Material Safety Data Sheet
Tri-n-butyltin hydride

MSDS# 16212

Section 1 - Chemical Product and Company Identification

MSDS Name: Tri-n-butyltin hydride
Catalog Numbers: AC215730000, AC215730100, AC215730500
Synonyms: Tributyltin; Tributylstannane; Tributylstannic hydride.

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaan 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

CAS#: 688-73-3
Chemical Name: Tri-n-butyltin hydride
%
EINECS#: 211-704-4

Hazard Symbols: T N

Risk Phrases: 10 15 21 25 36/38 48/23/25 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Flammable liquid and vapor. Harmful if absorbed through the skin. Air sensitive. May cause central nervous system effects. Causes eye and skin irritation. Toxic if swallowed. Severe marine pollutant. Contact with water liberates extremely flammable gases. Target Organs: Central nervous system, eyes, immune system, skin.

Potential Health Effects

Eye: Causes eye irritation.
Skin: Harmful if absorbed through the skin. Effects may be delayed. May produce mucosal lesions. Causes skin irritation and possible burns.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Toxic if swallowed.
Inhalation: May cause respiratory tract irritation. Toxic if inhaled. Causes sore throat, coughing, shortness of breath, and dental corrosion.
Chronic: The critical effect of tributyltin compounds in rats is on the immune system (ACGIH 7th Edition Documentation of the TLVs).
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. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

**Ingestion:**
If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

**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:**

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. Water reactive. Material will react with water and may release a flammable and/or toxic gas. Containers may explode in the heat of a fire. Flammable liquid and vapor.

**Extinguishing Media:**
Use foam, dry chemical, or carbon dioxide. DO NOT USE WATER!

- **Autoignition Temperature:** Not available
- **Flash Point:** 40 deg C (104.00 deg F)
- **Explosion Limits:**
  - **Lower:** N/A
  - **Upper:** N/A
- **NFPA Rating:** ; Special Hazard: -W-

Section 6 - Accidental Release Measures

**General Information:**
Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**
Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

**Handling:**
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid ingestion and inhalation. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:**
Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Store protected from moisture. Store under nitrogen.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
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<tbody>
<tr>
<td>Tri-n-butyltin hydr</td>
<td>0.1 mg/m3 TWA (as Sn) (listed</td>
<td>0.1 mg/m3 TWA (as Sn, except</td>
<td>0.1 mg/m3 TWA (listed under Tin organic compounds)</td>
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<td>under Tin organic compounds)</td>
<td>(listed under Tin organic compounds).25</td>
<td>mg/m3 STEL (as Sn) (listed</td>
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<td>mg/m3 IDLH (as Sn, except</td>
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<td>Tin organic compounds).</td>
<td>Cyhexatin)</td>
<td>(listed under Tin organic compounds).</td>
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<td>overall exposure</td>
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<td>by the cutaneous</td>
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</table>
OSHA Vacated PELs: Tri-n-butyltin hydride: 0.1 mg/m³ TWA (as Sn) (listed under Tin organic compounds)

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

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: 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.

Section 9 - Physical and Chemical Properties
Physical State: Liquid
Color: almost colorless
Odor: None reported.
pH: Not available
Vapor Pressure: 5 mbar @ 20 °C
Vapor Density: Not available
Evaporation Rate: Not available
Viscosity: 1.5 mPas 20 deg C
Boiling Point: 80 deg C @ .40 mm Hg (176.00°F)
Freezing/Melting Point: Not available
Decomposition Temperature:
Solubility in water: Reacts
Specific Gravity/Density: 1.08 g/cm³
Molecular Formula: C₁₂H₂₈Sn
Molecular Weight: 291.04

Section 10 - Stability and Reactivity
Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Exposure to air, exposure to moist air or water.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, tin/tin oxides.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information
RTECS#: CAS# 688-73-3: WH8675000
LD₅₀/LC₅₀: RTECS: Not available.
Carcinogenicity: Tri-n-butyltin hydride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information
Other: No information available.

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

Section 14 - Transport Information
US DOT
Shipping Name: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE
Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T N
Risk Phrases:
  R 10 Flammable.
  R 15 Contact with water liberates extremely flammable gases.
  R 21 Harmful in contact with skin.
  R 25 Toxic if swallowed.
  R 36/38 Irritating to eyes and skin.
  R 48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
  R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:
  S 35 This material and its container must be disposed of in a safe way.
  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# 688-73-3: Not available

Canada

Canadian WHMIS Classifications: D1B, D2B, F
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# 688-73-3 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 688-73-3 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 3/16/1998
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.