

BENZYLCHLOROFORMATE 50% SOLUTION IN TOLUENE MSDS

CAS No: 501-53-1 MSDS

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
:
EC index no : 607-064-00-4
EC no : 207-925-0
CAS No : 501-53-1
Product code : 0048A
Formula : C₈H₇ClO₂

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Industrial use
Use of the substance/mixture : Industrial;For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.
107 Wode House Road, Jehangir Villa, Colaba
400005 Mumbai - INDIA
T +91 22 6663 6663 - F +91 22 6663 6699
info@lobachemie.com - www.lobachemie.com

1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, H225
Category 2
Skin corrosion/irritation, H314
Category 1
Sensitisation — Skin, H317
category 1
Carcinogenicity, Category H350
1A
Reproductive toxicity, H361d
Category 2
Specific target organ H336
toxicity — Single
exposure, Category 3,
Narcosis

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| | |
|--|------|
| Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation | H335 |
| Specific target organ toxicity — Repeated exposure, Category 2 | H373 |
| Aspiration hazard, Category 1 | H304 |
| Hazardous to the aquatic environment — Chronic Hazard, Category 1 | H410 |

Full text of classification categories and H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H350 - May cause cancer
H361d - Suspected of damaging the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP)

: P201 - Obtain special instructions before use
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P310 - IF SWALLOWED: immediately call a POISON CENTER or doctor/physician
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - IF exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---------------------|--|------------|---|
| Benzylchloroformate | | 49.58 - 50 | Not classified |
| Toluene | (CAS No) 108-88-3 (EC no) 203-625-9 (EC index no) 601-021-00-3 | 50 - 50 | Flam. Liq. 2, H225 Asp. Tox. 1, H304 Repr. 2, H361d Skin Irrit. 2, H315 STOT SE 3, H335 STOT RE 2, H373 STOT SE 3, H336 |

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. Call a POISON CENTER or doctor/physician. |
| First-aid measures after skin contact | : Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Get immediate medical advice/attention. |
| First-aid measures after eye contact | : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth out with water. Rinse mouth. If you feel unwell, seek medical advice. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|--|
| Symptoms/injuries | : May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility or the unborn child. Causes severe skin burns and eye damage. |
| Symptoms/injuries after inhalation | : May cause respiratory irritation. May cause drowsiness or dizziness. |
| Symptoms/injuries after skin contact | : May cause an allergic skin reaction. |
| Symptoms/injuries after ingestion | : May be fatal if swallowed and enters airways. |
| Chronic symptoms | : May cause cancer. |

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|-------------------------------|
| Suitable extinguishing media | : Dry powder. Carbon dioxide. |
| Unsuitable extinguishing media | : Water. Foam. |

5.2. Special hazards arising from the substance or mixture

| | |
|-------------|---------------------------------------|
| Fire hazard | : Highly flammable liquid and vapour. |
|-------------|---------------------------------------|

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| | |
|--|--|
| Reactivity in case of fire | : and on exposure to water (moisture): release of toxic and corrosive gases/vapours (hydrogen chloride). |
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. |

5.3. Advice for firefighters

| | |
|--------------------------------|--|
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. |
|--------------------------------|--|

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|---|
| Emergency procedures | : Do not breathe gas. Evacuate unnecessary personnel. |
|----------------------|---|

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Use personal protective equipment as required. |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Very toxic to aquatic life with long lasting effects.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|--|
| Methods for cleaning up | : Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. |
|-------------------------|--|

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-------------------------------|---|
| Precautions for safe handling | : Avoid contact with skin, eyes and clothing. Do not breathe vapours. |
| Hygiene measures | : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--------------------|--|
| Storage conditions | : Protect from moisture. Store in original container. Keep container tightly closed. Store in a well-ventilated place. |
|--------------------|--|

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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8.2. Exposure controls

| | |
|--------------------------|--------------------------------------|
| Hand protection | : protective gloves |
| Eye protection | : Chemical goggles or safety glasses |
| Skin and body protection | : Wear suitable protective clothing |
| Respiratory protection | : Wear respiratory protection |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|-----------------------|
| Physical state | : Liquid |
| Colour | : Colourless. |
| Odour | : No data available |
| Odour threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : -18 °C |
| Freezing point | : No data available |
| Boiling point | : 103 °C at 25 hPa |
| Flash point | : 92 °C |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : 1 hPa at 20 °C |
| Relative vapour density at 20 °C | : 5.89 |
| Relative density | : No data available |
| Density | : 1.21 g/cm³ at 20 °C |
| Solubility | : Water: at 20 °C |
| Log Pow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : 2.36 mPa.s at 20 °C |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive vapours.

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10.2. Chemical stability

May ignite spontaneously in contact with air.

10.3. Possibility of hazardous reactions

Reacts violently with water.

10.4. Conditions to avoid

Moisture. Overheating.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Serious eye damage, category 1, implicit

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer.

Reproductive toxicity : Suspected of damaging the unborn child.

Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness. May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : May be fatal if swallowed and enters airways.

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| | |
|----------------------|-------------------------------|
| Viscosity, kinematic | 1.95041322 mm ² /s |
|----------------------|-------------------------------|

SECTION 12: Ecological information

12.1. Toxicity

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| | |
|---------------|----------------|
| LC50 fishes 1 | 4.64 - 10 mg/l |
|---------------|----------------|

12.2. Persistence and degradability

No additional information available

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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

| | |
|---------------|-----------------|
| UN-No. (ADR) | : 2924 |
| UN-No. (IMDG) | : 2924 |
| UN-No.(IATA) | : 2924 |
| UN-No.(ADN) | : Not regulated |
| UN-No. (RID) | : Not regulated |

14.2. UN proper shipping name

| | |
|---------------------------------------|--|
| Proper Shipping Name (ADR) | : FLAMMABLE LIQUID, CORROSIVE, N.O.S. |
| Proper Shipping Name (IMDG) | : FLAMMABLE LIQUID, CORROSIVE, N.O.S. |
| Proper Shipping Name (IATA) | : FLAMMABLE LIQUID, CORROSIVE, N.O.S. |
| Proper Shipping Name (ADN) | : Not regulated |
| Proper Shipping Name (RID) | : Not regulated |
| Transport document description (ADR) | : UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S., 3 (8), II, (D/E), ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IMDG) | : UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S., 3 (8), II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IATA) | : UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S., 3 (8), II, ENVIRONMENTALLY HAZARDOUS |

14.3. Transport hazard class(es)

ADR

| | |
|----------------------------------|---------|
| Transport hazard class(es) (ADR) | : 3 (8) |
| Danger labels (ADR) | : 3, 8 |



IMDG

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Transport hazard class(es) (IMDG) : 3 (8)
Danger labels (IMDG) : 3, 8



IATA

Transport hazard class(es) (IATA) : 3 (8)
Hazard labels (IATA) : 3, 8



ADN

Transport hazard class(es) (ADN) : Not regulated

RID

Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

14.6. Special precautions for user

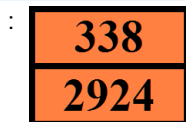
- Overland transport

Classification code (ADR) : FC
Special provision (ADR) : 274
Limited quantities (ADR) : 1L
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP19
Portable tank and bulk container instructions (ADR) : T11
Portable tank and bulk container special provisions (ADR) : TP2, TP27
Tank code (ADR) : L4BH
Vehicle for tank carriage : FL
Transport category (ADR) : 2
Special provisions for carriage - Operation (ADR) : S2, S20
Hazard identification number (Kemler No.) : 338

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Orange plates



Tunnel restriction code (ADR) : D/E
EAC code : •3WE
APP code : A(fl)

- Transport by sea

Special provision (IMDG) : 274
Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T11
Tank special provisions (IMDG) : TP2, TP27
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-C
Stowage category (IMDG) : B
Stowage and handling (IMDG) : SW2

- Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y340
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 352
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 363
CAO max net quantity (IATA) : 5L
Special provision (IATA) : A3
ERG code (IATA) : 3CH

- Inland waterway transport

Not regulated

- Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no substances with Annex XVII restrictions

Contains no REACH candidate substance

Contains no REACH Annex XIV substances.

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15.1.2. National regulations

Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 2, hazardous to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-phrases:

| | |
|-------------------|--|
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| Carc. 1A | Carcinogenicity, Category 1A |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Skin Corr. 1 | Skin corrosion/irritation, Category 1 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Sensitisation — Skin, category 1 |
| STOT RE 2 | Specific target organ toxicity — Repeated exposure, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Narcosis |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H225 | Highly flammable liquid and vapour |
| H304 | May be fatal if swallowed and enters airways |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H335 | May cause respiratory irritation |
| H336 | May cause drowsiness or dizziness |
| H350 | May cause cancer |
| H361d | Suspected of damaging the unborn child |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H410 | Very toxic to aquatic life with long lasting effects |

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product