

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 22.08.2010

Revision: 22.08.2010

1 Identification of substance

Product details

Trade name

Trichloromethyl isocyanate

Stock number:

L10370

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:



T Toxic

Information pertaining to particular dangers for man and environment

R 23/25 Toxic by inhalation and if swallowed.
R 34 Causes burns.
R 42 May cause sensitisation by inhalation.

GHS label elements

**Danger**H301 - Toxic if swallowed.
H330 - Fatal if inhaled.**Danger**

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Danger**

H314 - Causes severe skin burns and eye damage.
 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.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P320 Specific treatment is urgent (see on this label).
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Response:

Storage:
Disposal:

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Trichloromethyl isocyanate (CAS# 30121-98-3: 100%)

4 First aid measures

General information

Instantly remove any clothing soiled by the product.

After inhalation

In case of irregular breathing or respiratory arrest provide artificial respiration. 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

Do not induce vomiting; instantly call for medical help.
Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents
 For safety reasons unsuitable extinguishing agents
 Special hazards caused by the material, its products of combustion or flue gases:

CO₂, sand, extinguishing powder. Do not use water.

Water.

Can be released in case of fire:
 Carbon monoxide and carbon dioxide
 Hydrogen chloride (HCl)
 Phosgene gas
 Nitrogen oxides (NO_x)
 Hydrogen cyanide (HCN)

Protective equipment:

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:

Ensure adequate ventilation

Measures for cleaning/collecting:

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).
 Use neutralizing agent.

Additional information:

Dispose of contaminated material as waste according to item 13.
 Ensure adequate ventilation.
 See Section 7 for information on safe handling
 See section 8 for information on personal protection equipment.
 See Section 13 for information on disposal.

7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.
 Keep containers tightly sealed.
 Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Storage
 Requirements to be met by storerooms and containers:

Refrigerate

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 22.08.2010

Revision: 22.08.2010

Trade name **Trichloromethyl isocyanate**

(Contd. of page 1)

Information about storage in one common storage facility:

Store away from oxidizing agents.
Protect from heat.
Store away from water.

Further information about storage conditions:

Store under dry inert gas.
This product is moisture sensitive.
Keep container tightly sealed.
Protect from humidity and keep away from water.
Store in a locked cabinet or with access restricted to technical experts or their assistants.
Refrigerate

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.
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.
Avoid contact with the eyes and skin.
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.

Breathing equipment:
Protection of hands:
Material of gloves

Face protection
Safety glasses
Tightly sealed safety glasses.
Full face protection

Eye protection:

Body protection:

Protective work clothing.

9 Physical and chemical properties:

General Information

Form: Liquid
Colour: Colourless
Smell: Pungent

Change in condition
Melting point/Melting range:
Boiling point/Boiling range:
Sublimation temperature / start:

Not determined
119-123°C
Not determined

Flash point:

Not determined

Ignition temperature:

Not determined

Decomposition temperature:

Not determined

Danger of explosion:

Product is not explosive.

Critical values for explosion:
Lower:
Upper:

Not determined
Not determined

Steam pressure:

Not determined

Density at 20°C

1.55 g/cm³

Solubility in / Miscibility with Water:

Hydrolyzes

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:
Materials to be avoided:

No decomposition if used and stored according to specifications.
Water/moisture
Alcohols
Amines
Oxidizing agents
Heat
Reacts with alkaline metals
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)
Nitrogen oxides (NOx)
Hydrogen cyanide (prussic acid)
Phosgen

Dangerous reactions:

Dangerous products of decomposition:

11 Toxicological information

Acute toxicity:
Primary irritant effect:
on the skin:
on the eye:

Corrosive effect on skin and mucous membranes.
Strong corrosive effect.
Lachrymatory effect.

Sensitization:

Additional toxicological information:

Sensitization possible by inhalation.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
May cause sensitisation by inhalation.

Sensitisation

12 Ecological information:

Additional ecological information:
General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

(Contd. on page 3)

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 22.08.2010

Revision: 22.08.2010

Trade name **Trichloromethyl isocyanate**

(Contd. of page 2)

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:
Recommendation**

Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.

**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: 8 (CT1) Corrosive substances.
Kemler Number: 86
UN-Number: 2922
Packaging group: II
Label 8+6.1
Designation of goods: 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (Trichloromethyl isocyanate)
Limited quantities (LQ) LQ22
Transport category 2
Tunnel restriction code E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 8
UN Number: 2922
Label 8+6.1
Packaging group: II
Marine pollutant: No
Correct technical name: CORROSIVE LIQUID, TOXIC, N.O.S. (Trichloromethyl isocyanate)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
UN/ID Number: 2922
Label 8+6.1
Packaging group: II
Correct technical name: CORROSIVE LIQUID, TOXIC, N.O.S. (Trichloromethyl isocyanate)

UN "Model Regulation":

UN2922, CORROSIVE LIQUID, TOXIC, N.O.S., 8 (6.1), II

15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**

T Toxic

Risk phrases:

23/25 Toxic by inhalation and if swallowed.
 34 Causes burns.
 42 May cause sensitisation by inhalation.

Safety phrases:

23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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:

Water hazard class 1 (Self-assessment): slightly 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
 CAS: Chemical Abstracts Service (division of the American Chemical Society)