

Material Safety Data Sheet

1-Propanephosphonic acid cyclic anhydride, solution in ethyl acetate

ACC# 09722

Section 1 - Chemical Product and Company Identification

MSDS Name: 1-Propanephosphonic acid cyclic anhydride, solution in ethyl acetate

Catalog Numbers: AC209010000, AC209010100, AC209010500

Synonyms: 2,4,6-Tripropyl-1,3,5,2,4,6-trioxatriphosphorinane 2,4,6-trioxide.

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
141-78-6	Ethyl acetate	50 wt.%	205-500-4
68957-94-8	1-Propanephosphonic acid cyclic anhydride	50 wt.%	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: slightly yellow liquid. Flash Point: -5 deg C.

Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns. **Flammable liquid and vapor.** Breathing vapors may cause drowsiness and dizziness.

Target Organs: Central nervous system, respiratory system, eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns. Repeated or prolonged exposure may cause drying and cracking of the skin. The majority of human studies have demonstrated that ethyl acetate does not cause an allergic response on human skin. However, there is one case report of a woman developing a skin allergy to ethyl acetate.

Ingestion: Causes gastrointestinal tract burns. Ingestion of large amounts may cause central nervous depression. May cause headache, nausea, fatigue, and dizziness. These effects may be caused in part by ethanol which is released when ethyl acetate is broken down in the body.

Inhalation: Causes chemical burns to the respiratory tract. May be harmful if inhaled. Inhalation of high concentrations may cause narcotic effects. Inhalation of vapors may cause drowsiness and dizziness.

Chronic: Chronic inhalation may cause effects similar to those of acute inhalation. Chronic exposure may cause effects similar to those of acute exposure. Animals exposed to 4300 ppm (mice) and 2000 ppm (guinea pig), 6 hours/day for 7 days developed minor blood changes & loss of appetite. There was no indication of liver or kidney injury. Rabbits exposed to 16000 mg/m³ (4440 ppm), 1 hour/day for 40 days developed secondary anemia (decreased number of red blood cells), decreased hemoglobin levels, increased numbers of macrophages, congestion and fatty degeneration of various organs, and enlargement of the spleen. A reviewer suggested that the organ damage may have been due to impurities present in the ethyl acetate.

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 immediately.

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. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

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. 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. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: Water may be ineffective. Use water spray, alcohol foam, CO₂, dry chemical.

Flash Point: -5 deg C (23.00 deg F)

Autoignition Temperature: 460 deg C (860.00 deg F)

Explosion Limits, Lower: 2.1 Vol %

Upper: 11.5 Vol %

NFPA Rating: (estimated) Health: 3; Flammability: 3; Instability: 1

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. 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: Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Do not ingest or inhale. Use only in a chemical fume hood. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep away from heat, sparks and flame.

Storage: Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

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 general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethyl acetate	400 ppm TWA	400 ppm TWA; 1400 mg/m ³ TWA 2000 ppm IDLH	400 ppm TWA; 1400 mg/m ³ TWA
1-Propanephosphonic acid cyclic anhydride	none listed	none listed	none listed

OSHA Vacated PELs: Ethyl acetate: 400 ppm TWA; 1400 mg/m³ TWA 1-Propanephosphonic acid cyclic anhydride: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

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: slightly yellow

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 77.2 deg C

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Not available.

Specific Gravity/Density: 1.069

Molecular Formula: C₉H₂₁O₆P₃

Molecular Weight: 318.18

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Moisture sensitive.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat, exposure to moist air or water, attacks some plastics, rubber, and coatings, confined spaces.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases.

Hazardous Decomposition Products: Carbon monoxide, oxides of phosphorus, carbon dioxide, ethyl alcohol, acetic acid.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 141-78-6: AH5425000

CAS# 68957-94-8 unlisted.

LD50/LC50:

CAS# 141-78-6:
Inhalation, mouse: LC50 = 45 gm/m³/2H;
Inhalation, rat: LC50 = 200 gm/m³;
Oral, mouse: LD50 = 4100 mg/kg;
Oral, rabbit: LD50 = 4935 mg/kg;
Oral, rat: LD50 = 5620 mg/kg;
Skin, rabbit: LD50 = >20 mL/kg;

CAS# 68957-94-8:

Carcinogenicity:

CAS# 141-78-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 68957-94-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: 230mg/L; 96HFish: Pseudomonas putida:

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:

CAS# 141-78-6: waste number U112 (Ignitable waste).

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Ethyl acetate, 1-Propanephosphonic acid)	FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Hazard Class:	3	3
UN Number:	UN2924	UN2924
Packing Group:	II	II
Additional Info:		(Ethyl acetate, 1-Propanephosphonic acid)

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 141-78-6 is listed on the TSCA inventory.
CAS# 68957-94-8 is not listed on the TSCA inventory. It is for research and development use only.

Health & Safety Reporting List

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

Chemical Test Rules

CAS# 141-78-6: Test for Health Effects

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# 141-78-6: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 141-78-6: fire.

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 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# 141-78-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 68957-94-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

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:

F C

Risk Phrases:

R 11 Highly flammable.

R 34 Causes burns.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

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

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 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 141-78-6: 1

CAS# 68957-94-8: No information available.

Canada - DSL/NDSL

CAS# 141-78-6 is listed on Canada's DSL List.

CAS# 68957-94-8 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2.

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# 141-78-6 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/20/2004

Revision #2 Date: 1/31/2005

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.