



MATERIAL SAFETY DATA SHEET

CONTACT : **LEONID CHEMICALS**
62/A-2 2nd Stage, Industrial Suburb
Ashokpuram School Road, Yeshwanthpur
Bangalore-560 022, INDIA
Ph: +91-80-2337 8354, Fax: +91-80-2357

BENZYL CHLORIDE

SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name:
BENZYL CHLORIDE

Catalog Numbers:
No information available.

Synonyms:
alpha-chlorotoluene; chlorophenylmethane; chloromethylbenzene

Company Information:
LEONID CHEMICALS
62/A-2 1st Stage, Yeshwanthpur Industrial Suburb
Ashokpuram School Road
Bangalore-560 022, Karnataka, INDIA
Ph: +91-80-2337 8354, Fax: +91-80-2357 4827

SECTION 2- COMPOSITION, INFORMATION ON INGREDIENTS

CAS #	:	100-44-7
Chemical Name	:	Unlisted.
%	:	90 - 100%
EINECS#	:	Unlisted.
Hazard Symbols	:	Unlisted.
Risk Phrases	:	Unlisted.

SECTION 3- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE IRRITATION TO EYES, SKIN AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM. COMBUSTIBLE LIQUID AND VAPOR.

Potential Health Effects

Skin Contact:
Corrosive. Symptoms of redness, pain, and severe burn can occur.

Eye Contact:
For Vapor of Liquid: Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns. Permanent eye damage is possible if exposure is severe.



Inhalation:

Toxic. May be corrosive to the respiratory tract, symptoms may include sore throat, coughing, and labored breathing. May also cause central nervous system depression, pulmonary edema, kidney and liver damage, and death.

Ingestion:

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea. May also cause systemic poisoning with symptoms paralleling inhalation.

Chronic Exposure:

Mild leukopenia (abnormally low number of circulating white blood cells), liver function disturbances and kidney problems.

Aggravation of Pre-existing Conditions:

Persons with pre-existing neurological disorders, liver or kidney problems may be more susceptible to the effects of the substance.

SECTION 4 - FIRST AID MEASURES

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

SECTION 5 - FIRE FIGHTING MEASURES

Fire:

Flash point: 67C (153F) CC

Autoignition temperature: 627C (1161F)

Flammable limits in air % by volume:

l_{el}: 1.3; u_{el}: 7.1

Combustible Liquid and Vapor!

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Do not allow water runoff to enter sewers or waterways.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

SECTION 7 - HANDLING AND STORAGE

Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

SECTION 8 - Exposure Controls, Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):

1 ppm (TWA).

-ACGIH Threshold Limit Value (TLV):

1 ppm (TWA), A3: Animal carcinogen.

- NIOSH Immediately Dangerous to Life or Health (IDLH): 10 ppm

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half-face respirator with an organic vapor/acid gas cartridge may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor/acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear, colorless liquid.
Odor	:	Pungent odor.
Solubility	:	Insoluble in water.
Specific Gravity	:	1.10
pH	:	No information available.
% Volatiles by volume @ 21C (70F)	:	100
Boiling Point	:	179C (354F)
Melting Point	:	-48 - -43C (-54 - -45F)
Vapor Density (Air=1)	:	4.36
Vapor Pressure (mm Hg)	:	1.6 @ 20C (68F)
Evaporation Rate (BuAc=1)	:	No information available.
Molecular Weight	:	126.59
Chemical Formula	:	C6H5CH2Cl

SECTION 10 - STABILITY AND REACTIVITY

Stability:

Unstable. Inhibitors such as propylene oxide, sodium carbonate solution, lime, or trimethylamine must be used to prevent polymerization.

Hazardous Decomposition Products:

May produce carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition.

Hazardous Polymerization:

Hazardous polymerization can occur in presence of catalytic impurities such as aluminum, iron, rust, or sodium acetate + pyridine + iron at 115C.

Incompatibilities:

Water, dimethyl sulfoxide, oxidizing material, steam. Corrodes all common metals except lead and nickel (explosive when heated).

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicological Data:

Oral rat LD50: 1231 mg/kg. Inhalation rat LD50: 150 ppm/2H. Investigated as a tumorigen, mutagen, reproductive effector.

Carcinogenicity:

EPA / IRIS classification: Group B2 - Probable human carcinogen, sufficient animal evidence.

Based on experiments done on rats, NIOSH has concluded that the carcinogenic risk from low exposure is probably negligible. There is limited evidence that workers exposed to benzyl chloride have a carcinogenic risk. In the NCI Carcinogenesis Studies (feed) clear evidence for carcinogenicity was found in the mouse and inadequate evidence was found in the rat. IARC Category: human - inadequate evidence; animal - limited evidence

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate:

When released into the soil, this material may leach into groundwater. When released into the soil, this material may evaporate to a moderate extent. When released into water, this material may evaporate to a moderate extent. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals.

Environmental Toxicity:

No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 - TRANSPORT INFORMATION

Domestic (Land, D.O.T.)

Proper Shipping Name : BENZYL CHLORIDE
Hazard Class : 6.1, 8
UN/NA : UN1738
Packing Group : II
Information reported for product/size : 500ML

International (Water, I.M.O.)

Proper Shipping Name : BENZYL CHLORIDE
Hazard Class : 6.1, 8
UN/NA : UN1738
Packing Group : II
Information reported for product/size : 500ML

International (Air, I.C.A.O.)

Proper Shipping Name : BENZYL CHLORIDE
Hazard Class : 6.1, 8
UN/NA : UN1738
Packing Group : II
Information reported for product/size : 500ML

SECTION 15 - REGULATORY INFORMATION

European/International Regulations
No information available.

Hazard Symbols:
No information available.

Risk Phrases:
No information available.

Safety Phrases:
No information available.

WGK (Water Danger/Protection)
No information available.

United Kingdom Occupational Exposure Limits
No information available.

United Kingdom Maximum Exposure Limits
No information available.

Canada:

No information available.

Exposure limits:

No information available.

US federal

TCSA:

No information available.

SECTION 16 - ADDITIONAL INFORMATION

Label Hazard Warning:

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE IRRITATION TO EYES, SKIN AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM. COMBUSTIBLE LIQUID AND VAPOR.

Label Precautions:

Do not get in eyes, on skin, or on clothing.

Do not breathe mist.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Keep away from heat and flame.

Label First Aid:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

