TEA Lauryl Sulfate

MSDS (Material Safety Data Sheet)

November 14, 2012

CHEMICAL DESCRIPTION: TEA Lauryl Sulfate
SYNONYMS: N.A.

SECTION - 2 - HAZARDOUS INGREDIENT

<table>
<thead>
<tr>
<th>CHEMICAL</th>
<th>CAS NUMBER</th>
<th>% PRESENT</th>
<th>TLV or PEL (current ACGIH limit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION - 3 - PHYSICAL DATA

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling point</td>
<td>212°F</td>
</tr>
<tr>
<td>Specific gravity (H₂O = 1)</td>
<td>1.04</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Completely Soluble</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Vapour pressure at 20°C</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Appearance &amp; Odor</td>
<td>Water-white liquid</td>
</tr>
</tbody>
</table>

SECTION - 4 - FIRE AND EXPLOSION HAZARD

FLASH POINT [Test Method(s)]: > 212°F
FLAMMABLE LIMITS IN AIR, % BY VOLUME: Not Established
EXTINGUISHING MEDIA: Water Fog, Dry Powder or Carbon Dioxide
UNUSUAL FIRE AND EXPLOSION HAZARDS: None currently known
SPECIAL FIRE FIGHTING PROCEDURES: Remove unprotected personnel from hazard area. Wear protective clothing. Emergency personnel should be equipped with a NIOSH approved SCBA with full face piece. Cool exposed containers with water.

SECTION - 5 - HEALTH AND FIRST AID DATA

ACUTE EFFECTS OF OVEREXPOSURE:
SWALLOWING: Ingestion may cause irritation to the membranes of the mouth, throat and gastrointestinal tract. Nausea, vomiting, cramps and diarrhea may occur.
SKIN ABSORPTION: None currently known.
INHALATION: No health effects are known to occur from inhalation of this product. Inhalation of mists or sprays may result in non-specific irritation of the upper respiratory tract.
SKIN CONTACT: Contact with skin may cause mild to moderate local irritation.
EYE CONTACT: Moderate irritation may result.
CHRONIC EFFECTS OF OVEREXPOSURE: No chronic effects, either systemic or local are known.
OTHER HEALTH HAZARDS: None currently known.
EMERGENCY AND FIRST AID PROCEDURES:
SWALLOWING: Seek medical attention.
SKIN: Remove contaminated clothing and flush skin with water. Wash with soap and water until material has been removed. Obtain medical attention if irritation persists.
INHALATION: Remove to fresh air. If symptoms of respiratory discomfort persists, obtain medical attention.
EYES: Immediately flush eyes with large quantities of water for 15 minutes. Hold eyelids apart to ensure complete flushing. Do not attempt to neutralize with chemical agents. Obtain medical attention.
TLV or PEL and SOURCE: None currently established.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

<table>
<thead>
<tr>
<th>HAZARD INDEX</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 MINIMAL HAZARD</td>
<td></td>
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<tr>
<td>1 SLIGHT HAZARD</td>
<td></td>
</tr>
<tr>
<td>2 MODERATE HAZARD</td>
<td></td>
</tr>
<tr>
<td>3 SERIOUS HAZARD</td>
<td></td>
</tr>
<tr>
<td>4 SEVERE HAZARD</td>
<td></td>
</tr>
</tbody>
</table>

TEA Lauryl Sulfate
### SECTION - 6 - REACTIVITY DATA

**STABILITY:** Stable.
**CONDITIONS TO AVOID:** Bay unstable: None currently known.
**INCOMPATIBILITY WITH OTHER MATERIALS:** None currently known.
**HAZARDOUS DECOMPOSITION PRODUCTS:** May produce hazardous fumes or hazardous decomposition products.
**HAZARDOUS POLYMERIZATION:** Will not occur.
**CONDITION TO AVOID:** None currently known.

### SECTION - 7 - SPILL AND DISPOSAL PROCEDURES

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**
- Eliminate all ignition sources. Wear suitable protective equipment.
- **Small Spills:** Absorb liquid with absorbent material. **Large Spills:** Stop spill at source. Dike area of the spill to prevent spreading. Pump liquids into waste containers. Remaining liquids can be absorbed.

**WASTE DISPOSAL METHOD:** Incinerate or landfill where permitted under appropriate federal, state and local regulations. Questions concerning disposal should be directed to JEEN International.

### SECTION - 8 - SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION:** Self-contained breathing apparatus in high concentrations. Normally not required.
**VENTILATION:** General (mechanical) room ventilation is expected to be satisfactory.
**PROTECTIVE GLOVES:** Butyl or neoprene rubber
**EYE PROTECTION:** Monogoggles
**OTHER PROTECTIVE EQUIPMENT:** Synthetic apron, eye wash station.

### SECTION - 9 - SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** Do not get in eyes, on skin or on clothing. Wash thoroughly after handling. Soil clothing should be removed and laundered before reuse. Store below 120°F.

### MATERIAL SAFETY DATA SHEET TERMINOLOGY

**SECTION - 1 - PRODUCT DESCRIPTION**
- **PRODUCT NAME:** The name under which the product is sold.
- **CHEMICAL DESCRIPTION:** Chemical descriptive name.
- **SYNONYMS:** Common names for the product.

**SECTION - 2 - HAZARDOUS INGREDIENTS**

**SECTION - 3 - PHYSICAL DATA**
- **BOILING POINT:** Temperature at which a liquid changes to a vapor at 760mm Hg or some specific pressure.
- **SPECIFIC GRAVITY:** Ratio of the weight of a volume of the product to the weight of an equal volume of water (liquids/solids) or air (gases).
- **SOLUBILITY IN WATER:** Solubility of the product by weight in water at ambient or specified temperature.
- **FREEZING POINT:** Temperature at which a liquid changes to a solid at 760mm Hg or some specific pressure.
- **EVAPORATION RATE, Butyl Acetate = 1:** Ratio of the rate of vaporization of the product to butyl acetate.
- **VAPOR PRESSURE@20°C:** Pressure exerted by a saturated vapor above its liquid.
- **% VOLATILES BY VOLUME:** The percent by volume of the product (liquid or solid) that will evaporate at ambient temperature.
- **VAPOR DENSITY:** Ratio of the weight of a volume of the product’s vapor to the weight of an equal volume of air.
- **Description of the material at normal temperature and pressure that may be useful in identifying the presence of the product**

**SECTION - 4 - FIRE AND EXPLOSION HAZARD**
- **FLASH POINT (TEST METHODS):** Lowest temperature at which the chemical will give off enough vapor to ignite. (Flash point apparatus utilized).
- **FLAMMABLE LIMITS IN AIR, % by Volume:** Range of vapor concentration (% by volume in air) which will burn or explode in the presence of a spark or flame. **LEL** is the lower explosive limit, and **UEL** is the upper explosive limit.
- **EXTINGUISHING MEDIA:** The firefighting agents which should be used.
- **UNUSUAL FIRE AND EXPLOSION HAZARDS:** Hazards not covered by other sections of the MSDS pertaining to chemical reactions in the presence of heat and/or fire.
- **SPECIAL FIRE FIGHTING PROCEDURES:** General firefighting procedures of chemical fires is not given, but special procedures are given.
SECTION 5: HEALTH AND FIRST AID DATA

ACUTE EFFECTS OF OVEREXPOSURE:
Gives the effects of overexposure to the chemical by swallowing, skin absorption, inhalation, skin contact, and eye contact. Common symptoms which may occur from exposure.

CHRONIC EFFECTS OF OVEREXPOSURE:
Refers to effects most likely to occur after repeated or prolonged overexposure to the chemical.

OTHER HEALTH HAZARDS:
May include medical conditions which have been known to be aggravated by exposure to the chemical.

EMERGENCY AND FIRST AID PROCEDURES:
Gives emergency and first aid procedures for treating overexposure by swallowing, skin contact, inhalation and eye contact.

TLV OR PEL AND SOURCE:
The airborne concentration at which most workers can be exposed without any expected adverse effects. ACGIH (TLV) THRESHOLD LIMIT VALUE or OSHA (PEL) PERMISSIBLE EXPOSURE LIMIT.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM:
Hazardous communication system used by JEEN to assist user in identifying the hazards which may be associated with the use or handling of the product. Product label on the drum contains JEEN ratings for HEALTH, FLAMMABILITY, REACTIVITY, and PERSONAL PROTECTION EQUIPMENT. The following charts are the hazard indices for assigning these ratings.

HEALTH HAZARD RATING
0 MINIMAL HAZARD: No significant risk to health.
1 SLIGHT HAZARD: Irritation or minor reversible injury may occur.
2 MODERATE HAZARD: Temporary or minor injury may occur.
3 SERIOUS HAZARD: Minor injury likely unless prompt action is taken and medical treatment is given.
4 SEVERE HAZARD: Life-threatening major or permanent damage may result from single or repeated exposures.

FLAMMABILITY HAZARD RATING
0 MINIMAL HAZARD: Materials which are normally stable and will not burn unless heated.
1 SLIGHT HAZARD: Materials which must be preheated before ignition will occur. Flammable liquids in this category will have flash points at or above 200°F (NFPA Class IIIB).
2 MODERATE HAZARD: Materials which must be preheated before ignition will occur, including flammable liquids with flash points at or above 100°F and below 200°F (NFPA Class II and IIIA).
3 SERIOUS HAZARD: Materials capable of ignition under almost all normal temperature conditions, including flammable liquids with flash points below 73°F and boiling points at or above 100°F, as well as liquids with flash points at or above 73°F and below 100°F (NFPA Class IA).
4 SEVERE HAZARD: Very flammable gases or very volatile flammable liquids with flash points below 73°F and boiling points below 100°F (NFPA Class IA).

*Rating system developed by and based on National Paint and Coatings Association’s “Hazardous Materials Identification System.”

REACTIVITY HAZARD RATING
0 MINIMAL HAZARD: Materials which are normally stable, even under fire conditions, and which will not react with water.
1 SLIGHT HAZARD: Materials which are normally stable, but may become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently.
2 MODERATE HAZARD: Materials which in themselves are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water.
3 SERIOUS HAZARD: Materials which are capable of detonation or explosive reaction, but require a strong initiating source; or must be heated under confinement before initiation, materials which react explosively with water.
4 SEVERE HAZARD: These materials are readily capable of detonation or explosive decomposition at normal temperatures and pressures.
PERSONAL PROTECTION INDEX

A  Safety Goggles
B  Safety Goggles/Gloves
C  Safety Goggles/ Gloves/ Synthetic Apron
D  Face Shield / Gloves / Synthetic Apron
E  Safety Goggles/ Gloves / Dust Respirator
F  Safety Goggles / Gloves / Dust Respirator/ Synthetic Apron
G  Safety Goggles / Gloves / Vapor Respirator
H  Goggles/ Gloves / Synthetic Apron / Vapor Respirator
I  Safety Goggles/ Gloves/ Combination Dust and Vapor Respirator
J  Goggles/ Gloves/ Synthetic Apron / Combination Dust and Vapor Respirator.
K  Air Line Mask / Gloves / Full Protective Suit/ Rubber Boots
X  Ask your Supervisor for specialized handling procedures

SECTION - 6 - REACTIVITY DATA

STABILITY:
Indicates the susceptibility to dangerous decomposition of the chemical.

CONDITIONS TO AVOID IF UNSTABLE:
Gives conditions that may cause instability.

INCOMPATIBILITY WITH OTHER MATERIALS:
Gives the materials that may cause unstable conditions if contacted.

HAZARDOUS DECOMPOSITION PRODUCTS:
Describes the hazardous materials produced from a chemical reaction.

HAZARDOUS POLYMERIZATION:
Indicates the tendency of the chemical’s molecules to combine in a violent reaction.

CONDITIONS TO AVOID
Gives the conditions to avoid that may cause hazardous polymerization.

SECTION - 7 - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Indicates special precautions for cleanup of spills and leaks and preparation for disposal.

WASTE DISPOSAL METHODS:
Tells the EPA classification of the chemical as well as the proper disposal method.

SECTION - 8 - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
Specification of the type of respirator recommended for use during routine or emergency situations.

VENTILATION:
Specification of the type (local/general) of ventilation required to capture contaminants or prevent the buildup of hazardous atmospheres.

PROTECTIVE GLOVES:
Specification of the gloves required, based on type and degree of hazard from skin contact.

EYE PROTECTION:

OTHER PROTECTIVE EQUIPMENT:

SECTION - 9 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
States or reemphasizes any special precautions in handling and storage.

Disclaimer: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is to be the best of the company’s knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user’s responsibility to satisfy himself as to the suitableness & completeness of such information for his own particular use.