MATERIAL SAFETY DATA SHEET

LANOLIN ANHYDROUS

Paddock Laboratories, Inc.
3940 Quebec Avenue North
Minneapolis, Minnesota 55427
Phone: (763)-546-4676

Emergency Assistance:
Chemtrec (continental U.S.) 800-424-9300
(All Others) 202-483-7616
Paddock Technical Assistance 800-328-5113

Date Prepared: 10-10-90
By: Patrick L. Johnson

SECTION 1 - PRODUCT IDENTIFICATION AND HAZARDOUS COMPONENTS

PRODUCT NAME: Lanolin Anhydrous, USP
SYNONYMS: Anhydrous Lanolin, Wool Fat
MOLECULAR FORMULA: Mixture of fatty acid esters of cholesterol, lanosterol, and fatty alcohols.
CHEMICAL FAMILY: Wax, ester.

<table>
<thead>
<tr>
<th>INGREDIENT (CAS #)</th>
<th>%</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanolin anhydrous (8006-54-0)</td>
<td>100</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SECTION 2 - PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: >300°C (decomposes)
MELTING POINT: 36-42°C
SPECIFIC GRAVITY: 0.9 (at 65°C)
(WATER = 1)
WATER SOLUBILITY: Insoluble
APPEARANCE AND ODOR: Pale yellow to amber, soft wax with a mild, characteristic odor.

VAPOR PRESSURE: N/A
VAPOR DENSITY: N/A
EVAPORATION RATE: Nil (Butyl Acetate = 1)
WATER REACTIVE: No

SECTION 3 - FIRE AND EXPLOSION DATA

FLASH POINT (METHOD): 288°C (Open Cup)
AUTOIGNITION TEMPERATURE: N/A
MSDS - Lanolin Anhydrous

FLAMMABLE LIMITS: LOWER: N/A          UPPER: N/A

EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical, or foam.

SPECIAL FIRE FIGHTING PROCEDURES: Fire fighters should wear full protective gear including self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: As with any organic compound, this material may produce toxic carbon monoxide and/or carbon dioxide fumes if heated to decomposition as under fire conditions.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY: Stable (X) Unstable ()

INCOMPATIBILITY (MATERIALS TO AVOID): Concentrated nitric or sulfuric acid; strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: As with any organic compound, this material may produce toxic carbon monoxide and/or carbon dioxide fumes if heated to decomposition.

HAZARDOUS POLYMERIZATION: May Occur () Will Not Occur (X)

SECTION 5 - HEALTH HAZARD DATA

TOXICITY: No specific toxicity data is available for this product.

CARCINOGEN LISTED BY:

<table>
<thead>
<tr>
<th>Agency</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTP</td>
<td>Yes</td>
<td>No (X)</td>
</tr>
<tr>
<td>IARC</td>
<td>Yes</td>
<td>No (X)</td>
</tr>
<tr>
<td>OSHA</td>
<td>Yes</td>
<td>No (X)</td>
</tr>
<tr>
<td>Other</td>
<td>Yes</td>
<td>No (X)</td>
</tr>
</tbody>
</table>

ROUTES OF ENTRY: Inhalation, ingestion, absorption.

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

INHALATION: Due to the low vapor pressure, no harmful effects or exposure symptoms expected.

EYE CONTACT: May cause slight contact irritation.

SKIN CONTACT: May cause mild irritation after sustained contact in sensitive persons.

INGESTION: May cause mild irritation of the gastrointestinal tract and slight nausea.

CHRONIC EFFECTS OF OVEREXPOSURE: None known.
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Overexposure is unlikely to aggravate any existing medical conditions.

OTHER PRECAUTIONS TO CONSIDER: None known.

EMERGENCY FIRST AID PROCEDURES:

INHALATION: Due to the low vapor pressure, no harmful effects are anticipated.

EYE CONTACT: Flush with water for 15 minutes. If irritation persists or develops seek medical attention.

SKIN CONTACT: Wash with soap and water. If irritation persists or develops seek medical attention.

INGESTION: No harmful effects expected, however, it is recommended to give two glasses of water and induce vomiting then seek medical assistance.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

RESPIRATORY PROTECTION: None necessary.

PROTECTIVE GLOVES: Rubber.

EYE PROTECTION: Safety glasses. Avoid wearing contact lenses when working with this or any chemical due to the possibility of increased severity of eye damage.

VENTILATION: None necessary.

OTHER PROTECTIVE EQUIPMENT: Appropriate laboratory apparel.

HYGIENIC WORK PRACTICES: Wash thoroughly after handling and wash any contaminated clothing before reuse.

SECTION 7 - HANDLING AND STORAGE PRECAUTIONS

HANDLING PRECAUTIONS: Avoid contact with eyes, skin or clothing. Wash thoroughly after handling and wash any contaminated clothing before reuse.

STORAGE PRECAUTIONS: Store in a tight container in a cool, dry, well ventilated location away from incompatible materials.

OTHER PRECAUTIONS: Any use of this product in elevated-temperature processes should be thoroughly evaluated to determine safe operating conditions. A release of hot organic vapors or mists from equipment operating at elevated temperature and pressure may result in ignition without the presence of obvious ignition sources.
SECTION 8 - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE OF SPILL OR DISCHARGE: Wear all protective gear including goggles and gloves. Scoop up spillage and place in a tight container. Wash and ventilate spill site. Wash thoroughly after handling and wash all contaminated clothing and protective gear before reuse.

WASTE DISPOSAL METHOD: Dispose of in accordance with all applicable local, state, federal, and environmental regulations.

SECTION 9 - DISCLAIMER

The information contained in this Material Safety Data Sheet has been compiled from reliable sources and is believed to be correct as of the date issued. It is the responsibility of the user to determine the appropriateness and applicability to their situation. Paddock Laboratories, Inc. disclaims any expressed or implied warranty as to the accuracy of the above information and shall not be held liable for any direct, incidental, or consequential damages from use or reliance on the above information.

DEFINITIONS OF ABBREVIATIONS USED:

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
IARC: International Agency for Research on Cancer
IDLH: Immediately Dangerous to Life or Health level
LC₅₀: Median Lethal Concentration
LD₅₀: Median Lethal Dose
MSHA: Mine Safety and Health Administration
N/A: Not available
NIOSH: National Institute for Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
TWA: Time Weighted Average