

Safety Data Sheet

Issue Date: 23-Mar-2016

Revision Date: 30-Mar-2016

Version 1

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.

Chemical Name	CAS No	Weight-%
Proprietary Cyclic Amide	CAS Reg. No. 51995-62-1	0 - 10%

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.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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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 Carbon monoxide. Hydrocarbons. Ammonia. Hydrogen cyanide.

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Proprietary Cyclic Amide	TWA: 5 mg/m ³ inhalable fraction and vapor	(vacated) TWA: 1 mg/m ³ dust (vacated) TWA: 5 ppm vapor (vacated) TWA: 20 mg/m ³ vapor (vacated) STEL: 3 mg/m ³ dust (vacated) STEL: 10 ppm vapor (vacated) STEL: 40 mg/m ³ vapor	TWA: 1 mg/m ³ dust TWA: 0.22 ppm vapor TWA: 1 mg/m ³ vapor STEL: 3 mg/m ³ dust STEL: 0.66 ppm vapor STEL: 3 mg/m ³ vapor

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.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Odor	No noticeable odor
Appearance	Transparent amber	Odor Threshold	Not determined
Color	Amber transparent		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not determined	
Melting Point/Freezing Point	207 °C / 404 °F	
Boiling Point/Boiling Range	N.A.	
Flash Point	N.A.	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Flammability Limits in Air		
Upper Flammability Limits	N.A.	
Lower Flammability Limit	N.A.	
Vapor Pressure	Not determined	
Vapor Density	N.A.	(Air=1)
Relative Density	1.12	
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	>321 °C/>609°F	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

Other Information

VOC Content (%)	Nil
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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.
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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

Chemical Name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Proprietary Cyclic Amide	= 1210 mg/kg (Rat)	= 1410 µL/kg (Rabbit) = 1438 mg/kg (Rabbit)	= 8.16 mg/L (Rat) 4 h

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

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

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Proprietary Cyclic Amide	-0.02

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

<u>Note</u>	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
<u>DOT</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Proprietary Cyclic Amide	X	X	X	Present	X	Present	X	X

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Proprietary Cyclic Amide	X	X	X

16. OTHER INFORMATION**NFPA****Health Hazards****Flammability****Instability****Special Hazards**

Not determined

Not determined

Not determined

Not determined

HMIS**Health Hazards****Flammability****Physical hazards****Personal Protection**

Not determined

Not determined

Not determined

Not determined

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