1. IDENTIFICATION

Product Identifier
Product Name: Nylon 680

Other means of identification
SDS #: TAU-011

Synonyms: Polyamide copolymer, Nylon 6/69, 21CFR177.1500 / CFR177.1395

Recommended use of the chemical and restrictions on use
Recommended Use: Mono Filament for FFF 3D Printing.

Details of the supplier of the safety data sheet
Supplier Address: Taulman3D, LLC
N. Saint Peters Parkway Peters, MO 63376 ; 314-609-3549 mail: taulman@taulman3d.com://taulman3d.com

Emergency Telephone Number
Emergency Telephone (24 hr): INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Emergency Overview: Taulman3D Nylons are thermoplastic resins. In the solid state, they are not hazardous. During processing when converted to the molten state, normal precautions for the handling of hot, sticky, fluid melts should be observed.

Appearance: Transparent amber
Physical state: Solid
Odor: No noticeable odor

Classification

The classification and labeling information in this Safety Data Sheet should be viewed as provisional, as the product's ingredients and percentages are kept as a trade secret / proprietary. This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.
3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms
Polyamide copolymer, Nylon 6/69.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Cyclic Amide</td>
<td>CAS Reg. No. 51995-62-1</td>
<td>0 - 10%</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.**

4. FIRST-AID MEASURES

First Aid Measures

General Advice
Provide this SDS to medical personnel for treatment.

Eye Contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
The following applies for mechanical or thermal contact when in the molten state:.
Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Inhalation
Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.

Ingestion
Not a likely route of exposure.

Most important symptoms and effects

Symptoms
Dermatitis may occur. May cause irritation to the mucous membranes and upper respiratory tract.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Water spray (fog). Foam. Carbon dioxide (CO2). Dry chemical.

Unsuitable Extinguishing Media
Not determined.

Specific Hazards Arising from the Chemical
Product is not flammable or combustible.

Hazardous Combustion Products

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions
Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment
Prevent further leakage or spillage if safe to do so. If in molten state, soak up with an inert, absorbent material.

Methods for Clean-Up
Sweep up and shovel into suitable containers for disposal. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling
Taulman3D Nylons are thermoplastic resins. In the solid state, they are not hazardous. During processing when converted to the molten state, normal precautions for the handling of hot, sticky, fluid melts should be observed. Avoid breathing dusts.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Cyclic Amide</td>
<td>TWA: 5 mg/m³ inhalable fraction and vapor</td>
<td>(vacated) TWA: 1 mg/m³ dust (vacated) TWA: 5 ppm vapor (vacated) TWA: 20 mg/m³ vapor (vacated) STEL: 3 mg/m³ dust (vacated) STEL: 10 ppm vapor (vacated) STEL: 40 mg/m³ vapor</td>
<td>TWA: 1 mg/m³ dust TWA: 0.22 ppm vapor TWA: 1 mg/m³ vapor STEL: 3 mg/m³ dust STEL: 0.66 ppm vapor STEL: 3 mg/m³ vapor</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Controls
Apply technical measures to comply with the occupational exposure limits. Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Safety glasses for good work practices when dealing with molten material. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection
Protective gloves required if in contact with molten material or newly molded polymer parts. Protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection
None required under normal use. Refer to 29 CFR 1910.134 for respiratory protection requirements.
9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Transparent amber</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Amber transparent</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>No noticeable odor</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>207 °C / 404 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Boiling Range</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limits</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Relative Density</td>
<td>1.12</td>
<td>(Air=1)</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>&gt;321 °C/&gt;609°F</td>
<td></td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>

Other Information

VOC Content (%) Nil

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to Avoid
Temperatures over 609°F may result in thermal decomposition.

Incompatible Materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact May cause temporary irritation on eye contact.

Skin Contact Dust may cause dermatitis.

Inhalation Do not inhale. May cause slight discomfort to respiratory tract.

Ingestion Not an expected route of exposure.

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ATEmix (oral)</th>
<th>ATEmix (dermal)</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Cyclic Amide</td>
<td>= 1210 mg/kg (Rat)</td>
<td>= 1410 µL/kg (Rabbit) = 1438 mg/kg (Rabbit)</td>
<td>= 8.16 mg/L (Rat) 4 h</td>
</tr>
</tbody>
</table>

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

12. ECOLOGICAL INFORMATION

Ecotoxicity An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Cyclic Amide</td>
<td>130: 72 h Desmodesmus subspicatus mg/L EC50 160: 96 h Desmodesmus subspicatus mg/L EC50 4320 - 4800: 72 h Pseudokirchneriella subcapitata mg/L EC50</td>
<td>1400: 96 h Pimephales promelas mg/L LC50 static 930: 96 h Lepomis macrochirus mg/L LC50 static</td>
<td>500: 48 h Daphnia magna Straus mg/L EC50 828 - 2920: 48 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

Persistence/Degradability Not determined.

Bioaccumulation Not determined.

Mobility

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Cyclic Amide</td>
<td>-0.02</td>
</tr>
</tbody>
</table>

Other Adverse Effects Not determined
13. DISPOSAL CONSIDERATIONS

**Waste Treatment Methods**

**Disposal of Wastes**
Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging**
Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

**Note**
Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**
Not regulated

**IATA**
Not regulated

**IMDG**
Not regulated

15. REGULATORY INFORMATION

**International Inventories**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL/NDSL</th>
<th>EINECS/E</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Cyclic Amide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Present</td>
<td>X</td>
<td>Present</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Legend:**
- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations**

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Cyclic Amide</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFPA Health Hazards</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>Instability</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>Special Hazards</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>HMIS Health Hazards</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>Physical hazards</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>Personal Protection</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Issue Date: 24-Mar-2016
Revision Date: 30-Mar-2016
Revision Note: New format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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 process, unless specified in the text.

End of Safety Data Sheet