

1 Identification of substance**Product details**

Trade name

1-Chloro-3,3-dimethylbutane

Stock number:

L11753

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240**2 Hazards identification**

Hazard designation:



F Highly flammable

Information pertaining to particular dangers
for man and environment
GHS label elements

R 11 Highly flammable.

**Danger**

Prevention:

H225 - Highly flammable liquid and vapour.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.

Response:

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Disposal:

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

1-Chloro-3,3-dimethylbutane (CAS# 2855-08-5): 100%

Identification number(s):

EINECS Number:

220-665-2

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

Special hazards caused by the material, its
products of combustion or flue gases:CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Protective equipment:

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)
Wear self-contained breathing apparatus.
Wear full protective suit.**6 Accidental release measures**

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Measures for cleaning/collecting:

Ensure adequate ventilation
Keep away from ignition sources
Do not allow material to be released to the environment without proper governmental permits.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Keep away from ignition sources.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

Additional information:

7 Handling and storage

Handling

Information for safe handling:

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.Information about protection against
explosions and fires:Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.

Storage

Requirements to be met by storerooms and
containers:Information about storage in one common
storage facility:Further information about storage
conditions:Store in cool location.
Store away from oxidizing agents.Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.**8 Exposure controls and 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.

Components with critical values that require
monitoring at the workplace:
Additional information:Not required.
No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

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Breathing equipment:
Protection of hands:
Material of gloves

Penetration time of glove material
Eye protection:

Body protection:

Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Use breathing protection with high concentrations.
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Impervious gloves
Not determined
Safety glasses
Face protection
Protective work clothing.

9 Physical and chemical properties:**General Information**

Form: Liquid
Colour: Colourless
Smell: Not determined

Change in condition
Melting point/Melting range: Not determined
Boiling point/Boiling range: 116-118°C
Sublimation temperature / start: Not determined

Flash point: 7°C**Ignition temperature:** Not determined**Decomposition temperature:** Not determined

Critical values for explosion:
Lower: Not determined
Upper: Not determined

Steam pressure: Not determined**Density at 20°C** 0.867 g/cm³

Solubility in / Miscibility with
Water: Not miscible or difficult to mix

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
Materials to be avoided: Oxidizing agents
Dangerous reactions: No dangerous reactions known
Dangerous products of decomposition: Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)

11 Toxicological information

Acute toxicity:
Primary irritant effect:
on the skin: Irritant for skin and mucous membranes.
on the eye: Irritant effect.
Sensitization: No sensitizing effect known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

Additional ecological information:
General notes: Generally not hazardous for water.
Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:
Recommendation Consult state, local or national regulations for proper disposal.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: 3 (F1) Flammable liquids.
Kemler Number: 33
UN-Number: 1993
Packaging group: II
Label: 3
Designation of goods: 1993 FLAMMABLE LIQUID, N.O.S. (vapor pressure at 50°C at most 110 kPa) (1-Chloro-3,3-dimethylbutane)
Limited quantities (LQ) LQ4
Transport category 2
Tunnel restriction code D/E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 3
UN Number: 1993

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Trade name **1-Chloro-3,3-dimethylbutane**

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Label 3
 Packaging group: II
 Marine pollutant: No
 Correct technical name: FLAMMABLE LIQUID, N.O.S. (1-Chloro-3,3-dimethylbutane)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 3
 UN/ID Number: 1993
 Label 3
 Packaging group: II
 Correct technical name: FLAMMABLE LIQUID, N.O.S. (1-Chloro-3,3-dimethylbutane)

UN "Model Regulation": UN1993, FLAMMABLE LIQUID, N.O.S., 3, II

15 Regulatory information

Designation according to EC guidelines:

Code letter and hazard designation of product:



F Highly flammable

Risk phrases: 11 Highly flammable.

Safety phrases: 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 37 Wear suitable gloves.

National regulations

Information about limitation of use: For use only by technically qualified individuals.
 Employment restrictions concerning young persons must be observed.

Water hazard class: Generally not hazardous for water.

16 Other information:

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.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

GB