



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: BENZYL CHLORIDE

CAS Number: 100-44-7

1. IDENTIFICATION:

Product Code : 91838, 98143

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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2. HAZARDS IDENTIFICATION:

Hazard classification

Health hazards

Acute toxicity : Category 4

Acute toxicity : Category 3

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitization : Category 1

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1B

Specific target organ
toxicity - single exposure,
Respiratory system : Category 3Specific target organ
toxicity - repeated
exposure, Heart,
forestomach : Category 2

Labels elements :

Hazard symbol : 

Signal word : Danger

Hazard statement

Harmful if swallowed.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Toxic if inhaled.
May cause respiratory irritation.



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Suspected of causing genetic defects.
Suspected of causing cancer.
May cause damage to organs (Heart, forestomach) through prolonged or repeated exposure if swallowed.

Precautionary statement

- Prevention** : Obtain special instructions before use.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed. Ground/ bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools. Take precautionary measures against static discharge.
- Response** : IF exposed or concerned: Get medical advice/ attention.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Storage** : Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
Benzyl Chloride	100-44-7	NLT 98.5%	Yes

4. FIRST AID MEASURES:

- General information** : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.
- Inhalation** : Get medical attention if symptoms persist.
- Skin contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Most important** : Toxic if inhaled. Irritating to eyes, respiratory system and skin.



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symptoms/effects, acute
and delayed

Indication of immediate

medical attention and : Symptoms may be delayed. Treat symptomatically.

special treatment needed

5. FIRE FIGHTING MEASURES:

General information : No data available

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam, dry powder or carbon dioxide.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

Special protective equipment and precautions for firefighters

Special firefighting procedures : Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions,
protective equipment and
emergency procedures : ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
: Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for
containment and cleaning
up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk.
: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe
handling : Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage,
including any
incompatibilities : Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Light sensitive. Moisture sensitive.



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8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters****Appropriate engineering****controls** : No data available**Individual protection measures, such as personal protective equipment**

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection : Wear safety glasses with side shields (or goggles).

Hand protection : Chemical resistant gloves.

Other : Wear suitable protective clothing.

Respiratory protection : In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.

Hygiene measures : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance : Clear colourless liquid with a characteristic odour.

Odor : No data available

Solubility : No data available

Formula : $C_6H_5.CH_2Cl$

Molecular Weight : 126.59 g/mol

Specific Gravity : 1.10 g/cm³ (25 °C)

pH : No data available

% Volatiles by volume @ 21C (70F) : No data available

Boiling Point : 177 - 181 °C

Melting Point : -43 °C

Flash Point : 67 °C

Vapor Density (Air=1) : No data available

Vapor Pressure (mm Hg) : 1.6 hPa (25 °C)

Evaporation Rate (BuAc=1) : No data available

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10. STABILITY AND REACTIVITY:

Reactivity	:	Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.
Chemical stability	:	Material is stable under ambient conditions.
Possibility of hazardous reactions	:	Hazardous reactions : Violent reactions possible with: Strong oxidizing agents amides substances with a catalytic effect numerous inorganic and/or organic compounds Risk of explosion with: polymerisation initiators Acids A risk of explosion and/or of toxic gas formation exists with the following substances: Alkali metals Alkaline earth metals Metals Exothermic reaction with: Water Release of: Hydrogen chloride gas.
Conditions to avoid	:	Heating.
Incompatible materials	:	No data available
Hazardous decomposition products	:	In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION:
Information on toxicological effects
Acute toxicity (list all possible routes of exposure)

Inhalation Product	:	Acute toxicity estimate Oral - 1.192,37 mg/kg (Calculation method) Acute toxicity estimate Oral - 560 mg/kg (Calculation method) LD50 Oral - Rat - male and female - 560 mg/kg (OECD Test Guideline 401) Symptoms: Possible damages:, Bloody vomiting Acute toxicity estimate Oral - 560 mg/kg (ATE value derived from LD50/LC50 value) Acute toxicity estimate Inhalation - 0,74 mg/l (Calculation method) Acute toxicity estimate Inhalation - 4 h - 4,98 mg/l – vapour (Calculation method) Acute toxicity estimate Inhalation - 4 h - 5 mg/l - vapour (Expert judgement) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Symptoms: Cough, Shortness of breath, mucosal irritations, Possible damages:, damage of respiratory tract, Lung oedema, Symptoms may be delayed. Acute toxicity estimate Dermal - 124.400 mg/kg (Calculation method) Acute toxicity estimate Dermal - > 2.000 mg/kg (Calculation method)
Repeated dose toxicity Product	:	No data available.
Skin corrosion/irritation Product	:	Remarks: Causes skin irritation. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Serious eye damage/eye irritation Product	:	Remarks: Lacrimal irritation due to vapours. Remarks: Causes serious eye damage. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Respiratory or skin sensitization Product	:	Local lymph node assay (LLNA) - Mouse Result: positive



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(OECD Test Guideline 429)

Carcinogenicity Product	: Presumed to have carcinogenic potential for humans.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	: No data available
US. National Toxicology Program (NTP) Report on Carcinogens	: No data available
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	: No data available.
Germ cell mutagenicity	Test Type: Ames test Test system: Salmonella typhimurium : Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: positive
In vitro Product	: No data available.
Reproductive toxicity Product	: No data available.
Specific target organ toxicity - single exposure Product	: Inhalation - May cause respiratory irritation. - Respiratory system. Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Specific target organ toxicity - repeated exposure Product	: Oral - May cause damage to organs through prolonged or repeated exposure. - Heart, forestomach. Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Aspiration hazard Product	: No data available.
Other effects	: None known.

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment**

Fish Product	LC50 (Danio rerio (zebra fish)): 4 mg/l Exposure time: 96 h : Test Type: static test Method: OECD Test Guideline 203
Aquatic invertebrates Product	EC50 (Daphnia magna (Water flea)): 6,1 mg/l End point: Immobilization : Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes

Chronic hazards to the aquatic environment

Fish Product	: No data available.
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Aquatic invertebrates	:	No data available.
Product	:	
Toxicity to Aquatic Plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 240 mg/l
Product:	:	Exposure time: 96 h
	:	Test Type: static test
	:	Method: US-EPA
	:	GLP: yes
Persistence and degradability	:	
Biodegradation Product	:	Test Type: aerobic
	:	Inoculum: activated sludge
	:	Concentration: 100 mg/l
	:	Result: Readily biodegradable.
	:	Biodegradation: 71 %
	:	Exposure time: 14 d
	:	Method: OECD Test Guideline 301C
BOD/COD ratio Product	:	No data available.
Bioaccumulative potential	:	
Bioconcentration factor (BCF) Product	:	No data available.
Partition coefficient n-octanol / water (log Kow) Product	:	log Pow: < 1 (20 °C)
	:	pH: 6.8
	:	Method: (experimental)
	:	GLP: yes
	:	Remarks: Bioaccumulation is not expected.
Mobility in soil	:	No data available
Other adverse effects	:	Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATION:

Disposal instructions	:	Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.
Contaminated packaging	:	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION:

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 1738	Benzyl Chloride	6.1	II	No
IMDG	UN 1738	Benzyl Chloride	6.1	II	No
IATA	UN 1738	Benzyl Chloride	6.1	II	No

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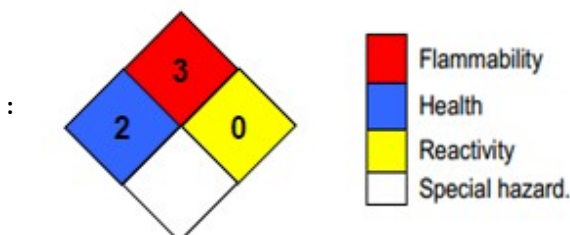
CAS Number: 100-44-7

15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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