SAFETY DATA SHEET

Product identifier

Product code: A1315
Product Name: ANTIMONY PENTACHLORIDE, REAGENT

Other means of identification

Synonyms: No information available
CAS #: 7647-18-9
RTECS #: CC5075000
Ci#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against: No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA  90248
(310) 516-8000

Order Online At: https://www.spectrumchemical.com

Emergency telephone number
Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

Classification

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Gases)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1Sub-category B</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label elements
Danger

Hazard statements
Harmful if swallowed
Fatal if inhaled
Causes severe skin burns and eye damage
May cause respiratory irritation

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Reacts violently with water

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
Specific treatment is urgent (see .? on this label)
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see .? on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product code: A1315
Product name: ANTIMONY
PENTACHLORIDE, REAGENT
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>7647-18-9</td>
<td>100</td>
<td>*</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First aid measures

General Advice: Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Eye Contact: Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed

Symptoms: Causes severe skin burns. Causes eye damage. Fatal if inhaled. Harmful if swallowed. May cause irritation of respiratory tract.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: The product is not flammable.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: No information available.

Specific hazards: No information available.

Special Protective Actions for Firefighters

Specific Methods: No information available.
Special Protective Equipment for Firefighters:  As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:  Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not expose spill to water. Do not get water inside containers.

Environmental precautions:  Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment:  Stop leak if you can do it without risk. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up:  Absorb spill with inert material (e.g. vermiculite, dry sand or earth). Use appropriate tools to put the spilled material in a suitable chemical waste disposal container.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:  Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials. Do not allow contact with water.

Safe Handling Advice:  Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride - 7647-18-9</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Canada

<table>
<thead>
<tr>
<th>Components</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario</th>
<th>Quebec</th>
</tr>
</thead>
</table>

Product code: A1315  Product name: ANTIMONY PENTACHLORIDE, REAGENT
Appropriate engineering controls

Engineering measures to reduce exposure:
Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles. Safety glasses with side-shields.
Skin and body protection: Chemical resistant apron. Gloves. Long sleeved clothing.
Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Appearance:</th>
<th>Color:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Oily</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor:</td>
<td>Taste</td>
<td>Molecular/Formula weight:</td>
</tr>
<tr>
<td>Pungent.</td>
<td>No information available</td>
<td>299.05</td>
</tr>
<tr>
<td>Formula:</td>
<td>Flash point (°C):</td>
<td>Flashpoint (°C/°F):</td>
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<tr>
<td>SbCl5</td>
<td>No data available</td>
<td>No information available.</td>
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<tr>
<td>Flash Point Tested according to:</td>
<td>Lower Explosion Limit (%):</td>
<td>Upper Explosion Limit (%):</td>
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<tr>
<td>Not available</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition Temperature (°C/°F):</td>
<td>pH:</td>
<td>Melting point/range(°C/°F):</td>
</tr>
<tr>
<td>No information available</td>
<td>No information available</td>
<td>3.5°C/38.3°F</td>
</tr>
<tr>
<td>Boiling point/range(°C/°F):</td>
<td>Decomposition temperature(°C/°F):</td>
<td>Bulk density:</td>
</tr>
<tr>
<td>Decomposes</td>
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<td>No information available</td>
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<tr>
<td>Specific gravity:</td>
<td>Density (g/cm3):</td>
<td>Vapor pressure @ 20°C (kPa):</td>
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<tr>
<td>2.336</td>
<td>No information available</td>
<td>0.1</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>Vapor density:</td>
<td>VOC content (g/L):</td>
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<tr>
<td>No information available</td>
<td>10.2</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor threshold (ppm):</td>
<td>Partition coefficient</td>
<td>Viscosity:</td>
</tr>
<tr>
<td>No information available</td>
<td>(n-octanol/water):</td>
<td>No information available</td>
</tr>
<tr>
<td>Miscibility:</td>
<td>Solubility:</td>
<td>No information available</td>
</tr>
<tr>
<td>No information available</td>
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<td></td>
</tr>
</tbody>
</table>

Product code: A1315 Product name: ANTIMONY PENTACHLORIDE, REAGENT 5 / 12
10. STABILITY AND REACTIVITY

Reactivity
Reactive with metals
Reacts with water

Chemical stability

Possibility of Hazardous Reactions: Hazardous polymerization does not occur


Hazardous decomposition products: No information available

Other Information
Corrosivity: Highly corrosive in presence of glass

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Principal Routes of Exposure:
Eyes. Ingestion. Inhalation.

Acute Toxicity

Component Information

Antimony Pentachloride - 7647-18-9
LD50/oral/rat = 1115 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = 720 mg/m³ Inhalation LC50 Rat 2 h
LC50/inhalation/mouse = 620 mg/m³ Inhalation LC50 Mouse
Other LD50 or LC50 information = 900 mg/kg Oral LD50 Guinea Pig

Product Information
LD50/oral/rat = VALUE- Acute Tox Oral = 1115mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

Product code: A1315
Product name: ANTIMONY PENTACHLORIDE, REAGENT
LC50/inhalation/rat
VALUE-Vapor = 720 mg/m³/2h
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/inhalation/mouse
VALUE-Vapor = 620 mg/m³
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

Symptoms

Skin Contact: Causes severe irritation and burns.
Eye Contact: Causes severe eye irritation and possible burns.
Inhalation: Fatal if inhaled. May cause respiratory tract irritation.
   Ingestion: Harmful if swallowed.
Aspiration hazard: No information available

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

Chronic Toxicity: No information available
Sensitization: No information available
Mutagenic Effects: No information available
Carcinogenic effects: Not considered carcinogenic

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH - Carcinogens</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Reproductive toxicity

Reproductive Effects: No data is available
Developmental Effects: No data is available
Teratogenic Effects: No data is available

Specific Target Organ Toxicity

STOT - single exposure: No data is available
STOT - repeated exposure: No data is available
Target Organs: Lungs. Mucous membrane.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.
Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

UN-No: UN1730
Proper Shipping Name: Antimony pentachloride, liquid
Hazard Class: 8
Subsidiary Risk:
Packing Group: II
ERG No: 157
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Symbol(s): R4

TDG (Canada)

UN-No: UN1730
Proper Shipping Name: Antimony pentachloride, liquid
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

ADR

UN-No: UN1730
Proper Shipping Name: Antimony pentachloride, liquid
Hazard Class: 8
Packing Group: II
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

Product code: A1315
Product name: ANTIMONY PENTACHLORIDE, REAGENT
14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>RID</th>
<th>UN-No: UN1730</th>
<th>Proper Shipping Name: Antimony pentachloride, liquid</th>
<th>Hazard Class: 8</th>
<th>Subsidiary Risk: No information available</th>
<th>Packing Group: II</th>
<th>Description: No information available</th>
<th>IMDG Page: No information available</th>
<th>Marine Pollutant: No information available</th>
<th>EMS: F-A</th>
<th>MFA: No information available</th>
<th>Maximum Quantity: No information available</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>ICAO</th>
<th>UN-No: UN1730</th>
<th>Proper Shipping Name: Antimony pentachloride, liquid</th>
<th>Hazard Class: 8</th>
<th>Subsidiary Risk: No information available</th>
<th>Packing Group: II</th>
<th>Description: No information available</th>
</tr>
</thead>
</table>

| IATA | UN-No: UN1730 | Proper Shipping Name: Antimony pentachloride, liquid | Hazard Class: 8 | Subsidiary Risk: No information available | Packing Group: II | ERG Code: 8L | Description: No information available |
| --- | --- | --- | --- | --- | --- | --- |

15. REGULATORY INFORMATION

**International Inventories**

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>Present</td>
<td>Present KE-01879</td>
<td>Present</td>
<td>Present (1)-256 (1)-156</td>
<td>Present</td>
<td>Present</td>
<td>Present 231-601-8</td>
</tr>
</tbody>
</table>

**U.S. Regulations**

*Antimony Pentachloride*

- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 0143
- New Jersey - Discharge Prevention - List of Hazardous Substances: Present
- Pennsylvania RTK: Environmental hazard
- Pennsylvania RTK - Environmental Hazard List Present
- Pennsylvania RTK - Special Hazardous Substances Present

**Product code:** A1315  **Product name:** ANTIMONY PENTACHLORIDE, REAGENT
Antimony Pentachloride

New York Release Reporting - List of Hazardous Substances:
= 1000 lb RQ
Louisiana Reportable Quantity List for Pollutants: Listed
California Directors List of Hazardous Substances: Present


Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>= 454 kg final RQ</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

Canada

WHMIS hazard class:
D2A Very toxic materials
E Corrosive material

Antimony Pentachloride
E

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
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<td>Not Listed</td>
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</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

EU Classification

Product code: A1315
Product name: ANTIMONY PENTACHLORIDE, REAGENT
**R-phrase(s)**
R14 - Reacts violently with water.
R22 - Harmful if swallowed.
R35 - Causes severe burns.

**S -phrase(s)**
none

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony Pentachloride</td>
<td>C; R34</td>
<td>25%&lt;=C: C,N; R34-51/53 10%&lt;=C&lt;25%: C; R34-52/53</td>
<td>S1/2 S26 S45 S61</td>
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<td></td>
<td>N; R51-53</td>
<td>5%&lt;=C&lt;10%: Xi; R36/37/38-52/53</td>
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<td></td>
<td></td>
<td>2.5%&lt;=C&lt;5%: R52/53</td>
<td></td>
</tr>
</tbody>
</table>

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**
C - Corrosive.
T+ - Very toxic.

16. OTHER INFORMATION
Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet