

Material Safety Data Sheet

5-Ethylidene-2-norbornene, 98+%, mixt. of endo- and exo-isomers, stabilized

ACC# 07917

Section 1 - Chemical Product and Company Identification

MSDS Name: 5-Ethylidene-2-norbornene, 98+%, mixt. of endo- and exo-isomers, stabilized

Catalog Numbers: AC166010000, AC166010050, AC166015000

Synonyms: 2-Norbornene, 5-ethylidene-; 5-Ethylidenebicyclo (2.2.1)hept-2-ene; Ethylidene norbornene.

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
16219-75-3	5-Ethylidene-2-norbornene, mixture of isomers	98 +	240-347-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Colorless to White Liquid. Flash Point: 38 deg C.

Warning! Flammable liquid and vapor. Causes eye irritation. Causes respiratory tract irritation. Reactive. Causes skin irritation. May cause digestive tract irritation. This substance has caused adverse reproductive and fetal effects in animals.

Target Organs: None.

Potential Health Effects

Eye: Causes mild eye irritation. Contact may cause transient eye irritation. This product rated 1 on rabbit eyes (Toxicology of the Eye).

Skin: Causes mild skin irritation.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: Vapors may cause dizziness or suffocation. Inhalation of vapors will cause coughing or breathing difficulty. Aspiration may cause severe pneumonia.

Chronic: No information found.

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 immediately.

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

Ingestion: 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. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. 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. Water may be ineffective. Use agent most appropriate to extinguish fire. Do NOT use straight streams of water. In case of fire, use carbon dioxide, dry chemical powder or appropriate foam.

Flash Point: 38 deg C (100.40 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower: .90 vol %

Upper: 6.40 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. Clean up spills

immediately, observing precautions in the Protective Equipment section. 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: Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Use with adequate ventilation. Wash clothing before reuse. 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. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Store under nitrogen.

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
5-Ethylidene-2-norbornene, mixture of isomers	5 ppm Ceiling	none listed	none listed

OSHA Vacated PELs: 5-Ethylidene-2-norbornene, mixture of isomers: 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: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Colorless to White Liquid

Odor: Turpentine-like Odor

pH: Not available.

Vapor Pressure: 4.6 mmHg @ 20 C

Vapor Density: 4.14

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 67 deg C @ 50 mmHg

Freezing/Melting Point: -80 deg C

Decomposition Temperature: Not available.

Solubility: Not available.

Specific Gravity/Density: .8930g/cm3

Molecular Formula: C9H12

Molecular Weight: 120.19

Section 10 - Stability and Reactivity

Chemical Stability: May react with oxygen in the air.

Conditions to Avoid: Incompatible materials, ignition sources, exposure to air, excess heat, strong oxidants.

Incompatibilities with Other Materials: Oxygen, strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 16219-75-3: RB9450000

LD50/LC50:

CAS# 16219-75-3:

Inhalation, mouse: LC50 = 732 ppm/4H;

Inhalation, mouse: LC50 = 10900 mg/m3/2H;

Inhalation, rabbit: LC50 = 3104 ppm/4H;

Inhalation, rat: LC50 = 1246 ppm/4H;

Inhalation, rat: LC50 = 3520 mg/m3/4H;

Oral, mouse: LD50 = 3040 mg/kg;

Oral, rat: LD50 = 2830 uL/kg;

Skin, rabbit: LD50 = 5.66 mL/kg;

Inhalation, human: TClO = 6 ppm/30M. Human systemic effects by inhalation: conjunctiva, olfactory, and taste

Carcinogenicity:

CAS# 16219-75-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: Maternal Effects: Inhalation, rat: TCLo = 100 ppm/6H (female 6-15 days after conception).

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

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:	FLAMMABLE LIQUIDS, N.O.S.	FLAMMABLE LIQUID NOS
Hazard Class:	3	3
UN Number:	UN1993	UN1993
Packing Group:	III	II
Additional Info:		FLASHPOINT 38 DEG C

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 16219-75-3 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

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.

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:

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# 16219-75-3 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:

Not available.

Risk Phrases:

R 10 Flammable.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 33 Take precautionary measures against static discharges.

S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

CAS# 16219-75-3: 2

Canada - DSL/NDSL

CAS# 16219-75-3 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# 16219-75-3 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 11/11/1998

Revision #4 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.