



AUCAT-RM301 Polyurethane Catalyst

AUCAT-RM301 is a thermal sensitivity delay catalyst. It does not contain mercury, lead, tin, nickel, polycyclic aromatic hydrocarbons, o-benzene plasticizer and other environmental limiting ingredients, which complies with international environmental protection regulations. It is an eco-friendly substitute for strictly controlled organic mercury, lead, tin, nickel and other metal catalysts.

Typical Properties	Appearance	Dark blue liquid
	Density (g/cm ³ , 25°C)	1.061
	Viscosity (mPa.s, 25°C)	755±200
	Odour	Slightly special smelling.

Solubility Soluble in polyether, polyester, and general polyurethane raw materials.

Applications AUCAT-RM301 has high catalytic activity for both aromatic and aliphatic isocyanates. It can be widely used in all kinds of polyurethane fields, especially suitable for products requiring long pre operation time and rapid curing by heating, such as physically foaming system with low compression deformation (mobile phone foam), elastic carpet / floor mat, solvent-free leather slurry, adhesives for electronic products, high hardness hand mould samples, etc.

Advantage Descriptions **AUCAT-RM301 is a universal heat sensitive catalyst resistant to hydrolysis, and has a significant thermal sensitivity delay catalytic effect. At room temperature, the catalytic activity of the mixed materials is very low and nearly zero, the low viscosity and good flowability are maintained. The pot life of the mixed materials is very long, which fully meets the various process conditions of long-time fluidity. When the material reaches the thermosensitive excitation temperature, the catalytic activity increases instantaneously, and the gel and curing reaction can be completed in a very short time. The unique characteristics are as following:**

- ▲ **Hydrolysis resistance.** It can be premixed in advance and added into the water containing formula system, and the catalytic activity is stable and does not decay after long-term storage; To solve the technical problem of hydrolysis failure of common organic bismuth, tin, zinc and other metal catalysts in water containing formula, the formula and process are simpler, more stable and more flexible.
- ▲ **Long pot life.** In general, as long as the mixed material does not reach the thermosensitive excitation temperature, the fluidity will be maintained. It is very suitable for the production of complex shape, high hardness PU and other products requiring ultra long pre flow time.
- ▲ **High catalytic activity at curing stage,** performing fast gel and post curing. To solve the problems of poor fluidity in the early stage and insufficient catalytic activity in the later stage of conventional Bi/Zn/Sn catalyst.
- ▲ **Insensitive to water.** Performing weak catalytic activity to the reaction of isocyanate and water, decreasing bubble, pinhole, pitting, cracking and other problems obviously. It shows remarkable thermal sensitivity in all kinds of isocyanate / active hydrogen systems. After reaching the thermosensitive point, it has higher catalytic activity and more complete reaction than organic tin and mercury.
- ▲ **Clear temperature point of thermosensitive mutation.** The thermosensitive point of different isocyanates and active hydrogen systems is different, and they are distributed in the range of 60-80 °C . It is found that the processability and physical properties of the material are better when the curing temperature is 10-20 °C higher than the thermosensitive point. The temperature sensitive point can be reduced by appropriate combination with AUCAT-201.
- ▲ **The physical properties are not reduced of Polyurethane Material.** There is no significant reduction in hardness / elongation / tear strength, that are totally different with the strong gel thermosensitive amine catalyst. The mechanical properties are not reduced, due to the reaction is more sufficient without disproportionation, and the physical properties of the PU material are improved.
- ▲ **No sensitizing metal nickel,** and the eco-friendly application is not limited.

User's Guide

- It is suitable for two-component / three component polyurethane. Suggest adding in polyol (P material) component after vacuum dehydration (if necessary) and stir evenly.
- Not suggest adding in isocyanate prepolymer (I material), if it is necessary to add, it is



necessary to conduct the applicability and storage stability test in advance.

- The dosage is related to the formula / process. The general dosage is 0.02-0.5% of the weight of P material.
- If lower temperature of thermosensitive point such as 50-60 °C or faster post curing is required, it is recommended to use AUCAT-201 or other catalysts in a wide range of 1:(0.2-2).
- Be sure to seal immediately after use.

Handling & Storage

Please store in a cool, dry environment away from sunlight and rain.

Package

25kg/200kg in HDPE drum

Shelf Life

Unopened shelf life 18 months from the date of manufacture. After expiration, it can still be used if it passes the inspection.