

# Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 13.07.2010

Revision: 13.07.2010

## 1 Identification of substance

### Product details

Trade name

**1,1,2,2-Tetrachloroethane-d2**

Stock number:

42347

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+ Very toxic  
O Oxidising  
N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 7 May cause fire.  
R 26 Very toxic by inhalation.  
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

GHS label elements

**Danger**

H330 - Fatal if inhaled.



H411 - Toxic to aquatic life with long lasting effects.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P284 Wear respiratory protection.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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.

Prevention:

Response:

Storage:

Disposal:

## 3 Composition/information on ingredients

Chemical characterization:

1,1,2,2-Tetrachloroethane-d2 (CAS# 33685-54-0); 100%

Designation: (CAS#)

Identification number(s):

251-634-1

EINECS Number:

## 4 First aid measures

General information

Instantly remove any clothing soiled by the product.  
Remove breathing apparatus only after soiled clothing has been completely removed.

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

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.  
Ensure adequate ventilation.

Measures for environmental protection:

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).

Measures for cleaning/collecting:

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.

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.  
Open and handle container with care.

Information about protection against explosions and fires:

No information known.

Storage  
Requirements to be met by storerooms and containers:  
Information about storage in one common storage facility:

No special requirements.

Store away from oxidizing agents.  
Store away from strong bases.  
Reacts with alkaline metals

Further information about storage conditions:

Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.

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## 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:

1,1,2,2-Tetrachloroethane  
ppm

ACGIH TLV	1 (skin); Confirmed animal carcinogen
Austria MAK	1 (skin)
Belgium TWA	1 (skin)
Denmark TWA	1 (skin)
Finland TWA	1; 3-STEL(skin)
France VME	1; 5-VLE
Germany MAK	1 (skin); Carcinogen
Japan OEL	1 (skin)
Korea TLV	1 (skin); Confirmed animal carcinogen
Netherlands MAC-TGG	1 (skin)
Norway TWA	1
Poland TWA	5 mg/m3; 35 mg/m3-STEL
Russia TWA	1
Switzerland MAK-W	1 (skin)
USA PEL	5 (skin)

### Components with critical values that require monitoring at the workplace:

#### Additional information:

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.  
Store protective clothing separately.  
Use breathing protection with high concentrations.  
Safety glasses  
Protective work clothing.

#### Breathing equipment:

#### Eye protection:

#### Body protection:

## 9 Physical and chemical properties:

### General Information

Form:	Liquid
Colour:	Colourless
Smell:	Sweetish

### Change in condition

Melting point/Melting range:	-44°C
Boiling point/Boiling range:	147°C
Sublimation temperature / start:	Not determined

### Flash point:

Not applicable  
Not determined

### 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

1.62 g/cm<sup>3</sup>

### Solubility in / Miscibility with Water:

Slightly soluble

## 10 Stability and reactivity

### Thermal decomposition / conditions to be avoided:

### Materials to be avoided:

No decomposition if used and stored according to specifications.

Oxidizing agents

Bases

Alkali metals

Reacts with alkaline metals

Carbon monoxide and carbon dioxide

Hydrogen chloride (HCl)

### Dangerous reactions:

### Dangerous products of decomposition:

## 11 Toxicological information

### Acute toxicity:

### Primary irritant effect:

### on the skin:

### on the eye:

### Sensitization:

### Other information (about experimental toxicology):

Irritant for skin and mucous membranes.

Irritant effect.

No sensitizing effect known.

### Additional toxicological information:

Mutagenic effects have been observed on tests with laboratory animals.

Mutagenic effects have been observed on tests with bacteria.

Reproductive effects have been observed on tests with laboratory animals.

Carcinogenic effects have been observed on tests with laboratory animals.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

EPA-C: Possible human carcinogen: limited evidence of carcinogenicity in animals in the absence of human data.

IARC-3: Not classifiable as to carcinogenicity to humans.

ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s)

of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure.

Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

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**12 Ecological information:****Ecotoxicological effects:****Remark:****Additional ecological information:****General notes:**

Toxic for fish

Water hazard class 2 (Self-assessment): hazardous for water.  
 Do not allow product to reach ground water, water bodies or sewage system.  
 Danger to drinking water if even small quantities leak into soil.  
 Also poisonous for fish and plankton in water bodies.  
 Do not allow material to be released to the environment without proper governmental permits.  
 Toxic for aquatic organisms

**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:****Kemler Number:****UN-Number:****Packaging group:****Label****Special marking:****Designation of goods:****Limited quantities (LQ)****Transport category****Tunnel restriction code**

6.1 (T1) Toxic substances.

60

1702

II

6.1

Symbol (fish and tree)

1702 1,1,2,2-TETRACHLOROETHANE

LQ17

2

D/E

**Maritime transport IMDG/GGVSea:****IMDG/GGVSea Class:****UN Number:****Label****Packaging group:****Marine pollutant:****Segregation groups****Correct technical name:**

6.1

1702

6.1

II

No

Liquid halogenated hydrocarbons

1,1,2,2-TETRACHLOROETHANE

**Air transport ICAO-TI and IATA-DGR:****ICAO/IATA Class:****UN/ID Number:****Label****Packaging group:****Correct technical name:**

6.1

1702

6.1

II

1,1,2,2-TETRACHLOROETHANE

**UN "Model Regulation":**

UN1702, 1,1,2,2-TETRACHLOROETHANE, 6.1, II

**Environmental hazards:**

Environmentally hazardous substance, liquid; Marine Pollutant

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

T+ Very toxic  
 O Oxidising  
 N Dangerous for the environment

**Risk phrases:**

7 May cause fire.  
 26 Very toxic by inhalation.  
 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

38 In case of insufficient ventilation, wear suitable respiratory equipment.  
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

**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 2 (Self-assessment): 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)

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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)

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