

## Safety Data Sheet per OSHA HazCom 2012

Page 1/5 Printing date 11/23/2015 Reviewed on 07/09/2013

#### 1 Identification

Product identifier

Product name: 4-Chlorobenzyl chloride

Stock number: L03991

CAS Number: 104-83-6

**EC** number: 203-242-7

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Details of the supplier of the safety da Manufacturer/Supplier:
Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc. 30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757

Email: tech@alfa.com www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

#### 2 Hazard(s) identification

#### Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed. Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Hazards not otherwise classified No information known.

Label elements GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)





#### Signal word Danger

Hazard statements
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H314

Causes severe skin burns and eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P309 IF exposed or if you feel unwell:
P310 Immediately call a POISON CENTER/doctor/...

WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects D2B - Toxic material causing other toxic effects



Classification system

HMIS ratings (scale 0-4) (Hazardous Materials Identification System)



Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.

### 3 Composition/information on ingredients

Chemical characterization: Substances CAS# Description:
104-83-6 4-Chlorobenzyl chloride Identification number(s):
EC number: 203-242-7

HSA (Contd. on page 2)

(Contd. of page 1)

#### 4 First-aid measures

Description of first aid measures General information Immediately remove any clothing soiled by the product.

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

After skin contact
Immediate with water and seep and rippe thereughly.

Arter Skin contact: Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

Causes severe skin burns.

Causes serious eye damage.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

#### 5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCI)
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear self-contained respirator.

Wear fully protective impervious suit.

#### 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions: Do not allow product to reach sewage system or any water course.

Methods and material for containment and cleaning up:

Use neutralizing agent.
Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards: No special measures required.

Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

#### 7 Handling and storage

Handling

Precautions for safe handling

Reep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Information about protection against explosions and fires: No information known.

Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility:
Store away from strong bases.
Store away from oxidizing agents.
Further information about storage conditions:

Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. **Specific end use(s)** No further relevant information available.

#### 8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. **Additional information:** No data

Exposure controls Personal protective equipment

Personal protective equipment
General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment: Use suitable respirator when high concentrations are present.
Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.
Penetration time of glove material (in minutes) Not determined
Eye protection:

Eye protection: Tightly sealed goggles Full face protection

(Contd. on page 3)

Body protection: Protective work clothing.

(Contd. of page 2)

#### 9 Physical and chemical properties

Information on basic physical and chemical properties General Information

Appearance: Form: Low melting solid Color White to pale yellow Odor: ⊃unaent

Odor threshold: Not determined. Not applicable. pH-value:

Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: 26-30 °C (79-86 °F) 220-221 °C (428-430 °F) Not determined

107 °C (225 °F, Flash point: Flammability (solid, gaseous) Not determined Ignition temperature: Decomposition temperature: 610 °C (1130 °F) Not determined Auto igniting: Not determined.

Danger of explosion: Explosion limits: Lower:

2 Vol % Upper: 8.6 Vol %

Not applicable. 1.275 g/cm³ (10.64 lbs/gal) Not determined. Vapor pressure: Density at 20 °C (68 °F): Relative density

Vapor density Not applicable. Evaporation rate Solubility in / Miscibility with Not applicable. Insoluble Water: Insoluble Partition coefficient (n-octanol/water): Not determined.

Viscositv: dynamic Not applicable. kinematic:

Not applicable. No further relevant information available. Other information

Not determined.

#### 10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions Reacts with strong oxidizing agents

Conditions to avoid No further relevant information available.

Incompatible materials:

Oxidizing agents
Hazardous decomposition products:

Carbon monoxide and carbon dioxide Hydrogen chloride (HCI)

#### 11 Toxicological information

# Information on toxicological effects Acute toxicity: Harmful if inhaled. Harmful in contact with skin.

Harmful if swallowed.

Danger through skin absorption.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification: No data

LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: Causes severe skin burns.
Eye irritation or corrosion: Causes sevious eye damage.
Sensitization: No sensitizing effects known.
Germ cell mutagenicity: No effects known.
Germ cell mutagenicity: No effects known.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this s

Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

## 12 Ecological information

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

Additional ecological information:
General notes:
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic to aquatic life.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Results of PBT and vPvB assessment

PBT: Not applicable.

(Contd. on page 4)

(Contd. of page 3)

vPvB: Not applicable. Other adverse effects No further relevant information available.

#### 13 Disposal considerations

Waste treatment methods

Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport informatio
-------------------------

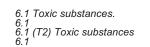
UN-Number DOT, IMDG, IATA	UN3427
UN proper shipping name DOT IMDG IATA	Chlorobenzyl chlorides, solid CHLOROBENZYL CHLORIDES, SOLID, MARINE POLLUTANT CHLOROBENZYL CHLORIDES, SOLID

#### Transport hazard class(es)

DOT

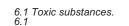


Class Label Class Label IMDG













6.1 Toxic substances.

Packing group DOT, IMDG, IATA

Environmental hazards: Marine pollutant (IMDG):

Environmentally hazardous substance, solid; Marine Pollutant Yes (P)

Symbol (fish and tree) Warning: Toxic substances

Special precautions for user Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

DOT

Marine Pollutant (DOT): Remarks:

Special marking with the symbol (fish and tree)

UN "Model Regulation":

UN3427, Chlorobenzyl chlorides, solid, 6.1, III

#### 15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms







Signal word Danger

Hazard statements H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309 IF exposed or if you feel unwell:
P310 Immediately call a POISON CENTER/doctor/...
P310 Autional regulations

P310 Immediately call a POISON CENTER/doctor/...
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).
SARA Section 313 (specific toxic chemical listings) Substance is not listed.
California Proposition 65
Prop 65 - Chemicals known to cause cancer Substance is not listed.
Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.
Information about limitation of use: For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

(Contd. on page 5)

(Contd. of page 4)
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the Market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. Conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the use Department Issuing SDS: Global Marketing Department Date of preparation / last revision 11/23/2015 / - Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods DOT: US Department of Transportation (International Maritime Code for Dangerous Goods DOT: US Department of Transportation (International Air Transport Association P. Marine Pollutant (International Air Transport Association P. Marine P. Marine Pollutant (International Air Transport Association P. Marine P