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**** MATERIAL SAFETY DATA SHEET ****

Propionic acid, 99%
96448

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Propionic acid, 99%

Catalog Numbers:
AC149300000, AC149300010, AC149300025, AC149300050

Synonyms:
Carboxyethane; Ethane-carboxylic acid; Ethylformic acid; Methylacetic acid; Metacetic acid; Propanoic acid; Propanoic acid grain preserver; Psuedoacetic acid.

Company Identification (Europe):
Acros Organics BVBA
Janssen Pharmaceuticaalaa 3a
2440 Geel, Belgium
Company Identification (USA):
Acros Organics
One Reagent Lane
Fairlawn, NJ 07410

For information in North America, call: 800-ACROS-01
For information in Europe, call: 0032(0) 14575211
For emergencies in the US, call CHEMTREC; 800-424-9300
For emergencies in Europe, call: 0032(0) 14575299

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
79-09-4	Propionic acid	99	201-176-3

Hazard Symbols: C
Risk Phrases: 34

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: colorless, oily liquid clear liquid. Flash Point: 51 deg C.
Danger! Flammable liquid and vapor. Harmful if absorbed through the skin. May cause central nervous system depression. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Causes severe eye and skin irritation and burns. Possible sensitizer. Corrosive to steel.
Target Organs: Central nervous system, respiratory system, eyes, skin, mucous membranes.

Potential Health Effects

Eye:
May result in corneal injury. Causes severe eye irritation and burns.
Skin:
Harmful if absorbed through the skin. Causes severe skin irritation and burns.
Skin absorption in rabbits was found to cause focal hemorrhage of the lungs, discoloration of the liver and kidney, enlarged gall bladder, and gastrointestinal inflammation.
Ingestion:
May cause severe and permanent damage to the digestive tract. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma. May cause central nervous system depression.
Inhalation:
May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. Causes chemical burns to the respiratory tract. Vapors may cause dizziness or suffocation.
Chronic:
Prolonged or repeated skin contact may cause defatting and dermatitis. Laboratory experiments have resulted in mutagenic effects.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:
Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
Skin:
Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated 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

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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. 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:

Water may be ineffective. Do NOT use straight streams of water. Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.

Autoignition Temperature: 513 deg C (955.40 deg F)

Flash Point: 51 deg C (123.80 deg F)

Explosion Limits, lower: 2.9 vol %

Explosion Limits, upper: 12.1 vol %

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

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

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

Spills/Leaks:

Use water spray to dilute spill to a non-flammable mixture. Large spills may be neutralized with dilute alkaline solutions of soda ash (sodium carbonate, Na2CO3), or lime (calcium oxide, CaO). Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Cover with sand, dry lime or soda ash and place in a closed container for disposal. 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. Remove contaminated clothing and wash before reuse. 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. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Do not breathe vapor or mist.

Storage:

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store in steel container.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Use explosion-proof ventilation equipment. 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.

Chemical Name	Exposure Limits		
	ACGIH	NIOSH	OSHA - Final PELs
Propionic acid	10 ppm	10 ppm TWA; 30 mg/m3 TWA	none listed

OSHA Vacated PELs:

Propionic acid:
10 ppm TWA; 30 mg/m3 TWA

Personal Protective Equipment

Eyes:

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Wear chemical goggles.
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 a respirator's use.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Clear liquid
Color: colorless, oily liquid
Odor: rancid odor - pungent odor
H: Acidic
Vapor Pressure: 2 mm Hg @ 20 deg C
Vapor Density: 2.56
Evaporation Rate: Not available.
Viscosity: 1.175 cps @ 15 deg C
Boiling Point: 141 deg C
Freezing/Melting Point: -21 deg C
Decomposition Temperature: Not available.
Solubility in water: Soluble
Specific Gravity/Density: 0.9942 @ 20/4°C
Molecular Formula: CH3CH2COOH
Molecular Weight: 74.08

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Ignition sources, excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, steel.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Will not occur.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#: CAS# 79-09-4: UE5950000
LD50/LC50: CAS# 79-09-4; Draize test, rabbit, eye: 990 ug Severe; Oral, rat: LD50 = 2600 mg/kg; Skin, rabbit: LD50 = 500 uL/kg.
Carcinogenicity: Propionic acid - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: Sister Chromatid Exchange: Human, Lymphocyte = 2500 umol/L.
Other Studies: Open Irritation Test: Administration onto the skin (rabbit) = 495 mg (Severe); Standard Draize Test: Administration into the eye (rabbit) = 990 ug (Severe).

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity: Water flea Daphnia: TLM = 130 mg/L; 24 Hr; unspecified Fish: Fathead Minnow: LC50 = 4740 mg/L; 96 Hr; Flow-through bioassay at 24.7 °C (pH 7.60) Volatilization of propionic acid from environmental waters and moist soil should be extremely slow. Evaporation from dry surfaces is expected, especially when present in high concentrations such as in spill situation. The hydrolysis, photolysis and bioconcentration of propionic acid are not expected to be important fate processes.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Chemical waste generators must determine whether a discarded chemical classified as a hazardous waste.
EPA guidelines for the classification determination are listed in CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RA P-Series: None listed.

RCRA U-Series: None listed.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
Shipping Name: PROPIONIC ACID
Hazard Class: 8
UN Number: UN1848
Packing Group: III
Canadian TDG
No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 79-09-4 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
CAS# 79-09-4: 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 # 79-09-4: acute, flammable.
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:
CAS# 79-09-4 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
Propionic acid can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, 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: C
Risk Phrases:
R 34 Causes burns.
Safety Phrases:
S 9 Keep container in a well-ventilated place.
S 16 Keep away from sources of ignition - No smoking.
S 23 Do not inhale gas/fumes/vapour/spray.
S 33 Take precautionary measures against static discharges.
S 36 Wear suitable protective clothing.
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# 79-09-4: 1
United Kingdom Occupational Exposure Limits
CAS# 79-09-4: OEL-United Kingdom, TWA 10 ppm TWA; 31 mg/m3 TWA
CAS# 79-09-4: OEL-United Kingdom, STEL 15 ppm STEL; 46 mg/m3 STEL
United Kingdom Maximum Exposure Limits
Canada
CAS# 79-09-4 is listed on Canada's DSL List.
This product has a WHMIS classification of B3, D1B, E.
CAS# 79-09-4 is listed on Canada's Ingredient Disclosure List.
Exposure Limits
CAS# 79-09-4: OEL-AUSTRALIA: TWA 10 ppm (30 mg/m3); STEL 15 ppm (45 mg/m3)
OEL-BELGIUM: TWA 10 ppm (30 mg/m3); STEL 15 ppm (45 mg/m3)
OEL-DENMARK: TWA 10 ppm (30 mg/m3)
OEL-FRANCE: TWA 10 ppm (30 mg/m3)
OEL-GERMANY: TWA 10 ppm (30 mg/m3)
OEL-THE NETHERLANDS: TWA 10 ppm (30 mg/m3)
OEL-RUSSIA: STEL 20 mg/m3

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OEL-SWITZERLAND:TWA 10 ppm (30 mg/m3);STEL 20 ppm (60 mg/m3)
OEL-UNITED KINGDOM:TWA 10 ppm (30 mg/m3);STEL 15 ppm (45 mg/m3)
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: 5/05/1999 Revision #4 Date: 6/04/2002

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 way shall the company 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 the company has been advised of the possibility of such damages.
