**** MATERIAL SAFETY DATA SHEET ****

Taurodeoxycholic acid, sodium salt hydrate, 97%

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Taurodeoxycholic acid, sodium salt hydrate, 97%
Catalog Numbers: 33684-0000, 33684-0010, 33684-0050
Synonyms: Sodium taurodeoxycholate
Company Identification (Europe): Acros Organics BVBA
Janssen Pharmaceuticalalaan 3a
2440 Geel, Belgium
Company Identification (USA): Acros Organics
One Reagent Lane
Fairlawn, NJ 07410
For information in North America, call: 800-ACROS-01
For information in Europe, call: 0032(0) 14575211
For emergencies in the US, call CHEMTREC: 800-424-9300
For emergencies in Europe, call: 0032(0) 14575299

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>%</th>
<th>EINECS#</th>
<th>Haz Symbols</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1180-95-6</td>
<td>Taurodeoxycholic acid, sodium salt hydrate</td>
<td>97%</td>
<td>214-652-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hazard Symbols: X1
Risk Phrases: R37

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Irritating to respiratory system.

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.

Inhalation:
- Causes respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic:
- Not available.

**** 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.

Ingestion:
- Get medical aid. Wash mouth out with 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:
**** 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. Substance is noncombustible.

Extinguishing Media:
- Use extinguishing media most appropriate for the surrounding fire.

**** 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.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
- Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes.

Storage:
- Store in a tightly closed container. Store in a dry area. Deep freeze (below -20°C).
**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
Use adequate ventilation to keep airborne concentrations low.

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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Crystalline powder
Color: White to almost white
Odor: Not available.
pH: Not available.
Vapor Pressure: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: 204 - 208 deg C
Autoignition Temperature: Not available.
Flash Point: Not available.
Explosion Limits, lower: Not available.
Explosion Limits, upper: Not available.
Decomposition Temperature: Not available.
Solubility in water: Soluble.
Specific Gravity/Density: C26H44NaO6S.xH2O
Molecular Weight: 521.3609

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable under normal temperatures and pressures.

Conditions to Avoid:
Incompatible materials, exposure to moist air or water.

Incompatibilities with Other Materials:
Strong oxidizing agents.

Hazardous Decomposition Products:
Carbon monoxide, oxides of nitrogen, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Will not occur.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 1180-95-6 unlisted.
LD50/LC50:
Not available.
Carcinogenicity:
Taurodeoxycholic acid, sodium salt hydrate - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. See actual entry in RTECS for complete information.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.

**** SECTION 14 - TRANSPORT INFORMATION ****

IATA
No information available.

IMO
No information available.

RID/ADR
No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: Xi
Risk Phrases:
R 37 Irritating to respiratory system.
Safety Phrases:
WGK (Water Danger/Protection)
CAS# 1180-95-6: No information available.
United Kingdom Occupational Exposure Limits
United Kingdom Maximum Exposure Limits
Canada
None of the chemicals in this product are listed on the DSL/NDSL list.

CAS# 1180-95-6 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits
US FEDERAL
TSCA
CAS# 1180-95-6 is not listed on the TSCA inventory.
It is for research and development use only.

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 12/23/1998 Revision #1 Date: 6/17/1999

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 way 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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