

KETJENFLEX® CP (Catalyst)

KETJENFLEX® CP is a Para toluene sulfonic acid-based catalyst used in reactions of many chemical systems. As such it is used in typically small amounts (0.2%-3%) as for example in:

- Epoxy resins
- Acid cured amino resins for wood coatings
- Curing of melamine resins
- Stabilizer for isocyanate prepolymers
- Catalyst for fine chemical reactions
- Electroplating

KETJENFLEX® CP does not need any activation and can be readily used. It is supplied as an easy pourable powder. In coating and adhesives, it provides fast cure, excellent weathering, exterior durability, and high gloss. Ketjenflex® CP can be diluted in n-butyl alcohol at 40%.

Epoxy resins

KETJENFLEX® CP accelerates cationic curing mechanisms in epoxy resins. It can be combined with tertiary amines for low temperature cure epoxy systems.

- ✓ Rapid gel-time reduction (from >300 min to less than 60 min)
- ✓ Major acceleration at room temperature
- ✓ Strong synergy with piperazine-type amines
- ✓ Faster hardness development and improved early mechanical resistance
- ✓ Clear coatings and stable mixtures
- ✓ Applicability across epoxy castings, coatings, adhesives, laminates, etc.
- ✓ Low usage levels (1-2% on Epoxy-resin)

Acid cured amino resins are typically used in wood coatings for indoor use such as floor. In being essentially, a 2-component system, KETJENFLEX® CP forms the hardener component *accelerating* the cure of the resin. Typically, KETJENFLEX® CP is added at 2% to 3% based on solids to provide maximum cure response. Care should be taken not to overdose as it will cause hydrolysis of the resin forming butyric acids and other components.



Melamine systems

KETJENFLEX® CP is used to promote the crosslinking of hydroxyl-functional polymers with amino-formaldehyde crosslinking agents such as hexamethoxymethyl melamine, especially in coil coatings.

In coil primers, KETJENFLEX® CP provides outstanding cure, viscosity stability upon oven aging, and corrosion/salt spray resistance and provides excellent adhesion/intercoat adhesion of the coating. Typical addition rate is 2 to 3% based on solids.

KETJENFLEX® CP can also be used in aqueous melamine-based veneers.

Stabilizer in isocyanate polymers

Isocyanate prepolymers are usually viscous liquids, manufactured in mixed batch reactors. Being relatively reactive, an acid stabilizer such as KETJENFLEX® CP is added to increase prepolymer stability during stockpiling.

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Catalyst in fine chemicals

KETJENFLEX® CP is a standard catalyst in many condensation reactions to produce fine chemicals. The following reactions are catalyzed by KETJENFLEX® CP:

- Fatty acid esterification
- Aldol and enol reactions
- Nitrosations of alkenes
- Synthesis of azo dyes
- Synthesis of various other dyes and pigments

Electroplating

KETJENFLEX® CP is used as a pH regulator in electroplating processes. KETJENFLEX® CP (in combination with nitric acids) can be used for what is called the 'bright dip' giving a shiny surface to copper, silver, gold, chrome and nickel electroplated metal.