

CP 130

A Thermoplastic Multipolyamide



Chennai Poly Chemicals Private Ltd.

CP130 Multipolyamide

The thermoplastic polyamide for tough, high-elongation, soluble, and adhesive or flexibilizer applications

CP 130 is a multipolyamide product from Chennai Polychemicals Pvt. Ltd., a manufacturer of bulk drugs since 1991, which has clientele across India. CP 130 is a thermoplastic multipolyamide with a lower melting range which exhibits excellent toughness, higher elongation and easy solubility in alcoholic solvents and their blends.

This multipolymer thermoplastic polyamide also has the special property of cross-linking with a thermosetting resin which makes it suitable as a hot melt adhesive, solvent-based adhesive, or simply as a flexibilizer with a variety of end uses.

CP 130 is supplied in 25 kg HDPE lined kraft paper bags and in the form of clear, uniform chips. It is tough in dry conditions but becomes soft and flexible with continuous exposure to the atmosphere due to moisture absorption. Its excellent toughness, high elongation, and easy solubility in alcoholic solvents and their blends make it useful in a wide range of applications, including hot-melt adhesives in nylon laminated transmission belts, tapes, and in the footwear industry for component joining. It is also used in the textile industry for sewing thread bonding, PVC cloth coating, fabric dip coating, leather coating, and in the electrical industry for cable and wire sheathing.

Physical Properties

The product is a multipolymer thermoplastic polyamide, available as clear, uniform 2 mm chips with a bulk density of 1.11 g/cc. Water absorption at a maximum of 23°C is in the range of 10-12%, and moisture regain is in the range of 2.5-3.5% after 24 hours (ASTM test method D570). The usual polyamide viscosity number, measured in 95% sulfuric acid, 0.5 g/100 ml, is in the range of 2.5-2.7. Density, determined by ASTM test method D792, is 1.11 g/cc. The product melts in the range of 160-170°C (ASTM test method D2117), and the glass transition temperature of the dry material is about 40°C.

Mechanical Properties

CP 130 is mainly applied as a solution on leather, nylon, and/or other substrates. The properties of the adhesive solution are directly proportional to the ratio of adhesive solution components, the manufacturing process, base material, and application technique. The tensile strength is 49.7 MPa, and elongation is 300% under ASTM D638. The impact strength is 4.9 kg cm/cm under ASTM D256A.

Storage

CP 130 thermoplastic polyamide can absorb moisture from the atmosphere and should be carefully packed or sealed and stored in dry conditions without exposure to moisture. The product can be stored successfully for at least a year if precautionary measures are taken.

Preparation of Adhesive Coating

Adhesive solutions of CP 130 thermoplastic polyamide are generally prepared at room temperature but may need to be warmed to 25-40°C with mixing of the solvent components. A variety of alcoholic solvents and their blends can be used. Examples include:

- A. 80% Methanol + 20% Water
- B. 70% Methanol + 20% Benzene + 10% Water
- C. 70% Methanol + 20% Methylene Dichloride + 10% Water
- D. 100% Methanol

The general guideline for preparing the adhesive coating involves adding 10-20% of CP 130 to one of the solvent mixtures listed above (A, B, C, or D) while stirring in a high-speed agitator or tumbler mixer. The mixture should be stirred for 2-6 hours until the solution becomes uniform and ready for application.

Industrial Applications and Advantages

CP 130 thermoplastic polyamide is ready to use with minimal preprocessing or preparation and is utilized across various industry verticals due to its excellent toughness, high elongation, and easy solubility in a variety of solvent mixtures. The adhesive solution:

- Is easy to prepare (even at room temperature)
- Exhibits excellent mechanical and physical properties
- Has a proven track record of quality in products across industries such as footwear, electrical, transmission belt manufacturing, fabric and accessories, tire, leather, and more
- Has satisfied clientele for over 15 years

Safety Information

Basic preventive measures generally applicable to chemicals should be followed, including eye protection, skin protection, and proper ventilation to avoid respiratory complications. There have been no specific health hazards reported or recorded over the past 30 years with proper usage and handling of CP 130 thermoplastic polyamide.

1. Hazardous Ingredients

This is a polymeric material. All components are enclosed within the polymer system, so there is no possibility of exposure under normal conditions of processing and handling.

2. Fire & Explosion Data

LEL: N/A

UEL: N/A

Extinguishing Media – Water, carbon dioxide, foam, dry chemical treat as Class B Fire

3. Health Hazard Data

Inhalation: Move to fresh air. If fever or flu-like symptoms are present, seek medical attention.

Skin or Eye Contact: Hot-melted nylon can cause thermal burns upon skin contact. Cool rapidly with cold water and do not attempt to peel the nylon from the skin. Seek medical attention for thermal burns. Burning sensation or irritation may occur with eye contact. Flush with water.

4. Reactivity Data

Stability: Stable

Incompatibility (Materials to avoid): Strong acids and strong oxidizing agents.

5. Accidental Spill or Leak

Spill Cleanup: Vacuum cleaning or wet sweeping to minimize dust exposure.

Waste Disposal Method: Incineration or landfill in compliance with federal, state, and local regulations.



NOTES:

The data contained in this publication are based on tests performed under standard operating conditions and our current knowledge and experience. Given the many factors that may affect the processing and application of our product, these data do not relieve processors from conducting their own investigations and tests. Neither do these data imply any guarantee of specific properties or the suitability of the product for a particular purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc., provided herein may change without prior notice and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that all proprietary rights, as well as existing laws and regulations, are observed.

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