

Ethylene glycol:
Biodegradability : Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 90 - 100 %
Exposure time: 10 d
Method: OECD Test Guideline 301A

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Ingredients:

Ethylene glycol:
Photodegradation : Rate constant: < .00001

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Bioaccumulation : No data available

Partition coefficient: n- : log Pow: -1.36

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octanol/water - Product

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product : No data available

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

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SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA

Not regulated as a dangerous good

IMDG

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

DOT Classification

UN/ID/NA number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(ETHYLENE GLYCOL)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

| Ingredients | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---------------------------|----------|--------------------|-----------------------------|
| MONOETHYLENE GLYCOL (MEG) | 107-21-1 | 5000 | 5051 |

SARA 311/312 Hazards : Chronic Health Hazard
Acute Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Ethylene glycol 107-21-1 99 %

Clean Air Act

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This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Ethylene glycol 107-21-1 99 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

California Prop 65

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Ethylene glycol 107-21-1

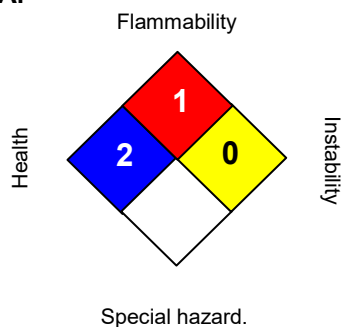
The ingredients of this product are reported in the following inventories:

CH INV : On the inventory, or in compliance with the inventory
TSCA : On TSCA Inventory
DSL : All components of this product are on the Canadian DSL.
AICS : On the inventory, or in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : On the inventory, or in compliance with the inventory
ISHL : On the inventory, or in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory
PICCS : On the inventory, or in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

| | |
|------------------------|-----------|
| HEALTH | 2* |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

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While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

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