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BiCAT® Z

Technical Specifications

Zinc	18.7 - 19.3%
Nonvolatiles (3 hrs @ 105°C)	95% min
Viscosity (Brookfield) @ 25°C	800 Poise max
Color (Gardner)	5 max
Specific Gravity @ 25/25°C	1.10 - 1.16

Product Number

1365

Description:

Light gold thick liquid; fatty acid odor

Application:

Polyurethanes

Packaging:

500 lbs. - 55 gallon steel drum

Chemical Formula:

Manufactured under ISO 9001 registered quality management systems.

Description

Zinc Carboxylates, including Zinc Neodecanoate (Zinc NDA) and BiCAT Z and Zinc Octoate (Zn Oct) and BiCAT 3228 are versatile materials. These water-white to yellow, viscous liquids are useful in a myriad of applications. Zinc Neodecanoate (Zinc NDA) and Zinc Octoate (Zn Oct) are used as catalysts for organic synthesis and polyurethane production. Zinc Carboxylates are also valuable as lubricant additives in certain formulations for their anti-wear and/or anti-corrosion functionality. Zinc compounds, such as Zinc Neodecanoate (Zn NDA) and Zinc Octoate (Zn Oct), function as effective malodor agents in a variety of applications, from personal care products to oil & gas processes, by irreversibly reacting with odor-causing molecules (e.g. hydrogen sulfide, thiols, thioalcohols). Zinc Carboxylates, and specifically Zinc Octoates, are particularly effective in removing hydrogen sulfide from hydrocarbon-based materials, such as asphalt.

Zinc Carboxylates are also quite interesting from a structural perspective. Depending on the carboxylic acid to zinc molar ratio, these materials may be found as very viscous linear polymers or less viscous tetra-nuclear zinc clusters. Depending on the identity of the carboxylic acid, the zinc carboxylate may readily switch from one structural form to another, or only exist as the tetra-nuclear cluster. Shepherd Chemical scientists published a paper on the zinc 2-ethylhexanoate (Zinc Octoate) species in 2007: Peterangelo, S. C.; Hart, R. T.; Clark, A. E. J. Phys. Chem. B 2007, 111, 25, 7073–7077. In this study, we use a combination of FTIR spectroscopy, viscosity and density functional theory to identify the key molecular species and relevant vibrational modes when Zinc Octoate (Zn Oct) is prepared with varied molar ratios of carboxylic acid to Zinc.

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The management system governing the manufacture of this product is ISO 9001:2015 and RCMS®:2013 certified.