

Piperazine pyrophosphate AKnoka[®] NP820

I. Product Introduction

Piperazine pyrophosphate is a halogen-free intumescent flame retardant developed through the "three-in-one source" technology. With advantages such as efficient carbon formation, low smoke and toxicity, high thermal stability, and hydrolysis resistance, it has become the mainstream eco-friendly flame retardant solution for polyolefins, elastomers, and electronic automotive materials.

General characteristic

Surface	White powder
Molecular formula	C ₄ H ₁₄ N ₂ O ₇ P ₂
Cas number	66034-17-1
Formula weight	/
Water-solubility	

Key indicators

Project	Unit	Numeric value
Phosphorus content	%	22-25
Nitrogen content	%	9.0-12
Moisture Content	%	≤0.5
PH Value	pH	3.0-4.0
Decomposition temperature	°C	≥270°C
Particle size (D50)	μm	6-10
Coating Treatment	/	N/A

II. Product Features

As a halogen-free eco-friendly intumescent flame retardant, it adopts a three-in-one molecular structure integrating acid source, carbon source, and gas source, exhibiting excellent carbon formation capability and dense thermal insulation layer. With outstanding thermal stability, gradual decomposition, low smoke emission, low toxicity, and enhanced environmental friendliness, it demonstrates superior dispersibility. Core performance meets international advanced standards, enabling substitution of imported counterparts. When compounded with MPP, it achieves superior flame retardancy effects.

III. Application Fields

Piperazine pyrophosphate is widely used in household appliance casings, chargers, power adapters, PCBs, power battery packs, automotive wiring harnesses and interiors, as well as various polyolefin materials, modified engineering plastics, artificial turf, cables, and potting compounds.

IV. Storage and Packaging

Packaging: Each bag has a net weight of 25 kg and is constructed with a three-layer composite paper bag lined with polyethylene (PE).

Storage: Store in a cool, dry place.

V. Safety and Environmental Protection

The Material Safety Data Sheet (MSDS) for this product may be obtained from our company upon request. The MSDS provides information on material handling, safety precautions, disposal requirements, and applicable local health and safety regulations. This product complies with EU RoHS/REACH regulations. According to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), this product is not classified as hazardous.

VI. Remarks:

The information and data provided in this document are for reference purposes only, based on our current technical expertise and experience. Customers must conduct tests on purchased products to verify their suitability for specific processes or applications and ensure compliance with intended objectives. We cannot control further applications or processing procedures of the products. Our liability is limited to the delivered products you use and does not cover any indirect losses arising from their use. Our technical support and customer service teams are available to provide product consultation and application assistance. Please feel free to contact us via email or phone.