

MATERIAL SAFETY DATA SHEET

Ashland

Page 001

Date Prepared: 04/13/05

Date Printed: 04/27/05

MSDS No: 301.0000003-011.002

ETHYLENE GLYCOL

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: ETHYLENE GLYCOL

SAP Material No: 3370000 415 00A

General or Generic ID: GLYCOL

Company

Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:

1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:

1-800-325-3751

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
ETHYLENE GLYCOL	107-21-1	100.0-100.0

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin

May cause mild skin irritation. Symptoms may include redness and burning of skin. Although rare, skin contact with ethylene glycol may cause allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

Swallowing

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. Liver, kidney and brain damage in humans has resulted from swallowing lethal or near-lethal amounts of ethylene glycol.

Inhalation

It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

Symptoms of Exposure

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), cough, central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, involuntary eye movement, cyanosis (causes blue

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Note to Physicians

This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the patient three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body. Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure, ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery, to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: lung (for example, asthma-like conditions), liver, kidney. Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

5. FIRE FIGHTING MEASURES

Flash Point

232.0 F (111.1 C) TCC

Explosive Limit

(for product) Lower 3.2 Upper 15.3 %

Autoignition Temperature

748.0 F (397.7 C)

Hazardous Products of Combustion

May form: alcohols, aldehydes, carbon dioxide and carbon monoxide, ethers, toxic fumes.

Fire and Explosion Hazards

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media

water fog, carbon dioxide, dry chemical.

Fire Fighting Instructions

Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). No special precautions necessary when fighting fires involving this product.

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Respiratory Protections

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines

Component

ETHYLENE GLYCOL (107-21-1)
OSHA VPEL 50.000 ppm - Ceiling
ACGIH TLV 100.000 mg/m³ - Ceiling as an aerosol

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point

(for product) 379.0 - 401.0 F (192.7 - 205.0 C) @ 760 mmHg

Vapor Pressure

(for product) < .100 mmHg @ 68.00 F

Specific Vapor Density

2.200 @ AIR=1

Specific Gravity

1.114 @ 68.00 F

Liquid Density

9.280 lbs/gal @ 68.00 F
1.114 kg/l @ 20.00 C

Percent Volatiles

100.0 %

Volatile Organic Compounds (VOC)

100.000 %
> 99.900 g/l
9.280 lbs/gal

Evaporation Rate

< 1.00 (N-BUTYL ACETATE)

Appearance

CLEAR, VISCOUS

State

LIQUID

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14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:

NON-REGULATED BY D.O.T.

Container/Mode:

55 GAL DRUM/TRUCK PACKAGE

NOS Component:

ETHYLENE GLYCOL

RQ (Reportable Quantity) - 49 CFR 172.101

Product Quantity (lbs) Component

5000

ETHYLENE GLYCOL

Other Transportation Information

The Transport Information may vary with the container and mode of shipment.

15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)

Component

RQ (lbs)

ETHYLENE GLYCOL

5000

CERCLA RQ - 40 CFR 302.4(b)

Materials without a "listed" RQ may be reportable as an "unlisted hazardous substance". See 40 CFR 302.5 (b).

SARA 302 Components - 40 CFR 355 Appendix A

None

Section 311/312 Hazard Class - 40 CFR 370.2

Immediate(X) Delayed(X) Fire() Reactive() Sudden Release of Pressure()

SARA 313 Components - 40 CFR 372.65

Section 313 Component(s)

CAS Number

%

ETHYLENE GLYCOL

107-21-1 100.00

OSHA Process Safety Management 29 CFR 1910

None listed

EPA Accidental Release Prevention 40 CFR 68

None listed

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