

Aluminum Diethylphosphinate (ADP)

Halogen-free organophosphorus flame-retardant development in engineering polymers and thermosets.

CAS No. 225789-38-8	EC / List No. 607-114-5	Transport Non-dangerous goods
------------------------	----------------------------	----------------------------------

Product Information

Aluminum diethylphosphinate, abbreviated ADP, is an aluminum salt of diethylphosphinic acid. This halogen-free powder is selected for phosphorus-based flame-retardant packages in engineering plastics and reactive resin systems. It is a different material from ammonium polyphosphate and should be compared on phosphorus chemistry, processing needs and compatibility.

Specifications

Parameter	Specification
Appearance	White free-flowing powder
Phosphorus content	≥23.0 %
Moisture	≤0.50 %
Median particle size, D50	20–40 μm
Temperature at 1% mass loss	≥390 °C
Density, typical	Approximately 1.35 g/cm ³
Bulk density, typical	400–600 kg/m ³

Supply specifications follow the local ZXCHEM TDS. Values apply to the stated grade; complete-formulation flame performance requires testing.

Typical Properties

Property	Typical Value
Molecular formula	C ₁₂ H ₃₀ AlO ₆ P ₃
Molecular weight	390.27 g/mol

Applications

Polyamide compounds: Phosphinate additive for selected reinforced and unreinforced polyamide compounds. Optimize dispersion, stabilizers, processing and the fire test at the intended thickness.

Engineering polyesters: Phosphorus-based additive for PBT and PET development. Assess resin drying, hydrolysis sensitivity, colour and retention of mechanical and electrical performance.

Thermosets and adhesives: Additive for selected epoxy and adhesive development. Evaluate mixing viscosity, cure kinetics, sedimentation and complete-formulation flame performance.

Packaging / Storage

Item	Information
Packing	25 kg PE-lined composite bags
Storage	Keep sealed in a cool, dry, ventilated warehouse. Protect from moisture, heat and contamination; store away from incompatible chemicals.
Handling	Use enclosed powder feeding or local extraction. Wear suitable protective gloves, eye protection and work clothing; avoid dust inhalation and direct contact. Provide controls for fumes during hot processing.

Company Contact

Supplier	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Shanghai office	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / Email	+86-21-54265599 / sales@zxchem.com.cn
Website	www.zxchem.com