DuPont Corporation

Product Identification: Tynex®
MSDS Reference Number: AKDF-02
Manufacturer's Name: DuPont Corporation
Manufacturer's Address: Arco Tower, 1-8-1 chome, Shitameguro, Meguro-ku, Tokyo, Japan, 153-0064
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Filament
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Created: January 28, 1998
Revised: August 17, 2001

Product Name: Tynex® Nylon Monofilament

Composition Information

Homogenous/ Mixture Classification: Mixture
Ingredient Name: Polyamide
Other Name: Nylon 612
Composition: Polyhexamethylene Dodecandiamide – over 97% (Nylon 612)
Pigments (stains, dyes), as well as lubricants and stabilizers – less than 2%
Nomenclature: $[HN(CH_2)_6NHC(CH_2)_{10}C]_n$ (O, O)
Official Reference Number: Not Applicable
CAS No.: Base Polymer 26098-55-5
UN classification/UN number: Not Applicable

Hazards Identification

Classification Name: Not applicable to classification standards
Dangers: Not Applicable
Hazards: Not Applicable
Environment Influence: Not Applicable

First Aid Measures

Eye Contact: Eye contact should be followed by irrigation of the eyes for at least 15 minutes, ensuring adequate cleansing. If discomfort or any symptom continues, seek medical attention from an optometrist.
Skin Contact: Although not considered harmful, it is prudent to wash any body parts that handled product after use. If melted material contacts skin, refrain from tearing off skin, and cool area with clean water. If thermal burns remain, consult a physician.
Inhalation: Under normal workplace conditions, there is no risk of inhalation, but if the product is being cut resulting in large quantities of dust, there is a risk of respiratory damage. If any symptoms appear, seek medical attention. If fumes released from heating or burning material are inhaled, move immediately to a location with fresh air. If any symptoms appear, seek medical attention.
Ingestion: Although there is no information inferring ingestion to be dangerous, it is prudent to seek medical attention.

Fire Fighting Measures

Extinguishing Method: Evacuate personnel to another location, upwind from site of fire. When fire fighting, wear a respirator and appropriate protective clothing.
Extinguishing Media: Water, foam, dry chemicals, carbon dioxide.
*** Material released In when burning:** Ammonia, carbon monoxide, small amounts of cyanide and aldehyde.

Accidental Release Measures

Wear appropriate protective clothing, and clean up to prevent slipping accidents.

Handling and Storage

Handling: Don't heat over 340˚C. Refer to emergency measures and protective measures.
Storage: Store in a dry environment, and avoid storing at temperatures over 65˚C. (Continual storage at temperatures above 65˚C invites degradation of material)

Engineering Controls & Personal Protective Equipment

Concentration Control: None established.
Permissible Concentration:

Japan Society for Occupational Health – 1993
Third-class dust concentration levels (other inorganic and organic dust)

Inhalable Particulate	8mg/m^3
Respirable Particulate	2mg/ m^3

ACGIH (American Conference of Governmental Industrial Hygienists) - 1993
Not established

Facility Management: Processing facilities, and sites where heat processing occurs should utilize local ventilation equipment.
Protective Equipment:

Respiratory Protection: Not necessary under normal processing conditions. Dust respirators are required fo sites where dust levels may be over permissible levels to prevent inspiration of dust particles.

Hand Protection: Not necessary under normal processing conditions.

Eye Protection: Wear safety glasses.

Clothing: When there is a possibility of direct contact with heated or molten forms of this product, wear heat-resistant clothing and footwear to prevent thermal burns.

Physical and Chemical Properties

Outward Appearance:
Physical State: Solid at normal temperatures
Shape: Filament-shaped
Melting Point: 208-215˚C
Specific Gravity: 1.05-1.07 g/cm^3
Other: Not effected by chloride solvents (carbon tetrachloride, chloroform, chloroethylene, etc), petroleum solvents (gasoline, benzene, naphtha, triene, kerosene, etc), ester solvents (aceto-butyl, aceto-amyl, etc), or surfactants (sodium phosphate based soaps, etc). Care should be exercised around vinegars and phenols, as they may cause decomposition.
Ignition Point: Unable to estimate.
Flash Point: 400˚C (ASTMD 1929)

Reactivity

Combustibility: UL94V-2 fire-resistant grade.
Flammability (self igniting, reaction to water): Not available
Conditions to avoid: Avoid temperatures over 340˚C.
Oxidization potential: Not available.
Self-reactivity/ Explosiveness: Not available.
Dust Explosion Hazards: Not available.
Stability/Reactivity: This material is stable, but data on its reactivity is not available.
Incompatible: Open flames.
Decomposition Hazards: Decomposition due to environmental factors may produce fumes and vapors (cyclopentanon, carbon monoxide, aldehyde, ammonia).

Toxicological Information

Oral Toxicity: LD50>10 000 mg/kg in rats.
In animal experiments, nylon 612 caused no skin irritations or eye irritations.
Skin Corrosion: None known.
Irritability (skin, eyes): None known.
Acute Toxicity: None known.
Subacute Toxicity: None known.
Chronic Toxicity: None known.
Carcinogenicity: None known.
Genotoxicity (microbes, genetic mutation): None known.
Reproductive Toxicity: None known.
Teratogenicity: None known.
Other (including harmful fumes generated upon exposure to water): None known.

Ecological Information

Persistence/ Degradability: No relevant studies identified.
Bio-accumulation (livestock): No relevant studies identified.
Bio-accumulation (fish): No relevant studies identified.
Other: No relevant studies identified.

This material is considered to have a low impact on the environment, since it is water insoluble. However, do not dispose into rivers, ponds, seas or lakes.

Disposal

This material is classified as industrial waste (waste plastic), and must therefore be disposed of by an appropriate industrial waste management team. Although recycling, incinerating and stable landfill is recommended, always dispose according to the applicable laws and regulations.

Transportation Information

No specific information.
DOT: Not regulated.
TDG: Not regulated.

Regulatory Information

Not Applicable.
Chemical Substance Control Law: Not Applicable.
Labor Law: Not Applicable.
PRTR Law: Not Applicable.
Poisonous and Detrimental Substances Control Law: Not applicable.
Fire Service Law: Not applicable.

Other Information

Prohibited Usage: Never use as equipment for medical treatment.

This information on this material safety data sheet refers knowledge and information gained solely from our company's product, and is not applicable when combined with other products or if further processed.