



# MATERIAL SAFETY DATA SHEET

according to the Global Harmonized System

Date of issue: 02/04/2013

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number	812034
Product name	Antimony(V) fluoride for synthesis

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

Identified uses	Chemical for synthesis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   SDS Phone Support: +1-978-715-1335   General Inquiries: +1-978-751-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)  e-mail: mm_sds@merckgroup.com
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Emergency telephone	613-996-6666 CANUTEC (Canada) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Acute toxicity, Category 4, Inhalation, H332  
Acute toxicity, Category 4, Oral, H302  
Skin corrosion, Category 1B, H314  
Chronic aquatic toxicity, Category 2, H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

#### Hazard pictograms



#### Signal Word

Danger

#### Hazard Statements

H302 + H332 Harmful if swallowed or if inhaled.

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H314 Causes severe skin burns and eye damage.  
H411 Toxic to aquatic life with long lasting effects.

*Precautionary Statements*

P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
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 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

**Other hazards**

None known.

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**SECTION 3. Composition/information on ingredients**

Formula	SbF <sub>5</sub>	F <sub>5</sub> Sb (Hill)
CAS-No.	7783-70-2	
Molar mass	216.74 g/mol	

**Hazardous ingredients**

*Chemical Name (Concentration)*

CAS-No.

antimony(V) fluoride ( $\geq 90\%$  -  $\leq 100\%$ )

7783-70-2

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**SECTION 4. First aid measures**

**Description of first-aid measures**

*Inhalation*

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration.  
Oxygen if necessary. Immediately call in physician.

*Skin contact*

After skin contact: wash off with plenty of water. Immediately remove contaminated clothing. If available swab with polyethylene glycol 400. Call a physician immediately.

*Eye contact*

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

*Ingestion*

After swallowing: Immediately give to drink plenty of water, add calcium (in the form of calcium gluconate or calcium lactate). Caution: In the case of vomiting risk of perforation! Administer more calcium gluconate solution. Laxative: Sodium sulfate (1 tablespoon/1/4 l water). Seek medical advice immediately. Ensure that injured persons remain calm and protect them against heat loss.

Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

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Irritation and corrosion, Cough, depressed respiration, Shortness of breath, agitation, spasms, Stomach/intestinal disorders, cardiovascular disorders, muscular symptoms, CNS disorders  
The following applies to soluble inorganic fluorides in general: may cause irritations to burns in contact with eyes, skin, mucous membranes. Systemic effect: drop in blood calcium level, agitation, spasms, cardiovascular disorders, CNS disorders.

**Indication of any immediate medical attention and special treatment needed**

No information available.

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**SECTION 5. Fire-fighting measures**

**Extinguishing media**

*Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Dry powder

*Unsuitable extinguishing media*

Water, Foam

**Special hazards arising from the substance or mixture**

Not combustible.

Vapors are heavier than air and may spread along floors.

May not get in touch with:

Water

Caution! in contact with water product releases:

Hydrogen fluoride

Development of hazardous combustion gases or vapors possible in the event of fire.

Hydrogen fluoride

**Advice for firefighters**

*Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Suppress (knock down) gases/vapors/mists with a water spray jet.

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**SECTION 6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

**Environmental precautions**

Do not empty into drains.

**Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

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**SECTION 7. Handling and storage**

**Precautions for safe handling**

Keep workplace dry. Do not allow product to come into contact with water.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Observe label precautions.

**Conditions for safe storage, including any incompatibilities**

Tightly closed.

Store at +15°C to +25°C (+59°F to +77°F).

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**SECTION 8. Exposure controls/personal protection**

**Exposure limit(s)**

*Ingredients*

Basis	Value	Threshold limits	Remarks
<i>antimony(V) fluoride 7783-70-2</i>			
CAD AB OEL	Time Weighted Average (TWA):	2.5 mg/m <sup>3</sup>	Expressed as: as F
	Time Weighted Average (TWA):	0.5 mg/m <sup>3</sup>	Expressed as: as Sb
	Time Weighted Average (TWA):	2.5 mg/m <sup>3</sup>	Expressed as: as F
CAD BC OEL	Time Weighted Average (TWA):	2.5 mg/m <sup>3</sup>	Expressed as: as F
	Time Weighted Average (TWA):	0.5 mg/m <sup>3</sup>	Expressed as: as Sb
	Time Weighted Average (TWA):	2.5 mg/m <sup>3</sup>	Expressed as: as F
CAD MB OEL	Time Weighted Average (TWA):	2.5 mg/m <sup>3</sup>	Expressed as: as F
	Time Weighted Average (TWA):	0.5 mg/m <sup>3</sup>	Expressed as: as Sb
	Time Weighted Average (TWA):	2.5 mg/m <sup>3</sup>	Expressed as: as F
CAD ON OEL	Time Weighted Average (TWAEV):	2.5 mg/m <sup>3</sup>	Expressed as: as F
	Time Weighted Average (TWAEV):	0.5 mg/m <sup>3</sup>	Expressed as: as Sb
	Time Weighted Average (TWA):	2.5 mg/m <sup>3</sup>	Expressed as: as F
OEL (QUE)	Time Weighted Average (TWA):	2.5 mg/m <sup>3</sup>	Expressed as: as F
	Time Weighted Average (TWA):	0.5 mg/m <sup>3</sup>	Expressed as: as Sb

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

*Hygiene measures*

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

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*Eye/face protection*

Tightly fitting safety goggles

*Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

*Other protective equipment:*

Acid-resistant protective clothing.

*Respiratory protection*

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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**SECTION 9. Physical and chemical properties**

Physical state	oily to liquid
Color	colorless
Odor	stinging
Odor Threshold	No information available.
pH	No information available.
Melting point	7 °C
Boiling point/boiling range	300 - 302 °F (149 - 150 °C) at 1,013 hPa
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	7.49
Relative density	2.99 g/cm <sup>3</sup> at 68 °F (20 °C)
Water solubility	at 68 °F (20 °C) (rigorous decomposition)

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Partition coefficient: n-octanol/water	log Pow: 0.71 (calculated) (Lit.) Bioaccumulation is not expected (log Pow <1).
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	No information available.

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## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

can decompose violently in contact with:

Water, acids

Violent reactions possible with:

phosphates, Bases

Risk of ignition or formation of inflammable gases or vapors with:

Risk of explosion with:

combustible substances

### Conditions to avoid

Heating (decomposition).

Exposure to moisture.

### Incompatible materials

glass, Metals, quartzes/silicate ceramics

### Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### Information on toxicological effects

*Likely route of exposure*

Eye contact, Skin contact

*Acute oral toxicity*

absorption

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

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*Acute inhalation toxicity*

absorption

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Corrosive to respiratory system

*Skin irritation*

Causes burns.

*Eye irritation*

Causes serious eye damage.

Risk of blindness!

*Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

*Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

**Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Further information**

Quantitative data on the toxicity of this product are not available.

Decomposition of the substance with tissue moisture.

Further toxicological data:

Systemic effects:

agitation, spasms, cardiovascular disorders, CNS disorders, Stomach/intestinal disorders, drop in blood pressure, muscular symptoms, depressed respiration

Damage to:

Liver

Other information

The following applies to soluble inorganic fluorides in general: may cause irritations to burns in contact with eyes, skin, mucous membranes. Systemic effect: drop in blood calcium level, agitation, spasms, cardiovascular disorders, CNS disorders.

Further data:

Handle in accordance with good industrial hygiene and safety practice.

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**SECTION 12. Ecological information**

**Ecotoxicity**

No information available.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

*Partition coefficient: n-octanol/water*

log Pow: 0.71

(calculated)

(Lit.) Bioaccumulation is not expected (log Pow <1).

**Mobility in soil**

No information available.

**Other adverse effects**

*Additional ecological information*

Biological effects:

Product reacts with water.

Forms corrosive mixtures with water even if diluted.

Harmful effect due to pH shift.

Further information on ecology

Discharge into the environment must be avoided.

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**SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information**

**Land transport (DOT)**

UN number	UN 1732
Proper shipping name	ANTIMONY PENTAFLUORIDE
Class	8 (6.1)
Packing group	II
Environmentally hazardous	--

**Air transport (IATA)**

UN number	UN 1732
Proper shipping name	ANTIMONY PENTAFLUORIDE
Class	8 (6.1)
Packing group	II
Environmentally hazardous	--



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**Special precautions for user** yes  
**IATA (Passenger)** Not permitted for transport

**Sea transport (IMDG)**  
**UN number** UN 1732  
**Proper shipping name** ANTIMONY PENTAFLUORIDE  
**Class** 8 (6.1)  
**Packing group** II  
**Environmentally hazardous** --  
**Special precautions for user** yes  
**EmS** F-A S-B

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**SECTION 15. Regulatory information**

**United States of America**

**Canada**

**WHMIS Classification**

E Corrosive Material  
Corrosive to skin, Corrosive to eyes, Corrosive by inhalation.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**Notification status**

TSCA: On TSCA Inventory

DSL: All components of this product are on the Canadian DSL.

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**SECTION 16. Other information**

**Training advice**

Provide adequate information, instruction and training for operators.

**Full text of H-Statements referred to under sections 2 and 3.**

H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H332 Harmful if inhaled.  
H411 Toxic to aquatic life with long lasting effects.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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