

Zirconium Propionate

Appearance and general characteristics

Zirconium propionate is a white, free-flowing powder, with a slight odor of propionic acid.

The powder is not soluble in water, but soluble in ethanol, ethyl acetate and isopropanol. (Solubility in ethyl acetate and ethanol is >150 g/100 ml solvent and in isopropanol is >65 g/100 ml solvent).

In both air and an inert atmosphere, this product starts to decompose at around 160°C, to give an intermediate species which itself decomposes at around 350°C, to give at higher temperatures zirconium oxide.

Product benefits

Safer alternative to titanium acetylacetonate to promote adhesion.

Improves adhesion for printing onto difficult substrates, such as polyethylene, polypropylene, polyester, metals, and other packaging materials.

Improves heat and scrub resistance of polyamide based inks.

Functions particularly well with cellulose acetate propionate (CAP) and nitro cellulose resins, where adhesion is required to co-extrude polyolefin films.

Chemical and physical properties (typical values)

Table 1.

Grade	ZrO ₂ (wt. %)	Bulk density (g.cm ⁻³)
Zirconium propionate	50	1.0

Applications

1. Adhesion promoter for solvent-based inks
2. Source of zirconium, soluble in organic solvents, for applications involving crosslinking with oxygenated organic polymers
3. Precursor to zirconium oxide, through a solvent-based process
4. Crosslinker for polyvinyl alcohol (suitable for non-aqueous, organic solvents)

Packaging

- Plastic pails
- Metal pails
- Supersacks

Safety data sheet

Regional SDS information is available on request.

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