

Material Safety Data Sheet

Mucochloric acid, 99%(titr.,dry substance)

ACC# 80456

Section 1 - Chemical Product and Company Identification

MSDS Name: Mucochloric acid, 99%(titr.,dry substance)

Catalog Numbers: AC128060000, AC128060050, AC128065000

Synonyms: 2,3-Dichloro-4-oxo-2-butenic acid; aldehydodichloromaleic acid; dichloromalealdehydic acid; alpha,beta-dichloro-beta-formyl acrylic acid.

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
87-56-9	Mucochloric acid, 99%(Titr., dry substance)		201-752-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to cream crystalline powder.

Danger! Corrosive. Causes eye and skin burns. Harmful if swallowed. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns.

Target Organs: None.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns.

Ingestion: Harmful if swallowed. May cause irritation of the digestive tract and possible burns.

Inhalation: May cause severe respiratory tract irritation and possible burns.

Chronic: Not available.

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. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Discard contaminated clothing in a manner which limits further exposure. 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: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-

mouth resuscitation.

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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is noncombustible. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: Not applicable.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 1; 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.

Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Mucochloric acid, 99% (Titr., dry substance)	none listed	none listed	none listed

OSHA Vacated PELs: Mucochloric acid, 99%(Titr., dry substance): 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: Crystalline powder

Appearance: white to cream

Odor: None reported.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 125.00 - 128.00 deg C

Decomposition Temperature: Not available.

Solubility: soluble in hot benzene and alcohol

Specific Gravity/Density: Not available.

Molecular Formula: C₄H₂Cl₂O₃

Molecular Weight: 168.96

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, dust generation.

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

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 87-56-9: AS7700000

LD50/LC50:

CAS# 87-56-9:

Draize test, rabbit, eye: 50 ug/24H Severe;

Draize test, rabbit, skin: 20 mg/24H Moderate;

Oral, mouse: LD50 = 84 mg/kg;

Oral, rabbit: LD50 = 160 mg/kg;

Oral, rat: LD50 = 100 mg/kg;

Carcinogenicity:

CAS# 87-56-9: 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

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:	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	CORROSIVE SOLID ACIDIC ORGANICNOS (MUCOCHLORIC ACID)
Hazard Class:	8	8
UN Number:	UN3261	UN3261
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 87-56-9 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 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# 87-56-9 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:**

T C

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 25 Toxic if swallowed.

R 34 Causes burns.

R 42/43 May cause sensitization by inhalation and skin contact.

Safety Phrases:

S 22 Do not breathe dust.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 27 Take off immediately all contaminated clothing.

S 28 After contact with skin, wash immediately with...

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# 87-56-9: 2

Canada - DSL/NDSL

CAS# 87-56-9 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, E.

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

Section 16 - Additional Information

MSDS Creation Date: 9/08/1998

Revision #4 Date: 11/20/2008

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.