

MATERIAL SAFETY DATA SHEET
2-Chlorobutane

Section 1 - Chemical Product and Company Identification

MSDS Name:	2-Chlorobutane
Catalog Numbers:	10883-0000, 10883-0010, 10883-0050, 10883-2500
Synonyms:	sec-Butyl chloride
Company Identification:	Acros Organics BVBA Janssen Pharmaceuticaaan 3a 2440 Geel, Belgium
Company Identification: (USA)	Acros Organics One Reagent Lane Fair Lawn, NJ 07410
For information in the US, call:	800-ACROS-01
For information in Europe, call:	+32 14 57 52 11
Emergency Number, Europe:	+32 14 57 52 99
Emergency Number US:	201-796-7100
CHEMTREC Phone Number, US:	800-424-9300
CHEMTREC Phone Number, Europe:	703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
78-86-4	2-Chlorobutane	99+%	201-151-7

Hazard Symbols: F



Risk Phrases: 11

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly flammable.

Potential Health Effects

Eye:	May cause eye irritation.
Skin:	May cause skin irritation. May be harmful if absorbed through the skin.
Ingestion:	May cause irritation of the digestive tract. May be harmful if swallowed.
Inhalation:	May cause respiratory tract irritation. May be harmful if inhaled.
Chronic:	

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.
Skin:	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion:	Get medical aid. Wash mouth out with water.
Inhalation:	Remove from exposure and move to fresh air immediately.
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. Will burn if involved in a fire. Flammable liquid and vapor.
Extinguishing Media:	Use water spray, dry chemical, carbon dioxide, or chemical foam.

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. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling:	Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame.
Storage:	Keep away from heat, sparks, and flame. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:	Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.
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Exposure Limits

CAS# 78-86-4:

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

Color: clear colorless to slightly yellow

Odor: sharp odor

pH: Not available

Vapor Pressure: 145mbar @20 deg C

Viscosity: Not available
Boiling Point: 68 - 70 deg C @760mmHg
Freezing/Melting Point: -140 deg C (-220.00°F)
Autoignition Temperature: 460 deg C (860.00 deg F)
Flash Point: -15 deg C (5.00 deg F)
Explosion Limits: Lower: 1.7 Vol %
Explosion Limits: Upper: 8.8 Vol %
Decomposition Temperature: Not available
Solubility in water: immiscible
Specific Gravity/Density: 0.870
Molecular Formula: C4H9Cl
Molecular Weight: 92.57

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials.
Incompatibilities with Other Materials: Metals, strong oxidizing agents, strong bases, copper.
Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 78-86-4: EJ6475000
LD50/LC50: RTECS:
CAS# 78-86-4: Oral, rat: LD50 = 20 mL/kg;
Skin, rabbit: LD50 = 20 mL/kg;
Carcinogenicity: 2-Chlorobutane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	CHLOROBUTANES	CHLOROBUTANES	CHLOROBUTANES
Hazard Class:	3	3	3
UN Number:	1127	1127	1127
Packing Group:	II	II	II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F

Risk Phrases:

R 11 Highly flammable.

Safety Phrases:

- S 9 Keep container in a well-ventilated place.
- S 16 Keep away from sources of ignition - No smoking.
- S 29 Do not empty into drains.

WGK (Water Danger/Protection)

CAS# 78-86-4: 2

Canada

CAS# 78-86-4 is listed on Canada's DSL List

US Federal

TSCA

CAS# 78-86-4 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/16/1996

Revision #2 Date 1/29/2008

Revisions were made in Sections: 1, 2, 3, 9, 14

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