



## Safety Data Sheet

Material Name: **Safety-Kleen ASTM E1177 Recycled Ethylene Glycol**

SDS ID: 820342

### \*\*\* Section 1 - Identification \*\*\*

**Product Identifier**

Safety-Kleen ASTM E1177 Recycled Ethylene Glycol

**Product Code**

Not available

**Synonyms**

Antifreeze concentrate.

**Recommended Use**

Dilute product before use. If this product is used in combination with other products, refer to the Safety Data Sheet for those products.

**Restrictions on Use**

None known.

**MANUFACTURER**

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New Issue SDS

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New Issue SDS

### \*\*\* Section 2 - Hazard(s) Identification \*\*\*

**Classification in accordance with Schedule 1 of Canada's Hazardous Products Regulations (HPR) (SOR/2015-17) and paragraph (d) of 29 CFR 1910.1200 in the United States**

Acute Toxicity (Oral), Category 4

Toxic to Reproduction, Category 2

Specific Target Organ Toxicity - Repeated Exposure, Category 2 (kidneys and liver)

**GHS LABEL ELEMENTS**

**Symbol(s)**



**Signal Word**

WARNING!

**Hazard Statement(s)**

Harmful if swallowed

Suspected of damaging fertility or the unborn child.

May cause damage to kidneys and liver through prolonged or repeated exposure.

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## Precautionary Statement(s)

### Prevention

Do not handle until all safety precautions have been read and understood. Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling.

### Response

IF exposed or concerned: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

### Storage

Store locked up.

### Disposal

Dispose in accordance with all applicable regulations.

### Hazard(s) Not Otherwise Classified

None known.

## \* \* \* Section 3 - Composition / Information on Ingredients \* \* \*

CAS	Component	Percent
107-21-1	Ethylene glycol	50-100
7732-18-5	Water	0-50

## \* \* \* Section 4 - First Aid Measures \* \* \*

### Description of Necessary Measures

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

#### Skin

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists: Get medical advice/attention.

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

### Most Important Symptoms/Effects

#### Acute

Harmful if swallowed.

#### Delayed

Reproductive effects, lung damage, respiratory system damage, kidney damage, liver damage.

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## Indication of Immediate Medical Attention and Special Treatment Needed, If Needed

Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Ethylene glycol is metabolized by alcohol dehydrogenase to various metabolites including glycoaldehyde, glycolic acid, and oxalic acid. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression, and kidney damage. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis, and prevention of kidney injury. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal when given in the early stages of intoxication because it blocks the formation of nephrotoxic metabolites. A more effective intravenous antidote is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenase, which effectively blocks the formation of toxic metabolites. Pulmonary edema with hypoxia has been described in a number of patients following ethylene glycol poisoning. Respiratory support with mechanical ventilation and positive end expiratory pressure may be required. There may be cranial nerve involvement in the later stages of toxicity from swallowing ethylene glycol. Effects have been reported presenting bilateral facial paralysis, diminished hearing, and dysphagia.

## \* \* \* Section 5 - Fire-Fighting Measures \* \* \*

### Suitable Extinguishing Media

Carbon dioxide, alcohol-resistant foam, dry chemical, water spray or water fog. Water or foam may cause frothing.

### Unsuitable Extinguishing Media

Do not use high-pressure water streams.

### Specific Hazards Arising from the Chemical

Avoid friction, static electricity and sparks. Empty containers may contain product residue.

### Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide and unidentified organic compounds.

### Special Protective Equipment and Precautions for Firefighters

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

### Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

## \* \* \* Section 6 - Accidental Release Measures \* \* \*

### Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

### Methods and Materials for Containment and Clean Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **Section 8: Exposure Controls/Personal Protection**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean tool into a sealable container for disposal.

Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

There may be specific regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see **Section 15: Regulatory Information**.

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### \*\*\* Section 7 - Handling and Storage \*\*\*

#### Precautions for Safe Handling

Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin and clothing. Do not smoke while using this product

#### Conditions for Safe Storage, Including Any Incompatibilities

Keep container tightly closed when not in use and during transport. Store containers in a cool, dry place. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous.

#### Incompatibilities

Avoid strong acids, strong bases, strong oxidizers.

### \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

#### Component Exposure Limits

Ethylene glycol	107-21-1
Alberta	100 mg/m3 Ceiling
British Columbia	10 mg/m3 TWA particulate; 100 mg/m3 Ceiling aerosol ; 50 ppm Ceiling vapor; 20 mg/m3 STEL particulate
Manitoba	25 ppm TWA vapor fraction
New Brunswick; Northwest Territories; Nunavut; Ontario; Saskatchewan	100 mg/m3 Ceiling aerosol
Nova Scotia	25 ppm TWA vapor fraction; 50 ppm STEL vapor fraction ; 10 mg/m3 STEL inhalable particulate matter, aerosol only
Prince Edward Island	25 ppm TWA vapor fraction; 50 ppm STEL vapor fraction ; 10 mg/m3 STEL inhalable particulate matter, aerosol only
Quebec	50 ppm Ceiling mist and vapor ; 127 mg/m3 Ceiling mist and vapor
Yukon	10 mg/m3 TWA particulate ; 100 ppm TWA vapor ; 250 mg/m3 TWA vapor; 10 ppm STEL particulate ; 20 mg/m3 STEL particulate ; 125 ppm STEL vapor ; 325 mg/m3 STEL vapor
ACGIH	25 ppm TWA vapor fraction; 50 ppm STEL vapor fraction ; 10 mg/m3 STEL inhalable particulate matter, aerosol only

#### Appropriate Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits. Ensure compliance with applicable exposure limits.

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### Eyes/Face Protection

Safety glasses with side shields should be worn at a minimum. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Contact lens use is not recommended.

### Glove Recommendations

Where skin contact is likely, wear gloves impervious to product; use of natural rubber (latex) or equivalent gloves is not recommended. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

### Respiratory Protection

No respirator is required under normal conditions of use. Use NIOSH-certified, full-face, air-purifying respirators with P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

### Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and/or Lab coat or apron.

## \* \* \* Section 9 - Physical & Chemical Properties \* \* \*

**Appearance/Odor :** Odorless, amber color.

**Odor Threshold:** Not available.

**Melting Point:** -12 to -11°C (Ethylene glycol)

**Specific Gravity:** 1.1088

**Octanol/H<sub>2</sub>O Coeff.:** -1.93 (Ethylene glycol)

**Auto Ignition Temperature:** 748°F (398°C) (Ethylene glycol)

**Flash Point:** 231°F (111 °C) (Ethylene glycol )

**Viscosity:** Not available

**Vapor Density:** 2.14 (air = 1) (Ethylene glycol)

**Flammability (solid, gas):** Not applicable

**pH:** Not available.

**Boiling Point:** 388°F (198°C)

**Solubility (H<sub>2</sub>O):** Complete

**Density:** 1.113 g/cm<sup>3</sup> at 20 °C  
(Ethylene glycol )

**Evaporation Rate:** Not available

**LFL:** 3.2 VOL% (Ethylene glycol)

**UFL:** 15.3 VOL% (Ethylene glycol)

**Vapor Pressure:** 0.05 mmHG @20°C

**Decomposition** Not available

**Temperature:**

### Other Property Information

No additional information is available.

## \* \* \* Section 10 - Stability & Reactivity \* \* \*

### Reactivity

No reactivity hazard is expected.

### Chemical Stability

Stable at normal temperatures and pressure.

### Possibility of Hazardous Reactions

Will not polymerize.

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## Conditions To Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

## Incompatible Materials

Avoid strong acids, strong bases, strong oxidizers.

## Hazardous Decomposition Products

None under normal temperatures and pressures.

* * * <b>Section 11 - Toxicological Information</b> * * *
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## Information on Likely Routes of Exposure

### Inhalation

May cause kidney damage, liver damage.

### Skin Contact

May cause skin irritation.

### Eye Contact

May cause eye irritation.

### Ingestion

Harmful if swallowed. May cause vomiting and nausea.

## Acute and Chronic Toxicity

### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

#### Ethylene glycol (107-21-1)

Oral LD50 Rat 4700 mg/kg; Dermal LD50 Rat 10600 mg/kg

#### Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

## Product Toxicity Data

### Acute Toxicity Estimate

Dermal	> 2000 mg/kg
Inhalation - Vapor	> 20 mg/L
Oral	> 2000 mg/kg

### Immediate Effects

Harmful if swallowed.

### Delayed Effects

Reproductive Effects, kidney damage, liver damage

### Irritation/Corrosivity Data

May cause irritation.

### Respiratory Sensitization

No information available for the product.

### Dermal Sensitization

No information available for the product.

### Component Carcinogenicity

<b>Ethylene glycol</b>	<b>107-21-1</b>
ACGIH:	A4 - Not Classifiable as a Human Carcinogen

### Germ Cell Mutagenicity

No information available for the product.

### Tumorigenic Data

No information available for the product.

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## Reproductive Toxicity

Suspected of damaging fertility or the unborn child.

## Specific Target Organ Toxicity - Single Exposure

No target organs identified.

## Specific Target Organ Toxicity - Repeated Exposure

Kidneys, liver.

## Aspiration hazard

No information available for the product.

## Medical Conditions Aggravated by Exposure

No information available for the product.

### \*\*\* Section 12 - Ecological Information \*\*\*

#### Component Analysis - Aquatic Toxicity

Ethylene glycol	107-21-1
Fish:	LC50 96 h Oncorhynchus mykiss 41000 mg/L; LC50 96 h Oncorhynchus mykiss 14 - 18 mL/L [static ]; LC50 96 h Lepomis macrochirus 27540 mg/L [static ]; LC50 96 h Oncorhynchus mykiss 40761 mg/L [static ]; LC50 96 h Pimephales promelas 40000 - 60000 mg/L [static ]; LC50 96 h Poecilia reticulata 16000 mg/L [static ]
Algae:	EC50 96 h Pseudokirchneriella subcapitata 6500 - 13000 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 46300 mg/L IUCLID

#### Persistence and Degradability

No information available for the product.

#### Bioaccumulative Potential

No information available for the product.

#### Mobility

No information available for the product.

### \*\*\* Section 13 - Disposal Considerations \*\*\*

#### Disposal Methods

Dispose of in accordance with all applicable federal, state and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

This product, if discarded, is not expected to be a characteristic or listed hazardous waste. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

### \*\*\* Section 14 - Transport Information \*\*\*

#### Emergency Response Guide Number

Not applicable.

#### Transportation Regulations

**US DOT Information:** Not regulated for transport.

Additional Information: Bulk Shipments: 5000 lbs or greater of ethylene glycol (~1070 gallon blended product): UN3082, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol), RQ 9, PGIII

**TDG Information:** Not regulated for transport.

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**\*\*\* Section 15 - Regulatory Information \*\*\***

**Volatile Organic Compounds (As Regulated)**

46-51 WT%; 4.1-4.6 LB/US gal; 495-548g/l  
 As per 40 CFR Part 51.100(s).  
 Non-photochemically reactive per SCAQMD Rule 102  
 VOC Vapor Pressure Approx 0.06 mmHg @ 20 °C (approximate)

**Canada Regulations**

**CEPA - Priority Substances List**

<b>Ethylene glycol</b>	<b>107-21-1</b>
	Priority Substance List 2 (substance not considered toxic )

**Ozone Depleting Substances**

None of this product's components are on the list.

**Council of Ministers of the Environment - Soil Quality Guidelines**

<b>Ethylene glycol</b>	<b>107-21-1</b>
Residential and Parkland	960 mg/kg (dry weight )

**Council of Ministers of the Environment - Water Quality Guidelines**

None of this product's components are on the list.

**Further information**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR. D2A, D2B.

**U.S. Federal Regulations**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

<b>Ethylene glycol</b>	<b>107-21-1</b>
SARA 313:	1 % de minimis concentration
CERCLA:	5000 lb final RQ ; 2270 kg final RQ

**SARA Section 311/312 (40 CFR 370 Subparts B and C) 2016 reporting categories**

**Acute Health: Yes Chronic Health: Yes Fire: No Pressure: No Reactivity: No**

**Component Analysis - Inventory**

**Ethylene glycol (107-21-1)**

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes



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### Water (7732-18-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	MA	MN	NJ	PA	CA
Ethylene glycol	107-21-1	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product can expose you to chemicals including Ethylene glycol which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.gov](http://www.P65Warnings.gov).

<b>*** Section 16 - Other Information ***</b>
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**NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

### Revision Information

New Issue SDS.

**Key/Legend** ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; WHMIS - Workplace Hazardous Materials Information System (Canada).

### Disclaimer

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplied to the user.