

Material Safety Data Sheet

Chlorobenzene, 99+%

ACC# 95977

Section 1 - Chemical Product and Company Identification

MSDS Name: Chlorobenzene, 99+%**Catalog Numbers:** AC146410000, AC146410010, AC146410025**Synonyms:** Benzene Chloride; Chlorobenzene; Chlorobenzol; MCB; Monochlorobenzene; Phenyl Chloride.**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
108-90-7	Chlorobenzene	99+	203-628-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 29.5 deg C.

Warning! May cause eye and skin irritation with possible burns. **Flammable liquid and vapor.** May be harmful if swallowed. May cause blood abnormalities. May cause severe respiratory and digestive tract irritation with possible burns. May cause central nervous system depression. May cause lung damage. May cause liver and kidney damage. May cause adverse reproductive effects based upon animal studies.

Target Organs: Kidneys, central nervous system, liver, lungs, blood forming organs, bone marrow.

Potential Health Effects

Eye: Contact produces irritation, tearing, and burning pain.

Skin: Causes skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. Produces acneiform eruptions.

Ingestion: May cause liver and kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May be harmful if swallowed. May cause hemolysis.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause effects similar to those described for ingestion. Exposure may cause bone marrow changes. Exposure may cause blood abnormalities.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Repeated contact may result in skin burns.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

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. 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. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

Extinguishing Media: Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out. For large fires, use water spray, fog or regular foam.

Flash Point: 29.5 deg C (85.10 deg F)

Autoignition Temperature: 638.8 deg C (1,181.84 deg F)

Explosion Limits, Lower:1.8

Upper: 9.6

NFPA Rating: (estimated) Health: 2; 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container

tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

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
Chlorobenzene	10 ppm TWA	1000 ppm IDLH	75 ppm TWA; 350 mg/m ³ TWA

OSHA Vacated PELs: Chlorobenzene: 75 ppm TWA; 350 mg/m³ TWA

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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: mild odor - almond-like

pH: Not available.

Vapor Pressure: 12 mm Hg @ 25 C

Vapor Density: 3.9

Evaporation Rate: 1 (butyl acetate=1)

Viscosity: 0.8 mPa s 20 C

Boiling Point: 132 deg C

Freezing/Melting Point: -46 deg C

Decomposition Temperature: Not available.

Solubility: Insoluble in water.

Specific Gravity/Density: 1.107 @ 4C

Molecular Formula: C₆H₅Cl

Molecular Weight: 112.488

Section 10 - Stability and Reactivity

Chemical Stability: Stable.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat.

Incompatibilities with Other Materials: Contact with oxidizing agents may cause fires and explosions. Reacts violently with dimethyl sulfoxide, silver perchlorate, powdered sodium and phosphorus trichloride + sodium.

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

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 108-90-7: CZ0175000

LD50/LC50:

CAS# 108-90-7:

Inhalation, rat: LC50 = 2965 ppm;

Oral, mouse: LD50 = 2300 mg/kg;

Oral, rabbit: LD50 = 2250 mg/kg;

Oral, rat: LD50 = 1110 mg/kg;

Carcinogenicity:

CAS# 108-90-7:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans

Epidemiology: No information found.

Teratogenicity: Experimental teratogen

Reproductive Effects: Studies in rats exposed up to 450ppm via inhalation resulted in no significant impact on reproductive performance or fertility.

Neurotoxicity: May be a nervous system depressant.

Mutagenicity: No information found.

Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: Once released, concentration lowered due to dilution. May percolate into groundwater if soil is sandy and poor in organic matter. Little bioconcentration expected into fish and food products.

Physical: Photooxidant.

Other: For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

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:

CAS# 108-90-7: waste number U037.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CHLOROBENZENE	CHLOROBENZENE
Hazard Class:	3	3
UN Number:	UN1134	UN1134
Packing Group:	III	III
Additional Info:		FLASHPOINT 29 C

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 108-90-7 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

CAS# 108-90-7: Testing required by manufacturers, processors

Section 12b

CAS# 108-90-7: Section 4

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 108-90-7: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 108-90-7: acute, chronic, flammable.

Section 313

This material contains Chlorobenzene (CAS# 108-90-7, 99+%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

Clean Air Act:

CAS# 108-90-7 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 108-90-7 is listed as a Hazardous Substance under the CWA. CAS# 108-90-7 is listed as a Priority Pollutant under the Clean Water Act.

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# 108-90-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, 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:

XN N

Risk Phrases:

R 10 Flammable.

R 20 Harmful by inhalation.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 108-90-7: 2

Canada - DSL/NDSL

CAS# 108-90-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2B.

Canadian Ingredient Disclosure List

CAS# 108-90-7 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 11/05/1997

Revision #5 Date: 3/18/2003

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.