Material Safety Data Sheet

NYLATECH
MEETING TODAY'S CAST NYLON NEEDS

Section 1 - Identification

Product Identifier: NYLATECH Type 6 Cast Nylon and Type 12 Cast Nylon

Chemical Family: nylon
Recommended Use: industrial Restrictions on Use: None known.

Manufacturer Information:
Nylatech Inc.
223 West Main St.
Everson, WA 98247
Phone: +1((360) 966-2838

Section 2 - Hazard(s) Identification

Classification in accordance with 29 CFR 1910.1200.

No classifocation is assigned, based on classification criteria. Review the entire data sheet for any additional information which did not result in a GHS classification.

GHS LABEL ELEMENTS

Symbol(s)
None needed according to classification criteria.

Signal Word
None needed according to classification criteria.

Hazard Statement(s)
None needed according to classification criteria.

Precautionary Statement(s)
None needed according to classification criteria.

Prevention
None needed according to classification criteria.

Response
None needed according to classification criteria.

Storage
None needed according to classification criteria.

Disposal
Dispose in accordance with all applicable regulations.

Hazard(s) Not Otherwise Classified
None known.

Section 3 - Composition /Information on Ingredients

CAS	Component	Percent
68-12-2	Dimethylformamide	<5
872-50-4	1-Methyl-2-pyrrolidone	<5
Trade Secret	Caprolactam Monomer	<5
Trade Secret	Amine Filler/Pigment	<1
Trade Secret	Carbon Black	<1
Trade Secret	Acid	<0.1
Trade Secret	Ether	<0.01

Component Related Regulatory Information
This product may be regulated, have exposure limits or other information identified as the following: Volatile organic compounds, Volatile organic compounds

Additional Information
This SDS covers a range of products. Listed components are not present in all products. All components of this product are considered to be fully-bound within the product matrix and, therefore, not readily available under normal conditions.

Section 4 - First-Aid Measures

DESCRIPTION OF NECESSARY MEASURES

Inhalation
If adverse effects occur, remove to uncontaminated area.
Get medical attention.

Skin Contact
Mechanical irritation may occur. Wash with plenty of soap and water.

Eye Contact
Mechanical irritation may occur. IMMEDIATELY wash eyes with running water to removesolid and semisolid material. Get medical attention.

Ingestion
None during normal use. If swallowed, get medical attention.

Most Important Symptoms/Effects
Acute - No information on significant adverse effects.
Delayed - No information available for the product.

Indication of Immediate Medical Attention and Special Treatment Needed, If Needed
Not applicable.

Section 5 - Fire-Fighting Measures

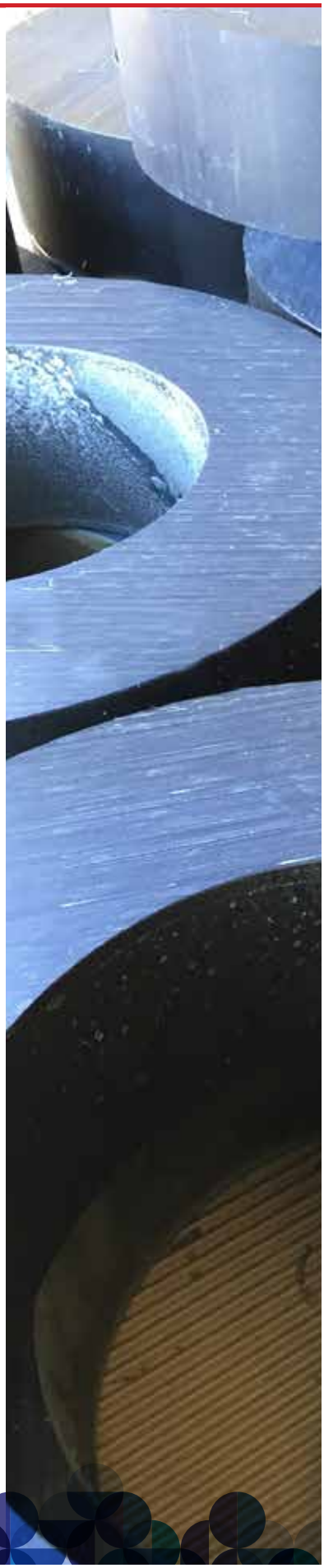
Suitable Extinguishing Media
Use carbon dioxide, regular dry chemical, regular foam or water.

Unsuitable Extinguishing Media
None known.

Special Hazards Arising from the Chemical
Hazardous Combustion Products
Combustion: carbon compounds, nitrogen compounds, hydrogen cyanide.

Fire Fighting Measures
Avoid inhalation of material or combustion by-products. Move material from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Stay upwind. In the molten form: Cool affected area as quickly as possible by drenching or immersing in water until material solidifies.

Special Protective Equipment and Precautions for Firefighters
Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.



Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures
Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up
Eliminate all ignition sources if safe to do so. Keep unnecessary people away, isolate hazard area and deny entry. Keep out of water supplies and sewers. In the molten form: Cool affected area as quickly as possible by drenching or immersing in water until material solidifies

Section 7 - Handling and Storage

Precautions for Safe Handling
Wash thoroughly after handling.

Conditions for Safe Storage, including any incompatibilities
Store in a dry place. Store and handle in accordance with all current regulations and standards. Keep away from incompatible materials. Incompatible materials include strong acids and strong oxidizing materials.

Incompatibilities
Strong acids, strong oxidizing materials.

Section 8 - Exposure Controls / Personal Protection

Component Exposure Limits

Caprolactam Monomer (Trade Secret)

ACGIH: 5 mg/m3 TWA (inhalable fraction and vapor)

NIOSH: 1 mg/m3 TWA (dust); 0.22 ppm TWA (vapor); 1 mg/m3 TWA (vapor)
3 mg/m3 STEL (dust); 0.66 ppm STEL (vapor); 3 mg/m3 STEL (vapor)

Mexico: 1 mg/m3 TWA LMPE-PPT (dust); 5 ppm TWA LMPE-PPT (vapor); 20 mg/m3 TWA LMPE-PPT (vapor)
3 mg/m3 STEL [LMPE-CT] (dust); 10 ppm STEL [LMPE-CT] (vapor); 40 mg/m3 STEL [LMPE-CT] (vapor)
Dimethylformamide (68-12-2)

ACGIH: 10 ppm TWA
Skin - potential significant contribution to overall exposure by the cutaneous route

OSHA: 10 ppm TWA; 30 mg/m3 TWA
prevent or reduce skin absorption

NIOSH: 10 ppm TWA; 30 mg/m3 TWA Potential for dermal absorption

Mexico: 10 ppm TWA LMPE-PPT; 30 mg/m3 TWA LMPE-PPT
20 ppm STEL [LMPE-CT]; 60 mg/m3 STEL [LMPE-CT]
Skin - potential for cutaneous absorption

Carbon black (Trade Secret)

ACGIH: 3 mg/m3 TWA (inhalable fraction)

OSHA: 3.5 mg/m3 TWA

NIOSH: 3.5 mg/m3 TWA; 0.1 mg/m3 TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)

Mexico: 3.5 mg/m3 TWA LMPE-PPT
7 mg/m3 STEL [LMPE-CT]

Amine Filler/Pigment (Trade Secret)

ACGIH: 10 mg/m3 TWA NIOSH: 10 mg/m3 TWA

Mexico: 10 mg/m3 TWA LMPE-PPT

Acid (Trade Secret)

ACGIH: 1 mg/m3 TWA
3 mg/m3 STEL

OSHA: 1 mg/m3 TWA

NIOSH: 1 mg/m3 TWA
3 mg/m3 STEL

Mexico: 1 mg/m3 TWA LMPE-PPT
3 mg/m3 STEL [LMPE-CT]

Ether (Trade Secret)

ACGIH: 20 ppm TWA
Skin- potential significant contribution to overall exposure by the cutaneous route

OSHA: 100 ppm TWA; 360 mg/m3 TWA
prevent or reduce skin absorption

NIOSH: 1 ppm Ceiling (30 min); 3.6 mg/m3 Ceiling (30 min)

Mexico: 25 ppm TWA LMPE-PPT; 90 mg/m3 TWA LMPE-PPT
100 ppm STEL [LMPE-CT]; 360 mg/m3 STEL [LMPE-CT]
Skin - potential for cutaneous absorption

Appropriate Engineering Controls
If operations involve crushing or other processes that generate dust, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eyes/Face Protection
Wear safety goggles if eye contact is possible.

Skin Protection
No special clothing required

Glove Recommendations
Wear suitable gloves

Respiratory Protection
Grinding or machining may create dust, see applicable exposure limits.
If respirable dusts are generated, respiratory protection may be needed.

Section 9 - Physical and Chemical Properties

Physical State:	Solid	**Appearance:**	article
Color:	various colors	**Physical Form:**	Solid
Odor:	None	**Odor Threshold:**	Not available
Melting Point:	210-238°C	**Boiling Point:**	Not available
Evaporation Rate:	negligible	**Vapor Pressure:**	negligible
Vapor Density (air = 1):	Not applicable	**Density:**	0.0415 lb/in3
Specific Gravity (water = 1):	1.15 (water=1)	**Water Solubility:**	negligible
Coeef. Water/Oil Dist:	Not available	**Auto Ignition:**	398°C

Other Property Information
No additional information is available.

Section 10 - Stability and Reactivity

Reactivity
No reactivity hazard is expected.

Chemical Stability
Stable at standard temperatures and pressure

Possibility of Hazardous Reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Avoid contact with temperatures above 210°C.

Incompatible Materials
Strong acids, strong oxidizing materials

Hazardous Decomposition
Combustion: carbon compounds, nitrogen compounds, hydrogen cyanide.

Section 11 - Toxicological Information

Acute Toxicity
No information available for the product.

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:

Caprolactam Monomer (Trade Secret)
Inhalation LC50 Rat 8.16 mg/L 4 h; Oral LD50 Rat 1155 mg/kg; Dermal LD50 Rabbit 1410 µL/kg

1-Methyl-2-pyrrolidone (872-50-4)
Inhalation LC50 Rat 3.1 mg/L 4 h; Oral LD50 Rat 3598 mg/kg; Dermal LD50 Rabbit 8 g/kg

Amine Filler/Pigment (Trade Secret)
Oral LD50 Rat 1165 mg/kg: Dermal LD50 Rabbit > 2000 mg/kg

Acid (Trade Secret)
Oral LD50 Rat 1530 mg/kg; Dermal LD50 Rabbit 2730mg/kg; Inhalation LC50 Rat >850 mg/m3 1 h

Ether (Trade Secret)
Dermal LD50 Rabbit 7600 µL/kg; Inhalation LC50 Rat 46 g/m3 2 h

Phenol Filler/Pigment (118-82-1)
Oral LD50 Rat >5000 mg/kg

INFORMATION ON LIKELY ROUTES OF EXPOSURE

Inhalation
This product cannot be inhaled unless it is subjected to an activity such as sawing, drilling, grinding, welding, buffing, etc. that generates dust or fumes.

Ingestion
Ingestion is not a likely route of exposure

Skin Contact
Exposure to dust generated during grinding or machining may cause respiratory tract infection, skin irritation, and eye irritation.

Eye Contact
Grinding or machining may create dust, see applicable exposure limits
Immediate Effects
Delayed Effects
No information on significant adverse effects.
Medical Conditions Aggravated by Exposure
No data available.

Irritation/Corrosivity Data
No information available for the product.

Respiratory Sensitization
No information available for the product.

Dermal Sensitization
No information available for the product.

Germ Cell Mutagenicity
No information available for the product.

Carcinogencity
Component Carcinogenicity
Caprolactam Monomer (Trade Secret)

ACGIH: A5 - Not Suspected as a Human Carcinogen

IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 39 [1986]; Monograph 19 [1979] (Group 4 (probably not carcinogenic))
Dimethylformamide (68-12-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))
Carbon black (Trade Secret)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Monograph 93 [2010]; Monograph 65 [1996] (Group 2B (possibly carcinogenic to humans))

DFG: Category 3B (could be carcinogenic for man, inhalable fraction)

OSHA: Present
Amine Filler/Pigment (Trade Secret)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

DFG: Category 3B (could be carcinogenic for man)
Ether (Trade Secret)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 11 [1976]; (Group 2B (possibly carcinogenic to humans))

NTP: Reasonably Anticipated To Be A Human Carcinogen

DFG: Category 4 (no significant contribution to a human cancer)

OSHA: Present
Reproductive Toxicity
N-methyl-2-pyrrolidinone has demonstrated animal effects of reproductive toxicity. All components of this product are considered to be fully-bound within the product matrix and, therefore, not readily available under normal conditions.

Specific Target Organ Toxicity - Single Exposure
No information available for the product.

Specific Target Organ Toxicity - Repeated Exposure
No information available for the product.

Aspiration Hazard
No information available for the product.

Section 12 - Ecological Information

Ecotoxicity
No information available for the product.

Component Analysis - Aquatic Toxicity

Caprolactam Monomer (Trade Secret)

Fish: 96 Hr LC50 Lepomis macrochirus: 930 mg/L [static]; 96 Hr LC50 Pimephales promelas; 1400 mg/L [static]

Algae: 72Hr EC50 Desmodesmus subspicatus: 130 mg/L; 96 Hr EC50 Desmodesmus subspicatus; 160mg/L;
72 Hr EC50 Pseudokirchneriella subcapitata: 4320 - 4800 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna Straus: >500 mg/L; 48 Hr EC50 Dapnia magna: 828 - 2920 mg/L
Dimethylformamide (68-12-2)

Fish: 96 Hr LC50 Lepomis macrochirus: 6300 mg/L; 96 Hr LC50 Oncorhynchus mykiss; 9800 mg/L [flow-through];
96 Hr LC50 Pimephales promelas; 10410 mg/L [flow-through]

Algae: 96 Hr EC50 Desmodesmus subspicatus: 500 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 7500 mg/L; 48 Hr EC50 Dapnia magna: 8485 mg/L [semi-static];
48 Hr EC50 Daphnia magna: 6800 -13900 mg/L [Static]
1-Methyl-2-pyrrolidone (872-50-4)

Fish: 96 Hr LC50 Lepomis macrochirus: 832 mg/L [static]; 96 Hr LC50 Leuciscus

idus: 4000 mg/L [static];
96 Hr LC50 Pimephales promelas: 1072 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 1400 mg/L [static]

Algae: 72Hr EC50 Desmodesmus subspicatus: >500 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 4897 mg/L
Carbon black (Trade Secret)

Invertebrate: 24 Hr EC50 Daphnia magna:>5600 mg/L
Amine Filler/Pigment (Trade Secret)

Fish: 96 Hr LC50 Pimephales promelas: 3.47 - 4.14 mg/L [flow-through]

Algae: 72Hr EC50 Scenedesmus subspicatus: 1.5 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 1.69 - 2.46 mg/L
Acid (Trade Secret)

Fish: 96 Hr LC50 Gambusia affinis: 3 - 3.5 mg/L

Invertebrate: 12 Hr EC50 Daphnia magna: 4.6 mg/L
Ether (Trade Secret)

Fish: 96 Hr LC50 Lepomis macrochirus: >10000 mg/L [static]; 96 Hr LC50 Lepomis macrochinus: >10000 mg/L [semi-static]; 96 Hr LC50 Pimephales promelas; 9850 mg/L [flow-through]; 96 Hr LC50

Pimephales: 10306 - 14742 mg/L [static]; 96 Hr LC50

Pimephales promelas: 9850 mg/L

Invertebrate: 48 Hr EC50 water flea: 163 mg/L [static]
Phenol Filler/Pigment (118-82-1)

Invertebrate: 96 Hr EC50 Mysidopsis bahia: >1000 mg/L

Persistence and Degradability
No information available for the product.

Bioaccumulation
No information available for the product.

Mobility
No information available for the product.

Other Toxicity
No additional information is available.

Section 13 - Disposal Considerations

Disposal Methods
Dispose in accordance with all applicable regulations.

Disposal of Contaminated Packaging
Not applicable

Section 14 - Transport Information

US DOT Information
Not regulated.

TDG Information
Not regulated

Section 15 - Regulatory Information

U.S. Federal Regulations
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Dimethylformamide (68-12-2)

SARA 313: 1.0% de minimis concentration

CERCLA: 100 lb. final RQ; 45.4 kg final RQ
1-Methyl-2-pyrrolidone (872-50-4)

SARA 313: 1.0% de minimis concentration
Amine Filler/Pigment (Trade Secret)

SARA 313: 1.0% de minimis concentration

TSCA 12b: Section 4, 1% de minimisus concentration
Acid (Trade Secret)

CERCLA: 5000 lb. final RQ; 2270 kg final RQ
Ether (Trade Secret)

SARA 313: 1.0% de minimis concentration
CERCLA: 100 lb. final RQ; 45.4 kg final RQ

Phenol Filler/Pigment (118-82-1)
TSCA 12b: Section 4, 1% de minimisus concentration

U.S. State Regulations
The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Caprolactam Monomer	Trade Secret	Yes	Yes	Yes	Yes	Yes
Dimethylformamide	68-12-2	Yes	Yes	Yes	Yes	Yes
1-Methyl-2-pyrrolidone	872-50-4	No	Yes	No	Yes	Yes
Carbon Black	Trade Secret	Yes	Yes	Yes	Yes	Yes
Amine Filler/Pigment	Trade Secret	Yes	Yes	Yes	Yes	Yes
Acid	Trade Secret	Yes	Yes	Yes	Yes	Yes
Ether	Trade Secret	Yes	Yes	Yes	Yes	Yes
Phenol Filler/Pigment (1 related to: Phenols)	118-82-1	Yes1	No	No	No	No

The following statement(s) are provided under California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

WARNING! This product contains a chemical known to the state of California to cause reproductive/ developmental effects.

Component Analysis- Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Caprolactam Monomer	Trade Secret	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Dimethylformamide	68-12-2	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
1-Methyl-2-pyrrolidone	872-50-4	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Carbon Black	Trade Secret	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Amine Filler/Pigment	Trade Secret	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Acid	Trade Secret	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Ether	Trade Secret	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Phenol Filler/Pigment	118-82-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - Other Information

Summary of Changes
New SDS: 10000

NFPA Ratings: Health: 0 Fire: 0 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Key /Legend

ACGIH = American Conference of Governmental Industrial Hygienists;

AU = Australia;

BOD = Biochemical Oxygen Demand;

C = Celsius;

CA = California; CAN = Canada;

CAS = Chemical Abstract Service;

CERCLA = Comprehensive Environmental Response, Compensation and Liability Act;

CFR = Code of Federal Regulations;

CN = Canada; DFG = Deutsche Forschungsgemeinschaft;

DOT = Department of Transportation;

DSL = Canadian Domestic Substance List;

EPA = Environmental Protection Agency;

EU = European Union;

IARC = International Agency for Research on Cancer;

IDL = Ingredient Disclose List;

IDHL = Immediately Dangerous to Life and Health;

JP = Japan;

KR = Korea;

LC50 = Lethal Concentration;

LD50 = Lethal Dose;

LEL = Lower Explosive Limit;

LMPE-CT = Mexico STEL equivalent;

LMPE-PPT = Mexico TWA equivalent;

MSDS = Material Safety Data Sheet;

NIOSH = National Institute of Occupational Safety and Health;

NJTSR = New Jersey Trade Secret Registry;

NTP = National Toxicology Program;

NZ = New Zealand;

OEL = Occupational Exposure Limit;

OSHA = Occupational Safety and Health Administration;

PEL = Permissible Exposure Limit;

PH = Phillipines;

RQ = Reportable Quantity;

SARA = Superfund Amendments Act;

SDS = Safety Data Sheet;

STEL = Short-term Exposure Limit;

TDG = Transportation of Dangerous Goods;

TLV = Threshold Limit Value;

TSCA = Toxic Substance Control Act;

TWA = Time Weighted Average;

UEL = Upper Explosive Limit;

UN = United Nations;

US = United States;

WHMIS = Workplace Hazardous Materials Information System; Globally Harmonized System of Classification and Labeling (GHS)

Other Information

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.