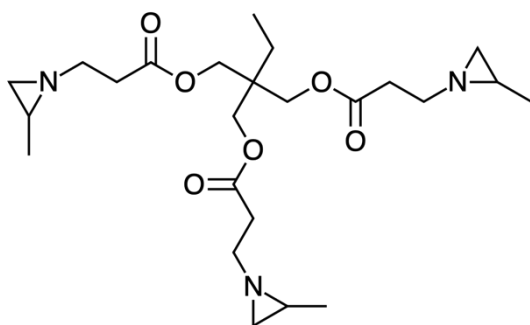


Technical Data Sheet

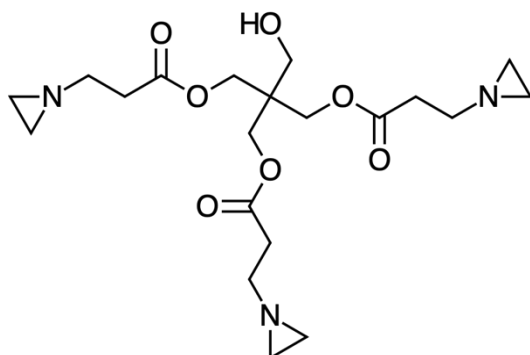
Polyfunctional Aziridine Crosslinkers AN-2201 & MY-0104

PRODUCT DESCRIPTION



Name: AN-2201
CAS: 64265-57-2
Product code: MDLAN2201

AN-2201 is a propylene imine trifunctional polyaziridine, with low colour and low viscosity.



Name: MY-0104
CAS: 57116-45-7
Product code: MDLMY0104

MY-0104 is an ethylene imine trifunctional polyaziridine, containing an alcohol moiety to impart greater water solvency.

For this reason, MY-0104 boasts a higher crosslink density than AN-2201 and is more suitable for aqueous systems however, it can be considered to have lower stability.

KEY FEATURES & BENEFITS

AN-2201 & MY-0104 can be used as crosslinkers for both aqueous and non-aqueous systems to improve both chemical and physical properties. Both products are suitable for acrylic emulsions and polyurethane dispersions, as the aziridine functional groups can react with the active hydrogen atom of carboxyl groups. They are room temperature reactive and provide:

- Increased water, chemical, detergent and abrasion resistance.
- Increased humidity resistance.
- Efficiently modify tack
- Significantly improved adhesion to a range of surface substrates including wood, metal, ceramic, paper, concrete and various plastics.

APPLICATIONS

- Adhesives
- Pressure sensitive adhesives (PSA)
- Wood coatings
- Leather coatings
- Textile printing & finishing
- Printing inks
- Over-print varnishes

AN-2201 & MY-0104 can be added to provide the following benefits:

Adhesives

Increased cohesive strength, faster curing time, adhesion promotion to low energy surfaces such as plastics, ceramics, metal, wood & concrete.

Pressure Sensitive Adhesives (PSA)

As mentioned above including tack modification.

Wood Coatings

Increased abrasion resistance, increased chemical/water resistance, faster curing time, excellent colour/clarity, high crosslink density, enhanced performance of VOC formulations & improved black heal resistance.

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Leather Coatings

Increased scuff resistance, increased chemical/water resistance, faster curing time, excellent colour/clarity, high crosslink density, enhanced performance of VOC formulations & improved black heel resistance.

Textile Printing & Finishing

As mentioned above including anti-wicking.

Printing Inks

Adhesion promotion to low energy surfaces such as plastics, ceramics, metal, wood & concrete. Increased scuff resistance, increased water/chemical resistance, high crosslink density, excellent colour/clarity & faster curing time.

Over-Print Varnishes

Increased scuff resistance, increased chemical/water resistance, faster curing time, excellent colour/clarity & high crosslink density.

PRODUCT SPECIFICATION

AN-2201

Appearance:	Clear liquid
Solid content (Area%):	98% min
Residue MET (ppm):	<100
Viscosity (@ 25°C, mPa.s):	100-300
Density (@ 20°C, g/cm ³):	1.08
Total volatiles:	1.0% max
pH (10% aqueous sol, 25°C):	8-10.5
Refractive index (@ 25°C):	1.4690-1.4730
Assay (mmol/g, eq of MET):	5.90-6.40

MY-0104

Appearance:	Clear liquid
Solid content (Area%):	99% min
Residue ET (ppm):	<10
Viscosity (@ 25°C, mPa.s):	<4,000
Density (@ 20°C, g/cm ³):	1.18-1.20
pH (10% aqueous sol, 25°C):	9-11
Assay (mmol/g, eq of ET):	6.35-7.00

SOLUBILITY

AN-2201 & MY-0104 are both water soluble as well as with many common solvents.

FORMULATION

AN-2201 & MY-0104 are trifunctional monomers that crosslink polymers, oligomers and other resin types by reacting with available carboxyl functionality. Optimum performance in film properties is typically achieved using between 0.60 and 1.0 equivalents of the available carboxyl functionality; this is usually around 2-3%. Higher levels at 5% will improve performance, in particular those of solvent resistance, abrasion & adhesion.

STABILITY

AN-2201 & MY-0104 will react quickly in the presence of acid medium and therefore must be utilised in slightly alkaline systems (pH 8-10).

In waterborne applications, AN-2201 will hydrolyse slowly and therefore any blends must be used within 3-5 days of preparation. Hydrolysed products should have no adverse effects on the emulsions or dried films and additional crosslinker can be added to restore the reactivity.

In water borne applications, MY-0104 will hydrolyse more quickly than AN-2201 and therefore any blends must be used within 24-36 hours of preparation. Hydrolysed products should have no adverse effects on the emulsions or dried films and additional crosslinker can be added to restore the reactivity.

STORAGE, HANDLING & SHELF-LIFE

AN-2201 & MY-0104 are added to the formulated coating system just prior to use (two-component system). Addition should be done slowly and with good agitation to ensure even distribution. AN-2201 & MY-0104 must be stored in a cool, dry and well-ventilated area away from acids and oxidisers. Provided that the product is stored below 25°C in sealed and original containers then the shelf life is approximately 12 months, but a retest is recommended after 6 months. Further safety information can be found in the Material Safety Data Sheet.