Material Safety Data Sheet
2,3-Dichloro-1-propene, 98%

ACC# 80865

Section 1 - Chemical Product and Company Identification

MSDS Name: 2,3-Dichloro-1-propene, 98%
Catalog Numbers: AC113690000, AC113690250, AC113691000, AC113695000
Synonyms: 2,3-Dichloropropene; 2,3-Dichloropropylene.
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
78-88-6	2,3-Dichloro-1-propene	98	201-153-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear slightly yellow liquid. Flash Point: 10 deg C.
Warning! Causes respiratory tract irritation. **Flammable liquid and vapor.** Harmful if inhaled or swallowed. Causes severe eye irritation and possible injury. May be harmful if absorbed through the skin. Causes skin irritation.
Target Organs: Kidneys, central nervous system, liver, lungs, respiratory system, eyes, skin.

Potential Health Effects
Eye: Causes eye irritation and possible burns.
Skin: If absorbed, may cause liver injury. May be harmful if absorbed through the skin. Causes severe skin irritation and possible burns. When held in contact with intact skin of rats for a 24 hour period, material produced erythema and necrosis of the skin. Gross necropsy revealed damage to lungs, liver and kidneys.
Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion of large amounts may cause CNS depression. Gross necropsy on rats in acute oral toxicity tests revealed congestion of the lungs, liver and kidney and opacity of the gastrointestinal tract.
Inhalation: Causes respiratory tract irritation. Vapors may cause dizziness or suffocation. Can produce delayed pulmonary edema. May cause burning sensation in the chest.
Chronic: Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed. Laboratory experiments have resulted in mutagenic effects.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately.
Skin: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid. Wash clothing before reuse.
Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
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. Vapors may form an explosive mixture with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. 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: Use water spray to cool fire-exposed containers. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. For small fires, use dry chemical or carbon dioxide.
Flash Point: 10 deg C (50.00 deg F)
Autoignition Temperature: Not available.
Explosion Limits, Lower:2.6 vol %
Upper: 7.8 vol %
NFPA Rating: (estimated) Health: 3; Flammability: 3; 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: Remove contaminated clothing and wash before reuse. 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. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Avoid breathing vapor or mist.
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.

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 explosion-proof ventilation to keep airborne levels to acceptable levels.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
2,3-Dichloro-1-propene	none listed	none listed	none listed

OSHA Vacated PELs: 2,3-Dichloro-1-propene: 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: 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: clear slightly yellow
Odor: chloroform-like
pH: Not available.
Vapor Pressure: 61.2 mm Hg @ 25 deg C
Vapor Density: 3.8 (air=1)
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 94 deg C @ 760 mm Hg
Freezing/Melting Point:10 deg C
Decomposition Temperature: Not available.
Solubility: Slightly soluble.
Specific Gravity/Density:1.204 g/cm3
Molecular Formula:C3H4Cl2
Molecular Weight:110.97

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.
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# 78-88-6: UC8400000
LD50/LC50:
CAS# 78-88-6:
Inhalation, mouse: LC50 = 3100 mg/m3/2H;
Oral, rat: LD50 = 320 mg/kg;
Skin, rabbit: LD50 = 1580 uL/kg;
.
1580 uL/kg = 1896 mg/kg.
Carcinogenicity:
CAS# 78-88-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: Unscheduled DNA Synthesis: Human, HeLa cell = 100 umol/L.; Sister Chromatid Exchange: Hamster, Lung = 300 umol/L.
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. If injected into soil, 2,3-dichloro-1-propene will primarily be lost by volatilization over the course of several weeks although for muck soils, release may take many months. There is a potential for leaching. If released into water, 2,3-dichloro-1-propene will primarily be lost by volatilization (half-life 3.2 hr in a typical river). Adsorption to soil and bioconcentration in fish will not be important transport processes.
Environmental: In the atmosphere, it will degrade by reaction with photochemically produced hydroxyl radicals and ozone (half-life 8.3 hr).
Physical: No information available.
Other: Harmful to aquatic life in very low concentrations.

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:	DICHLOROPROPENES	No information available.
Hazard Class:	3	
UN Number:	UN2047	
Packing Group:	II	

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 78-88-6 is listed on the TSCA inventory.
Health & Safety Reporting List
CAS# 78-88-6: Effective 6/1/87, Sunset 12/19/95
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
CAS# 78-88-6: 100 lb final RQ (Listed under Dichloropropene); 45.4 kg final RQ (Listed under D
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
Section 313
This material contains 2,3-Dichloro-1-propene (CAS# 78-88-6, 98%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR
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:
CAS# 78-88-6 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
CAS# 78-88-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, 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:
XN F
Risk Phrases:
R 11 Highly flammable.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R 37/38 Irritating to respiratory system and skin.
R 41 Risk of serious damage to eyes.
R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 68 Possible risk of irreversible effects.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
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 pr otection.
S 9 Keep container in a well-ventilated place.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 78-88-6: 3

Canada - DSL/NDSL

CAS# 78-88-6 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D1B, D2B.

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 #8 Date: 10/03/2005