Aron Oxetane

Cationic curable oxetane resins

Product description

Oxetane compounds are four-membered cyclic ethers that are similar to epoxy compounds, but with a higher rate of polymerisation and the cured materials exhibiting superior physical properties. Oxetane Resins can provide a wide range of hardness and flexibility, coupled with low shrinkage rates.

Applications

Adhesives; Coatings; Inks

Key benefits

Rapid polymerisation; Low shrinkage; Resilient and durable film properties; Low initiator concentration; Excellent heat resistance; No oxygen inhibition; High gloss; Low skin irritation; Reactive diluent; Excellent adhesion to substrates

OXT-101 - Adding 101 (10–20%, by weight) with alicyclic epoxy monomer raises the rate of polymerisation, improves the line speed and reduces the amount initiator required. OXT-101 is widely used as a reactive diluent for the painting, ink, and coatings markets.

OXT-221 - The curing with 221 results in a high degree of crosslinking and it maintains high elasticity, even at temperatures above the Tg. Therefore it may be used for chemical-resistance coating or the production of heat-resist resins. Due to its low refractive index, it may be used for adhesives in opto-electronics materials.

OXT-212 – It has the lowest surface tension of the oxetane compounds. Its use improves the quality paints, inks and coats.

Safety and handling

Please refer to MSDS for safety information

Typical properties

Product Name	OXT-101	OXT-221	OXT-212
Chemical name	3-Ethyl-3-hydroxy-methyl-oxetane	Bis{[1-ethyl(3-oxetanil)] methyl} ether	3-Ethyl-3-[(2-ethyl-hexyloxy)methyl] oxetane
Appearance	Clear liquid	Clear liquid	Clear liquid
Content (%)	>98	>98	>95
Molecular weight	116.2	214.3	228.4
Boiling point	105°C/7mmHg	119°C/56mmHg	133°C/10mmHg
Freezing point (°C)	-37		
Specific gravity	1.024 (20°C)	0.999 (25°C)	0.892 (25°C)
Viscosity (mPA/S (25°C))	22.4	12.8	5.0
Flash point (°C open cup)	112	114	130
Skin irritation (PII)	0.2	1.0	
Ames test	Negative	Negative	Negative
Tg (°C)	-46 (DSC)	-51 (VES)	-60 (DSC)
Shrinking with curing (%)	7.6	5.5	3.8
CAS No.	3047–32–3	18934–00–4	
TOSCA	Listed	Not listed	Not listed
EC No.	221–254–0	Listed	Listed
Benefits	High diluency, high cure response	High cross-link, high cure response	High diluency, high cure response