



Discover the NYCAST® Advantage

Safety Data Sheet

Section 1: Identification

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

Chemical Family: Nylon

Recommended Use: Industrial

Restrictions on Use: None

Manufacturer Information: 4300 Hamann Parkway
Willoughby, OH 44094
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Section 2: Hazard(s) Identification

Classification in Accordance with 29 CFR 1910.1200

No classification 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

Component Related Regulatory Information:

This SDS covers a range of products. Listed components are not present in all products. All components 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, move 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 remove solid 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 on significant adverse effects.

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 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 breather 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 & 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.

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: 12.5 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
20 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-PT
20 mg/m³ STEL (LMPE-CT)

Acid (Trade Secret):

ACGIH: 1 mg/m³ TWA
3 mg/m³ TWA

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 LPE-PPT; 90 mg/m³ TWA LMPE-PPT
100 ppm STEL (LMPE-CT); 360 mg/m³ STEL (LMPE-CT)
Skin - potential die 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

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 & Chemical Properties

Physical State	Solid	Appearance	Article
Color	Various	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)	N/A	Density	0.0415 lb/in ³
Specific Gravity (water = 1)	1.15	Water Solubility	Negligible
Coef. Water/Oil Dist.	Not Available	Auto Ignition	398°C

Other Property Information:

No additional information is available.

Section 10: Stability & 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: Toxicology Information

Acute Toxicity:

No information available.

Component Analysis - LD50/LC50:

The components of this material have been reviewed in various sources and the followed 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 8g/kg

Amine Filler/Pigment (Trade Secret):

Oral LD50 Rat 1530 mg/kg; Dermal LD50 Rabbit > 2000 mg/kg

Acid (Trade Secret):

Oral LD50 Rat 1530 mg/kg; Dermal LD50 Rabbit 2730 mg/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.

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 humans, inhalable fraction)

OSHA: Present

Amine Filler/Pigment (Trade Secret):

ACGIH: A4 - not classifiable as a human carcinogen

DFG: Category 3B (possibly carcinogenic to humans)

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

IARC: Present

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

Invertebrate: 48 Hr EC50 Daphnia magna Straus: > 500 mg/L;
48 Hr EC50 Daphnia magna: 828 - 2920 mg/L

Dimethylformamide (68-12-2):

Fish: 96 Hr LC50 Lepomis macrochirus: 6300 mg/L; 96 Hr LC50 Oncorhynchus mykiss; 9800 (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 Daphnia 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: 72 Hr EC50 Desmodesmus subspicatus: > 500 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 4897 mg/L

Amine Filler/Pigment (Trade Secret):

Fish: 24 Hr EC50 Daphnia magna: > 5600 mg/L

Algae: 72 Hr 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 macrochirus: > 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 EC 50 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: Disposal Considerations

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 minimis concentration

Acid (Trade Secret):

CERCLA: 5000 lb. final RQ; 2270 kg final RQ

Ether (Trade Secret):

SARA 313: 1.0% de minimis concentration

TSCA 12b: 100 lb. final RQ; 45.4 kg final RQ

Phenol Filler/Pigment (118-82-1):

TSCA 12b: Section 4, 1% de minimis concentration

U.S. State Regulations:

The following components appear on one or more of the following state hazardous substances list:

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 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/Pigmen	118-82-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

Section 16: Other Information

Summary of Changes:

New SDS: 10000

Revision: 1.0001

Issue Date: 07/01/2015

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; IDLH = 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 = Philippines; RQ = Reportable Quantity; SARA = Superfund Amendments Act; SDS = Safety Data Sheet; STEL = Short-term Exposure Limit; TOG = 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 Labelling (GHS)

Other:

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.



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The facts stated and recommendations contained herein are based on experiments and information to be reliable. No guarantee is made of the accuracy, however, and the products are sold without warranty, expressed or implied, and upon the conditions that purchasers shall conduct tests to determine suitability for their intended use.

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