

Material Safety Data Sheet

Ethylene glycol dimethyl ether, 99+%

ACC# 00610

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethylene glycol dimethyl ether, 99+%

Catalog Numbers: AC118450000, AC118450010, AC118450025, AC118450050, AC118455000

Synonyms: 1,2-Dimethoxyethane; Monoglyme.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
110-71-4	Ethylene glycol dimethyl ether	99+%	203-794-9

Hazard Symbols: T F

Risk Phrases: 11 19 20 60 61

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Not available. Appearance: APHA: 15 max clear liquid. Flash Point: 6 deg C. Not available.

Target Organs: Blood, kidneys, central nervous system, liver, reproductive system.

Potential Health Effects

Eye: May cause eye irritation. Causes redness and pain.

Skin: May cause skin irritation. May be absorbed through the skin. Causes redness and pain.

Ingestion: May cause irritation of the digestive tract. May cause central nervous system depression.

Inhalation: Harmful if inhaled. May cause narcotic effects in high concentration. In laboratory studies with this material, birth defects, fetotoxicity, embryoletality, anemia, bone marrow damage, hemolysis, immunosuppression and damage to the male reproductive tissues have been observed.

Chronic: Prolonged or repeated exposure may cause adverse reproductive effects. May cause blood changes.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Get medical aid. Wash mouth out with water.

Inhalation: Remove from exposure and move to fresh air immediately. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Reacts violently with water giving off flammable gas which may explode. Vapors can travel to a source of ignition and flash back. Containers may explode in the heat of a fire. Flammable liquid and vapor. May form explosive peroxides.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: 6 deg C (42.80 deg F)

Autoignition Temperature: 200 deg C (392.00 deg F)

Explosion Limits, Lower: 1.60 vol %

Upper: 10.40 vol %

NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Use spark-proof tools and explosion proof equipment. Avoid contact with skin and eyes. Take precautionary measures against static discharges. If peroxide formation is suspected, do not open or move container. Do not use if the material has evaporated to dryness. Do not breathe vapor. Do not distill to dryness. Test for peroxide formation before distillation.

Storage: Keep away from sources of ignition. Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container. Flammables-area. Do not expose to air.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethylene glycol dimethyl ether	none listed	none listed	none listed

OSHA Vacated PELs: Ethylene glycol dimethyl ether: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Not available.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Appearance: APHA: 15 max

Odor: ethereal odor - sharp odor

pH: Not available.

Vapor Pressure: 64 hPa @ 20 deg C

Vapor Density: 3.1 (air=1)

Evaporation Rate: 5.0 (butyl acetate=1)

Viscosity: 1.1 mPas 20 deg C

Boiling Point: 84 - 86 deg C @ 760 mmHg

Freezing/Melting Point: -69 deg C

Decomposition Temperature: Not available.

Solubility: Miscible.

Specific Gravity/Density: .8670g/cm³

Molecular Formula: C₄H₁₀O₂

Molecular Weight: 90.12

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Prolonged exposure to air and sunlight may form unstable peroxides.

Conditions to Avoid: Incompatible materials, light, excess heat.

Incompatibilities with Other Materials: Oxidizing agents, strong acids, may form peroxides in air.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 110-71-4: KI1451000

LD50/LC50:

CAS# 110-71-4:

Oral, mouse: LD50 = 3200 mg/kg;

Oral, rabbit: LD50 = 320 mg/kg;

Oral, rat: LD50 = 775 mg/kg;

Carcinogenicity:

CAS# 110-71-4: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: Carcinogenicity: Longterm effects (species unspecified) include haematological damage and testicular atrophy. Sub-acute data: Inhalation rat 1000 and 2010 ppm 4 hr per day and 5 days per week. All animals survived but showed significant decrease in avoidance response. Complete recovery from behavioural effects occurred within a few days after cessation of exposure. A dose-related reduction in growth was also observed.

Teratogenicity: Embryo or Fetus: Death, orl-mouse TDLo=1960mg/kg; Fetotoxicity, orl-mouse TDLo=361mg/kg. Specific Developmental Abnormalities: Central nervous system, orl-mouse TDLo=1400mg/kg; Musculoskeletal, orl-mouse TDLo=361mg/kg. Gavage rat, 30, 60, 120, 250, 500 or 1000 mg per kg per day on day 8-18 of gestation caused dose-related maternal and foetal fatality. Foetotoxicity was related to the lack of ossified bone, but there was no evidence of soft-tissue anomalies.

Reproductive Effects: Fertility: Post-implantation mortality, orl-mouse TDLo=16g/kg. orl-rat TDLo: 660 mg/kg (8-18D preg) orl-mus TDLo: 1960 mg/kg (7-10D preg) orl-mus TDLo: 1400 mg/kg (7-10D preg) orl-mus TDLo: 361 mg/kg (11D preg) orl-mus TDLo: 16 gm/kg (7-14D preg)

Neurotoxicity: No data available.

Mutagenicity: No data available.

Other Studies: See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

Section 12 - Ecological Information

Ecotoxicity: No data available. log POW: -0.21

Environmental: Biological degradability < 30%

Physical: No information available.

Other: Biodegradable.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	1,2-DIMETHOXYETHANE				No information available.
Hazard Class:	3				
UN Number:	UN2252				
Packing Group:	II				

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 110-71-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 110-71-4: acute, flammable, reactive.

Section 313

This material contains Ethylene glycol dimethyl ether (listed as Glycol ethers), 99%, (CAS# 110-71-4) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 110-71-4 can be found on the following state right to know lists: Pennsylvania, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T F

Risk Phrases:

R 11 Highly flammable.

R 19 May form explosive peroxides.

R 20 Harmful by inhalation.

R 60 May impair fertility.

R 61 May cause harm to the unborn child.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 33 Take precautionary measures against static discharges.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 53 Avoid exposure - obtain special instructions before use.
S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

CAS# 110-71-4: 1

Canada - DSL/NDSL

CAS# 110-71-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2B.

Canadian Ingredient Disclosure List

CAS# 110-71-4 is not listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 110-71-4: OEL-RUSSIA:STEL 10 mg/m³

Section 16 - Additional Information

MSDS Creation Date: 2/25/1999

Revision #4 Date: 6/10/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.