

# 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

**Antimony(V) fluoride**

Stock number:

33484

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

N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 14 Reacts violently with water.  
 R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
 R 35 Causes severe burns.  
 R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

GHS label elements

**Danger**

H301 - Toxic if swallowed.  
 H311 - Toxic in contact with skin.  
 H331 - Toxic if inhaled.

**Danger**

H314 - Causes severe skin burns and eye damage.



H411 - Toxic to aquatic life with long lasting effects.  
 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.  
 P361 Remove/Take off immediately all contaminated clothing.  
 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:

Antimony(V) fluoride (CAS# 7783-70-2); 100%

Designation: (CAS#)

Identification number(s):

232-021-8

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.  
 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.  
 Seek immediate medical advice.  
 After skin contact  
 Instantly wash with water and soap and rinse thoroughly.  
 Seek immediate medical advice.  
 After eye contact  
 Rub in Ca-gluconate solution or Ca-gluconate gel immediately.  
 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:

Use fire fighting measures that suit the environment.

Water.

Can be released in case of fire:  
 Antimony oxides  
 Hydrogen fluoride (HF)  
 Reacts violently with water  
 Wear self-contained breathing apparatus.  
 Wear full protective suit.

Protective equipment:

## 6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Ensure adequate ventilation  
 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.  
 Dispose of contaminated material as waste according to item 13.  
 Ensure adequate ventilation.  
 Do not flush with water or aqueous cleansing agents  
 See Section 7 for information on safe handling  
 See section 8 for information on personal protection equipment.  
 See Section 13 for information on disposal.

Measures for cleaning/collecting:

Additional information:

## 7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.  
 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.

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**Information about protection against explosions and fires:**

The product is not flammable

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

No special requirements.

Store away from water.  
 Store away from strong bases.

**Further information about storage conditions:**

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

## 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:**

Antimony and antimony compounds  
 mg/m3  
 ACGIH TLV 0.5  
 Austria MAK 0.5  
 Belgium TWA 0.5  
 Denmark TWA 0.5  
 Finland TWA 0.5  
 France VME 0.5  
 Germany MAK 0.5 (total dust)  
 Hungary TWA 0.5-STEEL  
 Japan OEL 0.1; 2B Carcinogen  
 Korea TLV 0.5  
 Netherlands MAC-TGG 0.5  
 Norway TWA 0.5  
 Poland TWA 0.5; 1.5-STEEL  
 Russia TWA 0.2; 0.5-STEEL  
 Sweden NGV 0.5  
 Switzerland MAK-W 0.5  
 United Nations TWA 0.5  
 USA PEL 0.5

Fluorides (as F)  
 mg/m3  
 ACGIH TLV 2.5  
 Austria MAK 2.5  
 Belgium TWA 2.5  
 Finland TWA 2.5  
 France TWA 2.5  
 Germany MAK 2.5  
 Hungary TWA 1; 2-STEEL  
 Netherlands MAC-K 3.5  
 Norway TWA 0.6  
 Poland TWA 1; 3-STEEL  
 Sweden NGV 2  
 Switzerland MAK-W 1.5; 3-KZG-W  
 United Kingdom TWA 2.5  
 Russia TWA 2  
 Denmark TWA 2.5  
 USA PEL 2.5  
 No data

**Additional information:**

**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.  
 Avoid contact with the eyes and skin.  
 Use breathing protection with high concentrations.  
 Face protection  
 Safety glasses  
 Tightly sealed safety glasses.  
 Full face protection  
 Protective work clothing.

**Breathing equipment:**  
**Eye protection:**

**Body protection:**

## 9 Physical and chemical properties:

### General Information

**Form:** Liquid  
**Colour:** Colourless  
**Smell:** Acrid

**Change in condition**  
**Melting point/Melting range:** 7°C  
**Boiling point/Boiling range:** 149.5°C  
**Sublimation temperature / start:** 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:** Not determined  
**Upper:** Not determined

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Steam pressure:	Not determined
Density at 20°C	2.99 g/cm³
Solubility in / Miscibility with Water:	Reacts violently

**10 Stability and reactivity**

Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Materials to be avoided:	Bases Water/moisture
Dangerous reactions:	Exothermic reaction with water Reacts violently with water
Dangerous products of decomposition:	Antimony oxides Hydrogen fluoride

**11 Toxicological information**

Acute toxicity:	
LD/LC50 values that are relevant for classification:	
Inhalative LC50	270 mg/m3 (mouse)
Primary irritant effect:	
on the skin:	Strong corrosive effect on skin and mucous membranes.
on the eye:	Strong corrosive 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. Danger by skin resorption. 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.

**12 Ecological information:**

Ecotoxic effects:	
Remark:	Toxic for fish
Additional ecological information:	
General notes:	Do not allow product to reach ground water, water bodies or sewage system. Water hazard class 2 (Self-assessment): hazardous for water. 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	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:	1732
Packaging group:	II
Label	8+6.1
Special marking:	Symbol (fish and tree)
Designation of goods:	1732 ANTIMONY PENTAFLUORIDE
Limited quantities (LQ)	LQ22
Transport category	2
Tunnel restriction code	E

**Maritime transport IMDG/GGVSea:**

IMDG/GGVSea Class:	8
UN Number:	1732
Label	8+6.1
Packaging group:	II
EMS Number:	F-A, S-B
Marine pollutant:	Yes (P)
Segregation groups	Symbol (fish and tree)
Correct technical name:	Acids ANTIMONY PENTAFLUORIDE

**Air transport ICAO-TI and IATA-DGR:**

ICAO/IATA Class:	8
UN/ID Number:	1732
Label	8+6.1
Packaging group:	II
Correct technical name:	ANTIMONY PENTAFLUORIDE

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UN "Model Regulation":

UN1732, ANTIMONY PENTAFLUORIDE, 8 (6.1), II  
Environmentally hazardous substance, liquid; Marine Pollutant

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Environmental hazards:

**15 Regulatory information**

Designation according to EC guidelines:

Code letter and hazard designation of product:

T Toxic  
N Dangerous for the environment

Risk phrases:

14 Reacts violently with water.  
23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
35 Causes severe burns.  
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

8 Keep container dry.  
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).  
61 Avoid release to the environment. Refer to special instructions/safety data sheets.

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.  
For use only by technically qualified individuals.

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)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
P: Marine Pollutant  
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)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent