

Itaconix® XDP™ 820

Aqueous mineral dispersion, 100% bio-based

Use Itaconix® XDP™ 820 for better dispersion of minerals in aqueous products. It is especially effective on calcium carbonate, titanium dioxide, and clays. Itaconix® XDP™ 820 is a modified homopolymer of itaconic acid and is 100% bio-based.

Applications

- Mineral processing & transport
- Personal care
- Paints, inks & coatings
- Concrete & cement
- Wallboard
- Detergents
- Ceramics
- Drilling muds
- Agriculture

Advantages

- Desired viscosity with less water
- Desired viscosity with less polymer
- Excellent for calcium carbonate & titanium dioxide
- Excellent tolerance to hard water
- Effective across broad pH range
- Effective in briny conditions
- Forms stable fine and superfine dispersions
- 100% bio-based

Physical & Chemical Properties

Chemical Class	sodium polyitaconate partially decarboxylated
CAS#	1663489-58-4
pH at 10% active	6
Odor	None
Avg. molecular weight (Mw)	5500 g/mole
Active	40 %
Appearance	Dark orange liquid
Viscosity	90 cP
Specific gravity	1.22 g/cm ³
Recommended use	0.2 to 0.8 wt. %

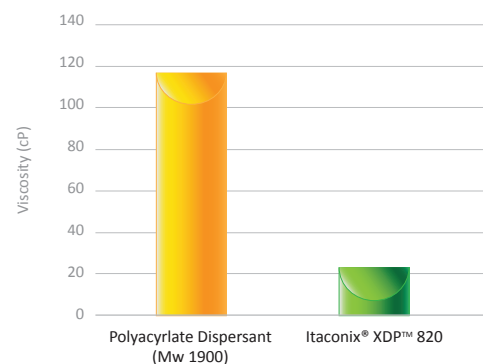
Desirable mineral dispersion properties

Aqueous dispersions of inorganic materials with less water and/or less polymer are highly desirable in many applications by providing the benefits of lower cost, lower energy use, and improved process efficiency. For mineral processing and transport, maintaining pump-able slurries with minimal water content reduces transport costs. In pigment manufacturing, mineral dispersants that enhance grind efficiency enable optimization of pigment formulation at lower operating costs.

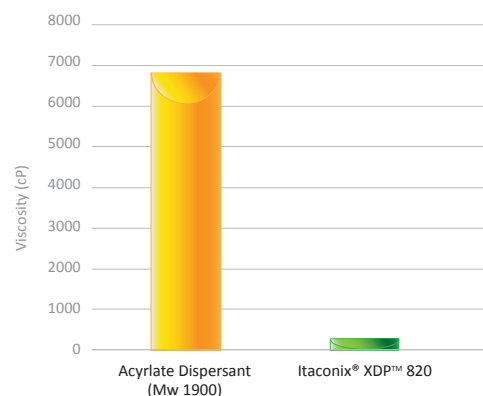
Itaconix® XDP™ 820 enables high mineral content slurries of desired viscosities at low polymer concentration. Compared with polyacrylic acid dispersants, Itaconix® XDP™ 820 shows improved dispersion of calcium carbonate and titanium dioxide at low concentrations.

As a 100% bio-based polymer, Itaconix® XDP™ 820 offers a high performance alternative to non bio-based polymers such as polyacrylic acid polymers for formulations where natural content and sustainability are of concern.

Viscosity of CaCO₃ Slurries at 0.4% Active Base Polymer



Viscosity of Titanium Dioxide Slurries at 0.4% Active Polymer



Data on file, available upon request

Excellent Stability

Itaconix® XDP™ 820 creates stable, non-settling mineral dispersions across a broad range of applications including mineral slurry transport. It also provides in-process stability for multiple industrial applications. Itaconix® XDP™ 820 is particularly hydrolytically stable over long periods of time, including high alkaline conditions due to the absence of labile or hydrolysable groups within its novel chemical structure.

Thermal Stability	Stable up to 200° C
pH Stability	Stable pH 2 to 14
Process Stability	Stable through processes such as spray drying, blending, and agglomeration.
Hydrolytic Stability	Excellent

100% bio-based, environmentally friendly

Of the current leading mineral dispersants, some are not 100% bio-based and are environmentally safe while others are bio-based but pose environmental concerns or restrictions.

In addition to its excellent performance, Itaconix® XDP™ 820 is a unique dispersant option that is both 100% bio-based and poses low environmental burden concern.

Dispersant	100% Bio-based	Environmental Concern
Itaconix XDP™ 820	Yes	Low
Polyacrylate	No	Low
Carboxymethyl inulin	No	Low
Polyaspartic	No	Low
Phosphorous based	Yes	High

Trial Samples upon request

Please e-mail request to: samples@itaconix.com

To request information on ordering quantities and pricing

Please call: +1 (603) 775-4400 or e-mail: sales@itaconix.com



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