

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/11/2009

Reviewed on 05/11/2009

1 Identification of substance:

Product details:

Product name: Antimony(V) sulfide

Stock number: 33490

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

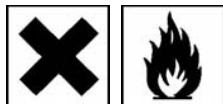
Antimony(V) sulfide (CAS# 1315-04-4): 100%

Identification number(s):

EINECS Number: 215-255-5

3 Hazards identification

Hazard description:



Xi Irritant
F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	1	Health (acute effects) = 1
FIRE	2	Flammability = 2
REACTIVITY	1	Reactivity = 1

GHS label elements



Warning

2.7/2 - Flammable solid.



Warning

3.2/2 - Causes skin irritation.

3.3/2A - Causes serious eye irritation.

3.8/3 - May cause respiratory irritation.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/ equipment.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF ON SKIN: Wash with plenty of soap and water.

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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a POISON CENTER or doctor/physician if you feel unwell.

(Contd. on page 2)

- USA -

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/11/2009

Reviewed on 05/11/2009

Product name: Antimony(V) sulfide

(Contd. of page 1)

Specific treatment (see label).
 If skin irritation occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 Take off contaminated clothing and wash before reuse.
 In case of fire: Use for extinction: CO₂, powder or water spray.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
 Store locked up.

Disposal:

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

4 First aid measures**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
 Seek immediate medical advice.

After skin contact

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

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Metal oxide fume

Sulfur oxides (SO_x)

Hydrogen sulfide

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Ensure adequate ventilation.

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

Storage

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility: Do not store together with acids.

Further information about storage conditions:

Keep container tightly sealed.

(Contd. on page 3)

- USA -

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/11/2009

Reviewed on 05/11/2009

Product name: Antimony(V) sulfide

Store in cool, dry conditions in well sealed containers.

(Contd. of page 2)

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 limit 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
Ireland TWA	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

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form:	Powder
Color:	Orange-yellow
Odor:	Not determined

Change in condition

Melting point/Melting range:	>300°C (>572°F)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined

Flash point: Not applicable

Flammability (solid, gaseous) Highly flammable.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Explosion limits:

Lower:	Not determined
Upper:	Not determined

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/11/2009

Reviewed on 05/11/2009

Product name: Antimony(V) sulfide

(Contd. of page 3)

Vapor pressure:	Not determined
------------------------	----------------

Density at 20°C (68°F):	4.12 g/cm ³
--------------------------------	------------------------

Solubility in / Miscibility with Water:	Insoluble
--	-----------

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided: Acids

Dangerous reactions No dangerous reactions known

Dangerous products of decomposition:

Metal oxide fume

Sulfur oxides (SO_x)

Hydrogen sulfide

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral	LD	>10 gm/kg (rat)
------	----	-----------------

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

Antimony compounds may cause metallic taste, gastrointestinal disturbances, vomiting, diarrhea, dizziness and systemic poisoning. Chronic exposure may cause liver and kidney damage. Dermatitis and eczematous skin eruptions may result from skin contact.

Subacute to chronic toxicity:

Sulfides show variable toxicity. The alkaline sulfides are similar in action to alkalis. They cause irritation of the skin and are corrosive by ingestion. The heavy metal sulfides are generally insoluble and show little toxic action except through the liberation of hydrogen sulfide. Hydrogen sulfide, if generated, is toxic, a severe irritant and flammable. Effects include conjunctivitis, headache, nausea, dizziness, coughing, pulmonary edema and possibly death.

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:

General notes:

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 to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:



Hazard class: 4.1

Identification number: UN3178

(Contd. on page 5)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/11/2009

Reviewed on 05/11/2009

Product name: Antimony(V) sulfide

(Contd. of page 4)

Packing group: III
Proper shipping name (technical name): FLAMMABLE SOLID, INORGANIC, N.O.S. (Antimony(V) sulfide)
Label 4.1

Land transport ADR/RID (cross-border)

ADR/RID class: 4.1 (F3) Flammable solids, self-reactive substances and solid desensitised explosives
Danger code (Kemler): 40
UN-Number: 3178
Packaging group: III
Description of goods: 3178 FLAMMABLE SOLID, INORGANIC, N.O.S. (Antimony(V) sulfide)

Maritime transport IMDG:

IMDG Class: 4.1
UN Number: 3178
Label 4.1
Packaging group: III
Proper shipping name: FLAMMABLE SOLID, INORGANIC, N.O.S. (Antimony(V) sulfide)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 4.1
UN/ID Number: 3178
Label 4.1
Packaging group: III
Proper shipping name: FLAMMABLE SOLID, INORGANIC, N.O.S. (Antimony(V) sulfide)

UN "Model Regulation": UN3178, FLAMMABLE SOLID, INORGANIC, N.O.S., 4.1, III

15 Regulations

Product related hazard informations:**Hazard symbols:**

Xi Irritant
 F Highly flammable

Risk phrases:

11 Highly flammable.
 36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 37 Wear suitable gloves.
 60 This material and its container must be disposed of as hazardous waste.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
 All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

Information about limitation of use:

For use only by technically qualified individuals.

(Contd. on page 6)

USA

Material Safety Data Sheet
acc. to OSHA and ANSI

Printing date 05/11/2009

Reviewed on 05/11/2009

Product name: Antimony(V) sulfide

(Contd. of page 5)

This product contains antimony and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to know Act of 1986 and 40CFR372.

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 MSDS: 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

DOT: US Department of Transportation

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)

HMSIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

USA