Material Safety Data Sheet
Tri-n-octylphosphine oxide

MSDS# 97363

Section 1 - Chemical Product and Company Identification

MSDS Name: Tri-n-octylphosphine oxide
Catalog Numbers: AC207600000, AC207600250, AC207601000, AC207605000
Synonyms: TOPO; Trioctylphosphine oxide.

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaalanaa 3a
2440 Geel, Belgium

Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

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CAS#: 78-50-2
Chemical Name: Tri-n-octylphosphine oxide
%: 99
EINECS#: 201-121-3

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Hazard Symbols: C N
Risk Phrases: 34 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Causes burns by all exposure routes. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Target Organs: Kidneys, liver, respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns. May be harmful if absorbed through the skin.

Ingestion: Causes gastrointestinal tract burns. May be harmful if swallowed.

Inhalation: Causes chemical burns to the respiratory tract. May be harmful if inhaled. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Chronic: May cause liver and kidney damage.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower
eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. 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.

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.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Autoignition
Temperature: Not applicable.

Flash Point: > 110 deg C (> 230.00 deg F)

Explosion Limits:
Lower: Not available
Upper: Not available

NFPA Rating: health: 3; flammability: 1; 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. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Store in a cool, dry place. Store in a tightly closed container. Corrosives area.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tri-n-octylphosphine oxide</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Tri-n-octylphosphine oxide: None listed

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

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: Crystalline powder  
Color: white - slightly yellow  
Odor: none reported  
P pH: Not available  
Vapor Pressure: Not available  
Vapor Density: Not available  
Evaporation Rate: Not available  
Viscosity: Not available  
Boiling Point: 201 - 202 deg C @ 2 mmHg  
Freezing/Melting Point: 50 - 55 deg C  
Decomposition Temperature: Not available  
Solubility in water: Insoluble  
Specific Gravity/Density: Not available  
Molecular Formula: C24H51OP  
Molecular Weight: 386.64  

Section 10 - Stability and Reactivity  
Chemical Stability: Stable under normal temperatures and pressures.  
Conditions to Avoid: Incompatible materials, dust generation, excess heat.  
Incompatibilities with Other Materials: Strong oxidizing agents.  
Hazardous Decomposition Products: Phosphine, carbon monoxide, oxides of phosphorus, oxides of phosphorus, carbon dioxide.  
Hazardous Polymerization: Will not occur.  

Section 11 - Toxicological Information  
RTECS#: CAS# 78-50-2: SZ1662500  
LD50/LC50:  
RTECS:  
CAS# 78-50-2: Draize test, rabbit, eye: 100 mg/24H Severe; Draize test, rabbit, skin: 500 uL/24H Moderate;  
Carcinogenicity: Tri-n-octylphosphine oxide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Other: The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.  

Section 12 - Ecological Information  
Other: Do not empty into drains.  

Section 13 - Disposal Considerations  
Dispose of in a manner consistent with federal, state, and local regulations.  

Section 14 - Transport Information  
US DOT  
Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  
Hazard Class: 8  
UN Number: UN3261  
Packing Group: III  
Canada TDG  
Shipping Name: Not available  
Hazard Class:  
UN Number:  
Packing Group:  

Section 15 - Regulatory Information  
European/International Regulations  
European Labeling in Accordance with EC Directives
Hazard Symbols: C N

Risk Phrases:
- R 34 Causes burns.
- R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 60 This material and its container must be disposed of as hazardous waste.
- S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)
- CAS# 78-50-2: Not available

Canada
- CAS# 78-50-2 is listed on Canada's DSL List
- Canadian WHMIS Classifications: E
  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.
- CAS# 78-50-2 is not listed on Canada's Ingredient Disclosure List.

US Federal
- TSCA
  - CAS# 78-50-2 is listed on the TSCA Inventory.

Section 16 - Other Information
- MSDS Creation Date: 9/02/1997
- Revision #6 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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