

Material Safety Data Sheet

(R)-(+)-2-Chloropropionic acid, 98%

ACC# 13215

Section 1 - Chemical Product and Company Identification

MSDS Name: (R)-(+)-2-Chloropropionic acid, 98%

Catalog Numbers: AC254960000, AC254962500

Synonyms: (R)-(+)-2-Chloropropanoic 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
7474-05-7	(R)-(+)-2-Chloropropionic acid	98	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless to yellow brown clear liquid.

Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns. May be fatal if absorbed through the skin. Harmful if swallowed. May cause central nervous system effects. May cause adverse reproductive effects based upon animal studies.

Target Organs: Central nervous system, eyes, reproductive system, skin, brain, mucous membranes, testes.

Potential Health Effects

Eye: Causes eye burns.

Skin: May be fatal if absorbed through the skin. Causes skin burns. 2-Chloropropanoic acid failed to produce a positive response in guinea pigs in a sensitization test.

Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns. May cause central nervous system effects.

Inhalation: Causes chemical burns to the respiratory tract.

Chronic: Not available. In a prolonged oral toxicity study using male rats, 2-chloropropanoic acid caused neurotoxic effects and testicular damage.

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: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

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. Will burn if involved in a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Contact with metals may evolve flammable hydrogen gas.

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.

Flash Point: 107 deg C (224.60 deg F)

Autoignition Temperature: 500 deg C (932.00 deg F)

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.

Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Discard contaminated shoes. Use only with adequate ventilation. Do not breathe vapor or mist.

Storage: Store in a cool, dry place. Keep container closed when not in use. Corrosives area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
(R)-(+)-2-Chloropropionic acid	none listed	none listed	none listed
2-Chloropropionic acid	0.1 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	none listed	none listed

OSHA Vacated PELs: (R)-(+)-2-Chloropropionic acid: No OSHA Vacated PELs are listed for this chemical. 2-Chloropropionic acid: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

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: Clear liquid

Appearance: colorless to yellow brown

Odor: pungent odor

pH: Not available.

Vapor Pressure: 1.06 mm Hg @ 25 deg C

Vapor Density: 3.74 (Air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 185 deg C @ 760 mmHg

Freezing/Melting Point: -12 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.25 @ 20°C

Molecular Formula: C₃H₅ClO₂

Molecular Weight: 108.52

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Excess heat, confined spaces.

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

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 7474-05-7 unlisted.

CAS# 598-78-7: UE8575000

LD50/LC50:

Not available.

CAS# 598-78-7:

Dermal, guinea pig: LD50 = 126 mg/kg;

Oral, mouse: LD50 = 400 mg/kg;

Oral, rat: LD50 = 800 mg/kg;

Inhalation, LC50 (rat): > 3.38 mg/l/4H (BASF) for CAS 598-78-7.

Carcinogenicity:

CAS# 7474-05-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 598-78-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: The repeated oral administration study on 2-chloropropionic acid, at the lowest dose tested, 78 mg/kg/day for 38 days in the diet, produced atrophy of the testicular germinal epithelium in rats.

Mutagenicity: No information found

Neurotoxicity: In a prolonged oral toxicity study with male rats, 2-chloropropanoic acid decreased growth rate & food consumption & caused neurotoxic effects. CNS signs persisted following 36 day recovery period. Neutralization of acid did not alter neurologic response.

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:	DOT regulated - small quantity provisions apply (see 49CFR173.4)	2-CHLOROPROPIONIC ACID
Hazard Class:		8
UN Number:		UN2511
Packing Group:		III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7474-05-7 is not listed on the TSCA inventory. It is for research and development use only.

CAS# 598-78-7 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.

SARA Codes

CAS # 598-78-7: immediate, delayed.

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# 7474-05-7 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 598-78-7 can be found on the following state right to know lists: 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:

C

Risk Phrases:

R 21/22 Harmful in contact with skin and if swallowed.

R 35 Causes severe burns.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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).
S 28A After contact with skin, wash immediately with plenty of water.

WGK (Water Danger/Protection)

CAS# 7474-05-7: No information available.

CAS# 598-78-7: 1

Canada - DSL/NDSL

CAS# 598-78-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of E, D1A.

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: 9/02/1997

Revision #7 Date: 10/13/2004

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.