

SAFETY DATA SHEET

1. Identification

Product identifier: 2-(2-ETHOXYETHOXY)ETHANOL

Other means of identification

Product No.: 635R, L216, 10920

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 4

Health Hazards

Acute toxicity (Oral) Category 4

Specific Target Organ Toxicity - Category 2
Repeated Exposure (Oral)

Label Elements

Hazard Symbol:



Signal Word: Warning

Hazard Statement: Combustible liquid.
Harmful if swallowed.
May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement

Prevention:	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray.
Response:	Get medical advice/attention if you feel unwell. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. In case of fire: Use dry chemical powder for extinction.
Storage:	Store in well-ventilated place. Keep cool.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
2-(2-ETHOXYETHOXY)ETHANOL		111-90-0	60 - 100%
ETHYLENE GLYCOL		107-21-1	0.5 - 5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion:	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
Inhalation:	Move to fresh air. Get medical attention if symptoms persist.
Skin Contact:	Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.

Most important symptoms/effects, acute and delayed

Symptoms: Harmful if swallowed.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Combustible liquid.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Foam, carbon dioxide or dry powder.

Unsuitable extinguishing media: Water may be ineffective in fighting the fire.

Specific hazards arising from the chemical: Heat may cause the containers to explode. Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Eliminate all ignition sources if safe to do so. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. If peroxide formation is suspected, do not open or move container. Do not distill to near dryness. Use personal protective equipment as required. Avoid breathing high vapor concentrations. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities: Keep away from food, drink and animal feeding stuffs. Keep containers tightly closed. Keep in a cool, well-ventilated place. Keep material from heat, light, and flame. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
ETHYLENE GLYCOL - Aerosol.	Ceiling	100 mg/m3	US. ACGIH Threshold Limit Values (2011)
ETHYLENE GLYCOL	Ceiling	50 ppm 125 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
ETHYLENE GLYCOL - Inhalable fraction and vapor.	TWA	10 mg/m3	US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values (02 2014)

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eyeface protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing.

Respiratory Protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Avoid contact with eyes, skin, and clothing.

9. Physical and chemical properties

Appearance

Physical state: Liquid
Form: No data available.
Color: Colorless

Odor: Pleasant odor

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: -54 °C

Initial boiling point and boiling range: 196 °C

Flash Point: 83 °C

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.

Flammability limit - lower (%): No data available.

Explosive limit - upper (%): No data available.

Explosive limit - lower (%):	No data available.
Vapor pressure:	0.1677 hPa
Vapor density:	4.62
Relative density:	0.9855
Solubility(ies)	
Solubility in water:	Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	204 °C
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Molecular weight:	134.17 g/mol

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur. Forms peroxides of unknown stability.
Conditions to Avoid:	Heat, sparks, flames. Protect against direct sunlight. Contact with incompatible materials.
Incompatible Materials:	Strong oxidizing agents. Caustics.
Hazardous Decomposition Products:	Thermal decomposition may release oxides of carbon.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Harmful if swallowed.
Inhalation:	Spray mists may cause respiratory tract irritation.
Skin Contact:	May cause irritation.
Eye contact:	May cause irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:	No data available.
Specified substance(s):	
2-(2-ETHOXYETHOXY)ETHANOL	LD 50 (Rat): 1,920 mg/kg
Specified substance(s):	
ETHYLENE GLYCOL	LD 50 (Rat): 5.89 g/kg

Dermal

Product:	No data available.
Specified substance(s):	

2-(2-ETHOXYETHOXY)ETHANOL LD 50 (Rabbit): 8,500 mg/kg

Specified substance(s):
 ETHYLENE GLYCOL LD 50 (Rabbit): 9,530 mg/kg

Inhalation
Product: No data available.

Repeated Dose Toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: May cause skin irritation.

Serious Eye Damage/Eye Irritation
Product: May irritate eyes.

Respiratory or Skin Sensitization
Product: Not a skin sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
 No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
 No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
 No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive Toxicity
Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure
Product: None known.

Specific Target Organ Toxicity - Repeated Exposure
Product: Kidney - May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard
Product: Not classified

Other Effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

2-(2-ETHOXYETHOXY)ETHANOL
LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 19,100 - 23,900 mg/l Mortality
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 7,910 - 11,800 mg/l Mortality

ETHYLENE GLYCOL
LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 27,540 mg/l Mortality
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 8,050 mg/l Mortality
LC 50 (Rainbow trout, donaldson trout (*Oncorhynchus mykiss*), 96 h): 36,000 - 47,000 mg/l Mortality
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 40,000 - 60,000 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

2-(2-ETHOXYETHOXY)ETHANOL
LC 50 (Brine shrimp (*Artemia salina*), 24 h): > 10,000 mg/l Mortality
LC 50 (Water flea (*Daphnia magna*), 48 h): 2,120 - 5,280 mg/l Mortality
LC 50 (Crayfish (*Orconectes immunis*), 96 h): 29,100 - 41,400 mg/l Mortality

ETHYLENE GLYCOL LC 50 (Water flea (*Daphnia magna*), 48 h): 37,800 - 45,100 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: The product is expected to be biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

2-(2-ETHOXYETHOXY)ETHANOL
Log Kow: -0.54

ETHYLENE GLYCOL Log Kow: -1.36

Mobility in Soil:

The product is water soluble and may spread in water systems.

Other Adverse Effects:

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
ETHYLENE GLYCOL Reportable quantity: 5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

☒ Acute (Immediate) ☒ Chronic (Delayed) ☒ Fire ☐ Reactive ☐ Pressure Generating

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	RQ
2-(2-ETHOXYETHOXY)ETHANOL	
ETHYLENE GLYCOL	5000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
2-(2-ETHOXYETHOXY)ETHANOL	500 lbs
ETHYLENE GLYCOL	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
2-(2-ETHOXYETHOXY)ETHANOL	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

2-(2-ETHOXYETHOXY)ETHANOL Listed

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

2-(2-ETHOXYETHOXY)ETHANOL Listed

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue Date: 11-17-2014

Revision Date: No data available.

Version #: 1.0

Further Information:

No data available.

Disclaimer:

THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET (MSDS/SDS) WAS PREPARED BY TECHNICAL PERSONNEL BASED ON DATA THAT THEY BELIEVE IN THEIR GOOD FAITH JUDGMENT IS ACCURATE. HOWEVER, THE INFORMATION PROVIDED HEREIN IS PROVIDED "AS IS," AND AVANTOR PERFORMANCE MATERIALS MAKES AND GIVES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES REGARDING SUCH INFORMATION AND THE PRODUCT TO WHICH IT RELATES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION(>,<)> WARRANTIES OF ACCURACY, COMPLETENESS, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY, STABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. THIS MSDS/SDS IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PROPERLY TRAINED PERSON USING THIS PRODUCT, AND IS NOT INTENDED TO BE COMPREHENSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, STORAGE, OR DISPOSAL OF THE PRODUCT. INDIVIDUALS RECEIVING THIS MSDS/SDS MUST ALWAYS EXERCISE THEIR OWN INDEPENDENT JUDGMENT IN DETERMINING THE APPROPRIATENESS OF SUCH ISSUES. ACCORDINGLY, AVANTOR PERFORMANCE MATERIALS ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF OR RELIANCE UPON THIS INFORMATION. NO SUGGESTIONS FOR USE ARE INTENDED AS, AND NOTHING HEREIN SHALL BE CONSTRUED AS, A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, LOCAL, OR FOREIGN LAWS. AVANTOR PERFORMANCE MATERIALS REMINDS YOU THAT IT IS YOUR LEGAL DUTY TO MAKE ALL INFORMATION IN THIS MSDS/SDS AVAILABLE TO YOUR EMPLOYEES.