Material Safety Data Sheet
Triphenylarsine Oxide

Section 1 - Chemical Product and Company Identification

MSDS Name: Triphenylarsine Oxide
Catalog Numbers: AC422160000, AC422160250
Synonyms: Arsine Oxide, Triphenyl-.
Company Identification:
   - Acros Organics N.V.
   - One Reagent Lane
   - Fair Lawn, NJ 07410
For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1153-05-5</td>
<td>Arsine Oxide, Triphenyl-</td>
<td>ca 100</td>
<td>214-571-0</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white powder.
Caution! Contains inorganic arsenic. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. Cancer suspect agent. The toxicological properties of this material have not been fully investigated.
Target Organs: None known.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation.
Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated. Ingestion of arsenical compounds may cause burning of the lips, throat constriction, swallowing difficulties, severe abdominal pain, severe nausea, projectile vomiting, and profuse diarrhea. Ingestion of arsenic compounds can produce convulsions, coma, and possibly death within 24 hours.
Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. May cause respiratory muscle paralysis. Other symptoms include lethargy, irritation, sore throat, nose bleeds, hoarseness, cough, chest tightness, difficulty breathing, nausea, vomiting, dizziness, fever. Inhalation of arsenic compounds may lead to irritation of the respiratory tract and to possible nasal perforation. Long-term exposure to arsenic compounds may produce impairment of peripheral circulation.
Chronic: Chronic exposure to arsenical dust may cause shortness of breath, nausea, chest pains, and garlic odor. Inorganic arsenic compounds may cause skin and lung cancers in humans.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

**Section 7 - Handling and Storage**

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Poison room locked.

**Section 8 - Exposure Controls, Personal Protection**

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsine Oxide, Triphenyl-</td>
<td>0.01 mg/m3 TWA</td>
<td>5 mg/m3 IDLH (listed under</td>
<td>0.5 mg/m3 TWA (listed under</td>
</tr>
<tr>
<td></td>
<td>(listed under</td>
<td>Arsenic)</td>
<td>Arsenic).</td>
</tr>
<tr>
<td></td>
<td>Arsenic).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Arsine Oxide, Triphenyl-: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** 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:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA’s 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

**Section 9 - Physical and Chemical Properties**

**Physical State:** Powder

**Appearance:** white

**Odor:** Not available.

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 197 - 199 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Not available.

**Specific Gravity/Density:** Not available.

**Molecular Formula:** C18H15AsO

**Molecular Weight:** 322.23

**Section 10 - Stability and Reactivity**

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, dust generation, excess heat, strong oxidants.

**Incompatibilities with Other Materials:** Oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, arsine, arsenic fumes, arsenic oxides.

**Hazardous Polymerization:** Has not been reported

**Section 11 - Toxicological Information**

**RTECS#:**

**CAS#:** 1153-05-5 unlisted.

**LD50/LC50:** Not available.

**Carcinogenicity:**

**CAS#:** 1153-05-5:

- **ACGIH:** A1 - Confirmed Human Carcinogen (listed as ‘Arsenic’).
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Group 1 carcinogen (listed as Arsenic).
**Epidemiology:** Exposure to inorganic arsenic compounds in drugs, food, and water as well as in an occupational setting have been causally associated with the development of cancer, primarily of the skin and lungs. IARC has determined that there is sufficient evidence for carcinogenicity for arsenic compounds to humans.

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

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Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT regulated - small quantity provisions apply (see 49CFR173.4)</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazard Class:</th>
<th>UN Number:</th>
<th>Packing Group:</th>
</tr>
</thead>
</table>

Section 15 - Regulatory Information

**US FEDERAL**

**TSCA**

CAS# 1153-05-5 is listed on the TSCA inventory.

**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**Section 313**

This material contains Arsenic Oxide, Triphenyl- (listed as Arsenic), ca 100%, (CAS# 1153-05-5) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

**Clean Air Act:**

This material does not contain any hazardous air pollutants.

**Clean Water Act:**

This material does not contain any Class 1 Ozone depletors.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 1153-05-5 can be found on the following state right to know lists: California, (listed as Arsenic), California, (listed as Arsenic compounds, n.o.s.), New Jersey, (listed as Arsenic), Pennsylvania, (listed as Arsenic), Pennsylvania, (listed as Arsenic compounds, n.o.s.), Minnesota, (listed as Arsenic), Massachusetts, (listed as Arsenic).

**California Prop 65**

California No Significant Risk Level: CAS# 1153-05-5: 0.06 æg/day NSRL (inhalation); 10 æg/day NSRL (except inhalation) (listed under Arsenic)

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**

T

**Risk Phrases:**

R 23/25 Toxic by inhalation and if swallowed.
Safety Phrases:
- S 20/21 When using do not eat, drink or smoke.
- S 37 Wear suitable gloves.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 28A After contact with skin, wash immediately with plenty of water.

WGK (Water Danger/Protection)
- CAS# 1153-05-5: No information available.

Canada - DSL/NDSL
- CAS# 1153-05-5 is listed on Canada’s DSL List.

Canada - WHMIS
- This product has a WHMIS classification of D2A.
- This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List
- CAS# 1153-05-5 (listed as Arsenic) is listed on the Canadian Ingredient Disclosure List.

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**Section 16 - Additional Information**

**MSDS Creation Date:** 6/07/1999  
**Revision #3 Date:** 10/03/2005

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