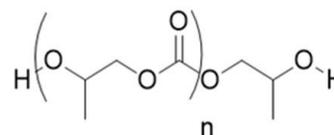


Description

NB-10 and NB-20 are polymers produced from propylene oxide and carbon dioxide. They are amorphous, linear, aliphatic polycarbonate polymers. Carbon dioxide accounts for approximately 40% of the polymer mass.



Applications

NB polymers can be used as binders or additives to improve the properties of coatings or binders for high performance applications such as electronics, brazing, and ceramics where rapid decomposition and low ash content are advantageous.

Features

The NB polymers oxidize and volatilize rapidly and uniformly into carbon dioxide and water with low ash residue compared to existing binders. Its negligible contamination makes it ideal as a sacrificial material for high performance applications. It decomposes rapidly and cleanly and is environmentally friendly. The NB polymers decompose at relatively low temperatures and are soluble in many common, low cost solvents including acetone and methyl ethyl ketone.

Regulatory

TSCA exempt under EPA polymer exemption, components are REACH registered or preregistered as appropriate. Fully RoHS compliant.

Packaging

Available in drums. Contact an Aramco Performance Materials representative for other sample sizes.

Storage and Handling

Increased temperature (80-100°C) is recommended to reduce viscosity and aid mixing. Degradation may occur in the presence of high levels of tertiary amine catalysts and/or exposure to high temperatures (>120°C) for more than 24 hours. Avoid long term storage at elevated temperatures (>65°C) as well as repeated thermal cycling.

Typical Properties*	NB-10	NB-20
Molecular Weight (g/mol)	1,000	2,000
Polydispersity Index	1.1	
Density (g/mL)	1.2	
Viscosity (cP at 75°C)	10,000	100,000
Decomposition Onset (°C)	210	
Acid Number (mg KOH/g)	< 0.5	
Water Content (ppm)	< 1000	
Ash Content (ppm)	<1	
Color	yellow to amber	
Appearance at 100°C	Clear Transparent Liquid	

* these properties are presented as typical values and are not to be considered product specifications

Patent protected under US8,247,520 and CN102149746B, other patents pending