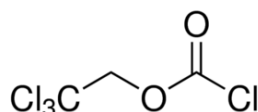


MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
:
CAS-No. : 17341-93-4
Product code : 6357P
Chemical structure :



Synonyms : 2,2,2-Trichloroethoxycarbonyl chloride

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : 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]

Acute toxicity H331
(inhalation:dust,mist)
Category 3
Skin corrosion/irritation, H314
Category 1

Full text of H statements : see section 16

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Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

T; R23

C; R34

Full text of R-phrases: 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) :



GHS05

GHS06

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H314 - Causes severe skin burns and eye damage.
H331 - Toxic if inhaled.

Precautionary statements (CLP) :

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
2,2,2-TRICHLOROETHYL CHLOROFORMATE Extra pure	(CAS-No.) 17341-93-4	100

Full text of R- and H-statements: see section 16

3.2. Mixtures

Not applicable

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. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash skin with plenty of water. If skin irritation occurs: Get 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.

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First-aid measures after ingestion : Rinse mouth out with water. If you feel unwell, seek medical advice.

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

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : Toxic if inhaled.

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 chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

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 : Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean contaminated surfaces with an excess of water.

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 and eyes.

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 : Store in a well-ventilated place. Keep container tightly closed.

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	: Approved supplied air respirator

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Molecular mass	: 211.86 g/mol
Colour	: Colourless to Light yellow.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 171 - 172 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 4.1 hPa
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. Heat. Air contact.

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 : Inhalation:dust,mist: Toxic if inhaled.

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

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

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

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)	: 3277
UN-No. (IMDG)	: 3277
UN-No. (IATA)	: 3277
UN-No. (ADN)	: 3277
UN-No. (RID)	: 3277

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.
Proper Shipping Name (IMDG)	: CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.
Proper Shipping Name (IATA)	: Chloroformates, toxic, corrosive, n.o.s.
Proper Shipping Name (ADN)	: CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.
Proper Shipping Name (RID)	: CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.
Transport document description (ADR)	: UN 3277 CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S., 6.1 (8), II, (D/E)
Transport document description (IMDG)	: UN 3277 CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S., 6.1 (8), II
Transport document description (IATA)	: UN 3277 Chloroformates, toxic, corrosive, n.o.s., 6.1, II
Transport document description (ADN)	: UN 3277 CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S., 6.1 (8), II
Transport document description (RID)	: UN 3277 CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S., 6.1 (8), II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: 6.1 (8)
Danger labels (ADR)	: 6.1, 8



IMDG

Transport hazard class(es) (IMDG)	: 6.1 (8)
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Danger labels (IMDG) : 6.1, 8



IATA

Transport hazard class(es) (IATA) : 6.1 (8)

Hazard labels (IATA) : 6.1, 8



ADN

Transport hazard class(es) (ADN) : 6.1 (8)

Danger labels (ADN) : 6.1, 8



RID

Transport hazard class(es) (RID) : 6.1 (8)

Danger labels (RID) : 6.1, 8



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : TC1

Special provisions (ADR) : 274, 561

Limited quantities (ADR) : 100ml

Excepted quantities (ADR) : E4

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Packing instructions (ADR)	: P001, IBC02
Mixed packing provisions (ADR)	: MP15
Portable tank and bulk container instructions (ADR)	: T8
Portable tank and bulk container special provisions (ADR)	: TP2, TP28
Tank code (ADR)	: L4BH
Tank special provisions (ADR)	: TU15, TE19
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Special provisions for carriage - Operation (ADR)	: S9, S19
Hazard identification number (Kemler No.)	: 68
Orange plates	:



Tunnel restriction code (ADR)	: D/E
EAC code	: 2X

- Transport by sea

Special provisions (IMDG)	: 274
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T8
Tank special provisions (IMDG)	: TP2, TP13, TP28
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW1, SW2, H1, H2
Properties and observations (IMDG)	: React and decompose with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.

- Air transport

PCA Excepted quantities (IATA)	: E4
PCA Limited quantities (IATA)	: Y640
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 653
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 660
CAO max net quantity (IATA)	: 30L
ERG code (IATA)	: 6C

- Inland waterway transport

Classification code (ADN)	: TC1
Special provisions (ADN)	: 274, 561, 802
Limited quantities (ADN)	: 100 ml
Excepted quantities (ADN)	: E4
Equipment required (ADN)	: PP, EP, TOX, A
Ventilation (ADN)	: VE02
Number of blue cones/lights (ADN)	: 2

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- Rail transport

Classification code (RID)	: TC1
Special provisions (RID)	: 274, 561
Excepted quantities (RID)	: E4
Packing instructions (RID)	: P001, IBC02
Mixed packing provisions (RID)	: MP15
Portable tank and bulk container instructions (RID)	: T8
Portable tank and bulk container special provisions (RID)	: TP2, TP28
Tank codes for RID tanks (RID)	: L4BH
Special provisions for RID tanks (RID)	: TU15
Transport category (RID)	: 2
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28, CW31
Colis express (express parcels) (RID)	: CE9
Hazard identification number (RID)	: 68

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

No REACH Annex XVII restrictions

2,2,2-TRICHLOROETHYL CHLOROFORMATE Extra pure is not on the REACH Candidate List

2,2,2-TRICHLOROETHYL CHLOROFORMATE Extra pure is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

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

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

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15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Skin Corr. 1	Skin corrosion/irritation, Category 1
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
R23	Toxic by inhalation
R34	Causes burns
C	Corrosive
T	Toxic

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