

Material Safety Data Sheet

Caprolan RC® Nylon Fiber

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Caprolan RC® Nylon Fiber
OTHER / GENERIC NAMES: None
PRODUCT USE: Concrete Reinforcement
MANUFACTURER: Honeywell International, Inc.
Nylon Systems
101 Columbia Road
Box 1053
Morristown, New Jersey 07962-1139

FOR MORE INFORMATION CALL:
(24 Hours/Day, 7 Days/Week)
Customer 1-800-707-4555

IN CASE OF EMERGENCY CALL:
(24 Hours/Day, 7 Days/Week)
1-800-707-4555

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Nylon 6 (poly[imino(1-oxo-1,6-hexanediy)])	25038-54-4	>99
Caprolactam	105-60-2	<1

Trace impurities and additional material names not listed above may also appear in the Regulatory Information section (#15) towards the end of the MSDS. These materials may be listed for local "Right to Know" compliance and for other reasons.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: A bright fiber with no or slight odor. There are no health hazards for which first aid is required.

POTENTIAL HEALTH HAZARDS

Nylon fiber is not hazardous. During thermal processing caprolactam monomer contained in the fiber can be released. Caprolactam can irritate the eyes, nose, throat, and skin at sufficiently high concentrations.

SKIN: May cause mechanical irritation.
EYES: May cause mechanical irritation.
INHALATION: Fibers are not respirable in this form. Respirable fibers may be generated from mechanical action on fiber during some processing steps.
INGESTION: Not a probable route of exposure.
DELAYED EFFECTS: None.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

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INGREDIENT NAME

No ingredients listed in this section

NTP STATUS

IARC STATUS

OSHA LIST

4. FIRST AID MEASURES

First aid is not required for fiber.

SKIN: If irritation develops, flush skin with running water. If discomfort continues, obtain medical attention.

EYES: If irritation develops, flush eyes with running water. If discomfort continues, obtain medical attention.

INHALATION: If irritation develops from processing vapors, remove person to fresh air. If irritation continues, obtain medical attention.

INGESTION: Not a probable route of exposure.

ADVICE TO PHYSICIAN: No specific treatment. Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT:	Not applicable.
FLASH POINT METHOD:	Not applicable.
AUTOIGNITION TEMPERATURE:	Greater than 410 ⁰ C (770 ⁰ F)
UPPER FLAME LIMIT (volume % in air):	Not applicable.
LOWER FLAME LIMIT (volume % in air):	Not applicable.
FLAME PROPAGATION RATE (solids):	Not applicable.
OSHA FLAMMABILITY CLASS:	Not applicable.

EXTINGUISHING MEDIA:
All standard agents may be used.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
None.

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:
Wear self-contained breathing apparatus meeting 42 CRF Part 84 standard. Avoid excessive inhalation of smoke or potential thermal decomposition products.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (Always wear recommended personal protective equipment.)
Collect fiber and place it in a container for reuse, recycle, or disposal.

Spills and releases may have to be reported to Federal and/or local authorities. See the Regulatory Information section (#15) regarding reporting requirements.

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7. HANDLING AND STORAGE

NORMAL HANDLING: (Always wear recommended personal protective equipment.)
Wear adequate personal protective equipment as determined necessary.

STORAGE RECOMMENDATIONS:
To maintain product quality, store in a cool, dry area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:
Provide local exhaust (mechanical ventilation) as determined necessary to remove any dusts, mists, or vapors that may be generated.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION:
Wear gloves, arm protection, and adequate clothing to protect against fiber moving at high speed.

EYE PROTECTION:
Wear safety glasses with side shields as recommended.

RESPIRATORY PROTECTION:
Use NIOSH-approved respiratory protection equipment if dusty conditions exist.

ADDITIONAL RECOMMENDATIONS:
None.

EXPOSURE GUIDELINES (Guidelines exist for the following ingredients)

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Caprolactam	Dust: 1 mg/m ³ TWA; Vapor: 5 ppm, 23 mg/m ³ TWA; 10 ppm, 46 mg/m ³ STEL	Dust: 3 mg/m ³ TWA; Vapor: 5 ppm, 20 mg/m ³ TWA; 10 ppm, 40 mg/m ³ STEL	None

- * = Limit established by Honeywell for internal use.
- ** = Workplace Environmental Exposure Level (AIHA).
- *** = Biological Exposure Index (ACGIH).

Other exposure limits for the decomposition products normally associated with product use are as follows:
Nylon 6 dusts should be considered as nuisance dusts: ACGIH TLV-TWA of total dust = 10 mg/m³; OSHA PEL = 15 mg/m³
Nylon fibers are coated with finish oils. Textile processes may volatilize portions of these finishes and produce an aerosol in the workplace. Ventilation is recommended to minimize exposure to such aerosols which should not exceed a concentration of 5 mg/m³.

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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Light colored fiber with slight odor.
PHYSICAL STATE:	Solid.
MOLECULAR WEIGHT	>15,000
CHEMICAL FORMULA	[C ₆ H ₁₁ NO] _x
ODOR:	Slight odor characteristic of a lubricant.
SPECIFIC GRAVITY (water = 1.0):	1.12 - 1.14
SOLUBILITY IN WATER (weight %):	Insoluble.
pH:	Not applicable.
BOILING POINT:	Not applicable.
MELTING POINT:	Approximately 215 - 225°C (420 - 437°F)
VAPOR PRESSURE:	Not applicable.
VAPOR DENSITY (air = 1.0):	Not applicable.
EVAPORATION RATE:	Not applicable.
% VOLATILES:	Not applicable.
FLASH POINT:	Not applicable.

(Flash point method and additional flammability data are found in Section 5.)

10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):

Stable.

INCOMPATIBILITIES:

Avoid strong mineral acids. Avoid exposure to open flame or temperature exceeding optimum recommended processing temperatures. Also avoid prolonged exposure to processing temperatures. Consult technical service personnel for recommended processing conditions.

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal breakdown products may include a complex mixture of organic and inorganic compounds including but not limited to simple hydrocarbons, aldehydes, ketones, nitriles, inorganic oxides, trace amounts of hydrogen cyanide, and other materials depending upon specific temperature, time of exposure, and other immediate environmental factors.

HAZARDOUS POLYMERIZATION:

Will not occur.

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

LD₅₀ (rat) = 3200 mg/kg. Fibers have been tested and determined not to be irritants or to cause dermal irritation or contact allergic dermatitis.

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:

None known.

OTHER DATA:

None.

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12. ECOLOGICAL INFORMATION

Considered to be inert.

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded? No.
If yes, the RCRA ID number is: Not applicable.

OTHER DISPOSAL CONSIDERATIONS: The material as shipped is a non-hazardous organic solid. Disposal must comply with Federal, state, and local laws when the material is discarded.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT PROPER SHIPPING NAME:

US DOT HAZARD CLASS: Not regulated.

US DOT ID NUMBER: Not applicable.

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: Material is on the TSCA Chemical Inventory.

OTHER TSCA ISSUES: None.

SARA TITLE III/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<u>INGREDIENT NAME</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>
Caprolactam	5000 lb/24 hr	None

Spills / releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: No ingredient listed in this section.

SARA 313 TOXIC CHEMICALS:

The following ingredients are SARA 313 "Toxic Chemicals". CAS #'s and wt. % are found in section #2.

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INGREDIENT NAME

COMMENT

No ingredients listed in this section

STATE RIGHT-TO-KNOW

In addition to the ingredients found in section 2, the following are listed for state right-to-know purposes:

INGREDIENT NAME

WEIGHT %

COMMENT

No ingredients listed in this section

ADDITIONAL REGULATORY INFORMATION:

None.

WHMIS CLASSIFICATION (CANADA):

Not a controlled product.

FOREIGN INVENTORY STATUS:

Canadian DSL (Domestic Substances List)

EINECS (European Inventory of Existing Commercial Chemical Substances) (monomer)

16. OTHER INFORMATION

CURRENT ISSUE DATE: January 7, 2002

PREVIOUS ISSUE DATE: New

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:

OTHER INFORMATION: If the product is to be used for special applications (e.g., the food industry, hygiene or the medical / surgical sector, please contact Honeywell