

Material Safety Data Sheet

Ethyl-Vinyl Ether, 99%, stabilized with 0.1% Potassium Hydroxide

ACC# 96912

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethyl-Vinyl Ether, 99%, stabilized with 0.1% Potassium Hydroxide

Catalog Numbers: AC119080000, AC119080010, AC9542448, AC9542971, AC9543379, AC1190830

Synonyms: Ethoxy ethene; Vinyl ethyl ether

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
109-92-2	Vinyl ethyl ether	99.0	203-718-4
1310-58-3	Potassium hydroxide	0.1	215-181-3

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -50 deg C.

Danger! Extremely flammable liquid. Causes respiratory tract irritation. Lachrymator (substance which increases the flow of tears). Causes eye and skin irritation. May cause digestive tract irritation. Air sensitive.

Target Organs: None.

Potential Health Effects

Eye: Causes eye irritation. Lachrymator (substance which increases the flow of tears).

Skin: Causes skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation.

Chronic: Prolonged or repeated skin contact may cause dermatitis.

Section 4 - First Aid Measures

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

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

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

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. 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. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

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

Flash Point: -50 deg C (-58.00 deg F)

Autoignition Temperature: 180 deg C (356.00 deg F)

Explosion Limits, Lower: 1.40 vol %

Upper: 28.00 vol %

NFPA Rating: 2 - health, 4 - flammability, 2 - instability

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. Wash area with soap and water. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling: Use spark-proof tools and explosion proof equipment. Avoid breathing dust, vapor, mist, or gas. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Use only in a chemical fume hood. If peroxide formation is suspected, do not open or move container. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Refrigerator/flammables. Regularly check inhibitor levels to maintain peroxide levels below 1%.

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 only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Vinyl ethyl ether	none listed	none listed	none listed
Potassium hydroxide	2 mg/m ³ Ceiling	none listed	none listed

OSHA Vacated PELs: Vinyl ethyl ether: No OSHA Vacated PELs are listed for this chemical. Potassium hydroxide: 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. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: Not available.

pH: Not available.

Vapor Pressure: 428 mm Hg @ 20 deg C

Vapor Density: 2.5 (Air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 36 deg C @ 760.00mm Hg

Freezing/Melting Point: -116 deg C

Decomposition Temperature: Not available.

Solubility: Slightly soluble.

Specific Gravity/Density: 0.7540g/cm³

Molecular Formula: C₄H₈O

Molecular Weight: 72.11

Section 10 - Stability and Reactivity

Chemical Stability: Not stable during routine use and handling conditions. On long term storage, substances with similar functional groups form explosive peroxides.

Conditions to Avoid: Incompatible materials, ignition sources, exposure to air.

Incompatibilities with Other Materials: Oxidizing agents, strong acids, oxygen.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, acrid smoke and fumes.

Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 109-92-2: KO0710000

CAS# 1310-58-3: TT2100000

LD50/LC50:

CAS# 109-92-2:

Inhalation, mouse: LC50 = 324 gm/m³/15M;

Oral, rat: LD50 = 8160 uL/kg;

Skin, rabbit: LD50 = >20 mL/kg;

Skin, rat: LD50 = >20 gm/kg;

CAS# 1310-58-3:

Draize test, rabbit, skin: 50 mg/24H Severe;
Oral, rat: LD50 = 273 mg/kg;

Carcinogenicity:

CAS# 109-92-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 1310-58-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: No data available.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. Fish toxicity: LC50/Leuciscus idus/: >2200 <4600 mg/l/96h Daphnia toxicity: EC/LC50 (48 h): >100 mg/l Algae toxicity: EC/LC50 (72 h): 510 mg/l Bacteriatotoxicity: EC/LC50 (17 h): >5000 mg/l

Environmental: No information available.

Physical: No information available.

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	Canada TDG
Shipping Name:	VINYL ETHYL ETHER, STABILIZED	VINYL ETHYL ETHER
Hazard Class:	3	3
UN Number:	UN1302	UN1302
Packing Group:	I	I
Additional Info:		FLASHPOINT -45 C

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 109-92-2 is listed on the TSCA inventory.

CAS# 1310-58-3 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.

CERCLA Hazardous Substances and corresponding RQs

CAS# 1310-58-3: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 1310-58-3: immediate, reactive.

Section 313 No chemicals are reportable under Section 313.

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:

CAS# 1310-58-3 is listed as a Hazardous Substance 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# 109-92-2 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

CAS# 1310-58-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

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:

XI F

Risk Phrases:

- R 11 Highly flammable.
- R 2 Risk of explosion by shock, friction, fire or other sources of ignition.
- R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

- S 16 Keep away from sources of ignition - No smoking.
- S 23 Do not inhale gas/fumes/vapour/spray.
- S 24/25 Avoid contact with skin and eyes.
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 33 Take precautionary measures against static discharges.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

- CAS# 109-92-2: 1
- CAS# 1310-58-3: 1

Canada - DSL/NDSL

- CAS# 109-92-2 is listed on Canada's DSL List.
- CAS# 1310-58-3 is listed on Canada's DSL List.

Canada - WHMIS

not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 1310-58-3 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/21/1999

Revision #3 Date: 10/03/2005

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.