1. Identification

Product Name: Antimony(III) oxide

Cat No.: A860-100; A860-500

CAS-No: 1309-64-4

Synonyms: Antimony trioxide

Recommended Use: Laboratory chemicals.

Uses advised against: Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity: Category 2

Label Elements

Signal Word: Warning

Hazard Statements
Suspected of causing cancer

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required

Response
IF exposed or concerned: Get medical attention/advice

Storage
Store locked up

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)


3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>1309-64-4</td>
<td>&gt;95</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>1317-36-8</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>1327-53-3</td>
<td>&lt;0.1</td>
</tr>
</tbody>
</table>

4. First-aid measures

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation
Move to fresh air. Obtain medical attention. If not breathing, give artificial respiration.

Ingestion
Do not induce vomiting. Obtain medical attention.

Most important symptoms and effects
No information available.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media
No information available

Flash Point
No information available

Method -
No information available

Autoignition Temperature
Not applicable

Explosion Limits
No data available

Upper
No data available

Lower
No data available

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Antimony oxide.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.
### 6. Accidental release measures

**Personal Precautions**
Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Do not flush into surface water or sanitary sewer system. Should not be released into the environment. Do not allow material to contaminate ground water system.

**Environmental Precautions**
Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

### 7. Handling and storage

**Handling**
Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not breathe dust. Use only under a chemical fume hood.

**Storage**
Keep containers tightly closed in a dry, cool and well-ventilated place.

### 8. Exposure controls / personal protection

#### Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>TWA: 0.5 mg/m³</td>
<td>(Vacated) TWA: 0.5 mg/m³</td>
<td>IDLH: 50 mg/m³</td>
<td>TWA: 0.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 1 mg/m³</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>TWA: 0.05 mg/m³</td>
<td></td>
<td>IDLH: 100 mg/m³</td>
<td>TWA: 0.15 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 0.050 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>TWA: 0.01 mg/m³</td>
<td></td>
<td>IDLH: 5 mg/m³</td>
<td>TWA: 0.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ceiling: 0.002 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

#### Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures**
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use only under a chemical fume hood.

**Personal Protective Equipment**

**Eye/face Protection**
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**
Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powder Solid</td>
<td>White</td>
</tr>
</tbody>
</table>
Odor | Odorless
---|---
Odor Threshold | No information available
pH | No information available
Melting Point/Range | 656 °C / 1212.8 °F
Boiling Point/Range | 1550 °C / 2822 °F @ 760 mmHg
Flash Point | No information available
Evaporation Rate | Not applicable
Flammability (solid, gas) | No information available
Flammability or explosive limits | No data available
  | Upper
  | Lower
Vapor Pressure | 1.3 hPa @ 574 °C
Vapor Density | Not applicable
Specific Gravity | No information available
Solubility | Slightly soluble in water
Partition coefficient; n-octanol/water | No data available
Autoignition Temperature | Not applicable
Decomposition Temperature | No data available
Viscosity | Not applicable
Molecular Formula | O3 Sb2
Molecular Weight | 291.42

10. Stability and reactivity

Reactive Hazard | None known, based on information available
Stability | Stable under normal conditions.
Conditions to Avoid | Avoid dust formation. Incompatible products. Excess heat.
Incompatible Materials | Strong acids, Strong bases, Reducing agents, Strong oxidizing agents
Hazardous Decomposition Products | Antimony oxide
Hazardous Polymerization | Hazardous polymerization does not occur.
Hazardous Reactions | None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>LD50 &gt; 34600 mg/kg ( Rat )</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>LD50 &gt; 10000 mg/kg ( Rat )</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>LD50 = 20 mg/kg ( Rat )</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products | No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation | May cause eye, skin, and respiratory tract irritation
Sensitization | No information available
Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen.
### Antimony(III) oxide

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>1309-64-4</td>
<td>Group 2B</td>
<td>Not listed</td>
<td>A2</td>
<td>X</td>
<td>A2</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>1317-36-8</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>A3</td>
<td>X</td>
<td>Not listed</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>1327-53-3</td>
<td>Group 1</td>
<td>Known</td>
<td>A1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IARC: (International Agency for Research on Cancer)**
- Group 1 - Carcinogenic to Humans
- Group 2A - Probably Carcinogenic to Humans
- Group 2B - Possibly Carcinogenic to Humans

**NTP: (National Toxicity Program)**
- NTP: (National Toxicity Program)
  - Known - Known Carcinogen
  - Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

**ACGIH: (American Conference of Governmental Industrial Hygienists)**
- A1 - Known Human Carcinogen
- A2 - Suspected Human Carcinogen
- A3 - Animal Carcinogen

**Mexico - Occupational Exposure Limits - Carcinogens**
- A1 - Confirmed Human Carcinogen
- A2 - Suspected Human Carcinogen
- A3 - Confirmed Animal Carcinogen
- A4 - Not Classifiable as a Human Carcinogen
- A5 - Not Suspected as a Human Carcinogen

**Mutagenic Effects**
No information available

**Reproductive Effects**
No information available.

**Developmental Effects**
No information available.

**Teratogenicity**
No information available.

**STOT - single exposure**
None known

**STOT - repeated exposure**
None known

**Aspiration hazard**
No information available

**Symptoms / effects, both acute and delayed**
No information available

**Endocrine Disruptor Information**
No information available

**Other Adverse Effects**
The toxicological properties have not been fully investigated.

### 12. Ecological information

**Ecotoxicity**
Contains a substance which is: Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>EC50: 0.65 - 0.81 mg/L, 96h (Pseudokirchneriella subcapitata)</td>
<td>EC50 &gt;1000 mg/L/96h (Brachydanio rerio)</td>
<td>EC50 &gt; 3.5 mg/L 7 h</td>
<td>EC50: &gt; 1000 mg/L, 48h (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td>EC50: 0.63 - 0.8 mg/L, 72h (Pseudokirchneriella subcapitata)</td>
<td></td>
<td></td>
<td>EC50: 361.5 - 496.0 mg/L, 48h Static (Daphnia magna)</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>Not listed</td>
<td>Pimephales promelas: LC50=0.3 mg/L 96h</td>
<td>Not listed</td>
<td>EC50=0.13 mg/L 48h</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>Not listed</td>
<td>LC50: &gt; 1000 mg/L, 96h static (Oncorhynchus mykiss)</td>
<td>EC50 = 31.43 mg/L 60 min</td>
<td>EC50 = 0.038 mg/L 24h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: 18.8 - 21.4 mg/L, 96h flow-through (Oncorhynchus)</td>
<td>EC50 = 33.39 mg/L 30 min</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC50 = 0.96 mg/L 96h</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC50 = 0.038 mg/L 24h</td>
</tr>
</tbody>
</table>
Antimony(III) oxide

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic trioxide</td>
<td>18.1</td>
</tr>
</tbody>
</table>

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

- DOT Not regulated
- TDG Not regulated
- IATA Not regulated
- IMDG/IMO Not regulated

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>215-175-0</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>215-267-0</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>215-481-4</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

- TSCA 12(b) Not applicable

SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>1309-64-4</td>
<td>&gt;95</td>
<td>1.0</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>1317-36-8</td>
<td>&lt;0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>1327-53-3</td>
<td>&lt;0.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>
Antimony(III) oxide

SARA 311/312 Hazard Categories  
See section 2 for more information

CWA (Clean Water Act)

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>X</td>
<td>1000 lb</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>X</td>
<td>1 lb</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Clean Air Act

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depletors</th>
<th>Class 2 Ozone Depletors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OSHA Occupational Safety and Health Administration

Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>Specifically Regulated Chemicals</th>
<th>Highly Hazardous Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead monoxide</td>
<td>30 µg/m³ Action Level</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>50 µg/m³ TWA</td>
<td></td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>10 µg/m³ TWA</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>5 µg/m³ Action Level</td>
<td></td>
</tr>
</tbody>
</table>

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>1000 lb</td>
<td></td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>1 lb</td>
<td>1 lb</td>
</tr>
</tbody>
</table>

California Proposition 65

This product contains the following proposition 65 chemicals

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>1309-64-4</td>
<td>Carcinogen</td>
<td>-</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>1317-36-8</td>
<td>Carcinogen</td>
<td>-</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>1327-53-3</td>
<td>Carcinogen</td>
<td>0.06 µg/day</td>
<td>Developmental</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Developmental</td>
<td>10 µg/day</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lead monoxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Arsenic trioxide</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

Reportable Quantity (RQ):  
Y
DOT Marine Pollutant:  
N
DOT Severe Marine Pollutant:  
N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade

No information available

16. Other information
Antimony(III) oxide

Prepared By
 Regulatory Affairs
 Thermo Fisher Scientific
 Email: EMSDS.RA@thermofisher.com

Creation Date 22-Dec-2009
Revision Date 18-Jan-2018
Print Date 18-Jan-2018
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS