CYCAT® 4040

Technical Datasheet

PRODUCT DESCRIPTION

CYCAT® 4040 is a solution of para-toluenesulfonic acid in isopropanol. A versatile catalyst designed to initiate and accelerate the reaction of amino crosslinking agents, such as those based on melamine and urea formaldehyde, in both solvent-borne and water-borne coatings. Supplied as a free acid for use in 2K ambient cure or low bake systems, such as conversion varnishes for industrial wood. Blocked versions (CYCAT® 4045, CYCAT® VXK 6395) are available for 1K thermoset systems offering excellent formulated package stability.

BENEFITS

- Reduces energy requirements
- Fast cure

APPLICATION AREAS

- Conversion varnishes for wood
- General industrial coatings
- Exterior can coatings
- Printing inks
- Paper coatings

PHYSICAL/CERTIFIED PROPERTIES

Property	Value	Method
Appearance	Clear liquid	ASTM E284
Acid Value, mg KOH/g	130-140	DIN EN ISO 2114
Color, APHA	≤ 70	DIN EN ISO 6271

TYPICAL PROPERTIES

(NOT CONTINUALLY MEASURED)

Property	Value	Method
Density, g/ml	~0.98	ASTM D1475-13
% Active	~40	

SOLUBILITY

CYCAT® 4040 catalyst is an alcohol soluble catalyst. It is insoluble in aliphatic and aromatic hydrocarbons and partially soluble in glycol ethers, esters and ketone solvents.
In order to prevent recrystallization of the acid, a sufficiently high level of primary alcohol (methanol, ethanol, n-butanol, isobutanol) should be present in the formulation. Recrystallized acid can cause a reduction in cure response and may create local areas of high acidity which could cause the formation of gel structures. From 5 to 15 % of the total solvent should be primary alcohol; however, in high solids systems where the total solvents in the formulation may be only 20 % by volume or less, higher levels of alcohols might be necessary to maintain catalyst solubility.

RECOMMENDED LEVELS

While catalyst usage will be dependent upon resins, and cure time and temperature, generally 0.5 % catalyst solution, based on total resin solids, will be a satisfactory starting point. For low temperature cure schedules, from 1 to 2.5 % or higher, levels of CYCAT ®4040 catalyst are often required. The minimum level of catalyst to achieve the desired film properties should be used since excessively high levels of catalyst can reduce the water resistance of a finish.

STORAGE

CYCAT® 4040 catalyst has a shelf life of 720 days from the date of manufacture when stored in original unopened containers at temperatures up to 32°C.

SAFETY AND HANDLING

Please consult the Safety Data Sheet for safety, health, and environmental data. FOR INDUSTRIAL USE ONLY.

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