Material Safety Data Sheet
2-Methoxyethanol, 99+%

ACC# 00964

Section 1 - Chemical Product and Company Identification

MSDS Name: 2-Methoxyethanol, 99+%
Catalog Numbers: AC180790000, AC180790010, AC180790025, AC180790250
Synonyms: Methyl Cellosolve; Ethylene glycol monomethyl ether; EGME.
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
109-86-4	2-Methoxyethanol	>99.0	203-713-7
7732-18-5	Water	< 0.1	231-791-2

Hazard Symbols: T
Risk Phrases: 10 20/21/22 60 61

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 38 deg C. May cause central nervous system depression. May cause blood abnormalities. Can cause adverse reproductive effects. Causes eye and skin irritation. Causes respiratory tract irritation. **Flammable liquid and vapor.**
Warning! May be harmful if swallowed, inhaled, or absorbed through the skin.
Target Organs: Blood, kidneys, central nervous system, liver, lungs, bone marrow.

Potential Health Effects

Eye: May cause eye irritation. May cause transient corneal injury. Causes redness and pain.
Skin: May cause skin irritation. Harmful if absorbed through the skin. Causes redness and pain.
Ingestion: May cause irritation of the digestive tract. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed. May cause effects similar to those of acute inhalation. Ingestion of large amounts may cause CNS depression. A death was reported after ingestion of methyl cellosolve with post-mo rtem findings of hemorrhagic gastritis. Accidental ingestion of 2-met hoxyethanol and brandy lead to coma and death within 5 hr. Autopsy re vealed kidney damage, acute hemorrghagic gastritis, liver damage, dama ge to the pancreas, and brain edema.
Inhalation: Causes respiratory tract irritation. May cause liver and kidney damage. May cause anemia. May cause drowsiness, unconsciousness, and central nervous system depression. Aspiration may lead to pulmonary edema. Central nervous system effects may include confusion, ataxia, vertigo, tinnitus, weakness, disorientation, lethargy, drowsiness, and finally coma. Vapors may cause dizziness or suffocation. May cause burning sensation in the chest.
Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Prolonged or repeated exposure may cause adverse reproductive effects.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.
Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. May form explosive peroxides.
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.
Flash Point: 38 deg C (100.40 deg F)
Autoignition Temperature: 285 deg C (545.00 deg F)

Explosion Limits, Lower:1.8 vol %
Upper: 14 vol %
NFPA Rating: (estimated) Health: 2; Flammability: 2; 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. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep under a nitrogen blanket. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Store under an inert atmosphere. Containers should be dated when opened and tested periodically for the presence of peroxides.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
2-Methoxyethanol	5 ppm TWA; skin - potential for cutaneous absorption	0.1 ppm TWA; 0.3 mg/m3 TWA 200 ppm IDLH	25 ppm TWA; 80 mg/m3 TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs: 2-Methoxyethanol: 25 ppm TWA; 80 mg/m3 TWA Water: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
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: Liquid
Appearance: clear, colorless
Odor: Ethereal odor
pH: Not available.
Vapor Pressure: 6.2 mm Hg @20 deg C
Vapor Density: 2.62 (air=1)
Evaporation Rate:0.5 (butyl acetate=1)
Viscosity: Not available.
Boiling Point: 124 deg C @ 760mm Hg
Freezing/Melting Point:-85 deg C
Decomposition Temperature: Not available.
Solubility: soluble in water
Specific Gravity/Density:.9600g/cm3
Molecular Formula:C3H8O2
Molecular Weight:76.09

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: Light, ignition sources, exposure to air, heat.
Incompatibilities with Other Materials: Strong oxidizing agents, alkalies.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 109-86-4: KL5775000

CAS# 7732-18-5: ZC0110000
LD50/LC50:
CAS# 109-86-4:
Draize test, rabbit, eye: 97 mg;
Draize test, rabbit, eye: 500 mg/24H Mild;
Draize test, rabbit, skin: 483 mg/24H Mild;
Inhalation, mouse: LC50 = 1480 ppm/7H;
Inhalation, rat: LC50 = 1500 ppm/7H;
Oral, mouse: LD50 = 2800 mg/kg;
Oral, mouse: LD50 = 2560 mg/kg;
Oral, rabbit: LD50 = 890 mg/kg;
Oral, rabbit: LD50 = 890 mg/kg;
Oral, rat: LD50 = 2460 mg/kg;
Oral, rat: LD50 = 2370 mg/kg;
Skin, rabbit: LD50 = 2000 mg/kg;
Skin, rabbit: LD50 = 1280 mg/kg;

CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:
CAS# 109-86-4: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information available.
Teratogenicity: NIOSH recommends that 2-methoxyethanol be regarded as having the potential to cause adverse reproductive effects in workers, including teratogenesis in the offspring of exposed pregnant females.
Reproductive Effects: See RTECS# KL5775000. Even a single exposure to EGME is sufficient to induce damage to the testes and reduce the sperm count in rats.
Neurotoxicity: No information available.
Mutagenicity: See RTECS# KL5775000.
Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 15,520 mg/L; 96 Hr.; 12 degrees C Bluegill/Sunfish: LC50 = 10,000 mg/L; 96 Hr.; Static Condition, 23 degrees C No data available.
Environmental: No information found.
Physical: No information found.
Other: No information available.

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:	ETHYLENE GLYCOL MONOMETHYL ETHER				No information available.
Hazard Class:	3				
UN Number:	UN1188				
Packing Group:	III				

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 109-86-4 is listed on the TSCA inventory.
CAS# 7732-18-5 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 # 109-86-4: acute, chronic, flammable.
Section 313
This material contains 2-Methoxyethanol (CAS# 109-86-4, 99 0%),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 depletors. This material does not contain any Class 2 Ozone depletors.
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# 109-86-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts. CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act: WARNING: This product contains 2-Methoxyethanol, a chemical known to the state of California to cause birth defects or other reproductive harm. WARNING: This product contains 2-Methoxyethanol, a chemical known to the state of California to cause birth defects or other reproductive harm. 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
Risk Phrases:
R 10 Flammable.
R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
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# 109-86-4: 1
CAS# 7732-18-5: No information available.
Canada - DSL/NDSL
CAS# 109-86-4 is listed on Canada's DSL List.
CAS# 7732-18-5 is listed on Canada's DSL List.
Canada - WHMIS
This product has a WHMIS classification of B3, D2A.
Canadian Ingredient Disclosure List
CAS# 109-86-4 is listed on the Canadian Ingredient Disclosure List.
Exposure Limits
CAS# 109-86-4: OEL-AUSTRALIA:TWA 5 ppm (16 mg/m3);Skin OEL-BELGIUM: TWA 5 ppm (16 mg/m3);Skin OEL-DENMARK:TWA 5 ppm (16 mg/m3);Skin OEL-FINLAND:TWA 25 ppm (80 mg/m3);STEL 40 ppm (12 mg/m3);Skin OEL-FRANCE: TWA 5 ppm (16 mg/m3);Skin OEL-GERMANY:TWA 5 ppm (15 mg/m3);Skin OEL-HUNGARY:TWA 15 mg/m3;STEL 30 mg/m3;Skin OEL-JAPAN:TWA 5 ppm (16 mg/m3);Skin OEL-THE NETHERLANDS:TWA 5 ppm (16 mg/m3);Skin OEL-THE PHILIPP INES:TWA 25 ppm (80 mg/m3);Skin OEL-POLAND:TWA 50 mg/m3 OEL-RUSSIA:T WA 5 ppm OEL-SWEDEN:TWA 5 ppm (16 mg/m3);STEL 10 ppm (30 mg/m3);Skin OEL-SWITZERLAND:TWA 5 ppm (15 mg/m3);STEL 10 ppm (30 mg/m3);Skin OEL -TURKEY:TWA 25 ppm (80 mg/m3) OEL-UNITED KINGDOM:TWA 5 ppm (16 mg/m3) ;Skin JAN9 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 6/01/1999
Revision #6 Date: 3/18/2003