

Kolate[®] 7013

Reactive Aluminum source for Aluminum Complex Greases

DESCRIPTION

Kolate 7013 is a solution of the cyclic aluminum alkoxide trimer, tri-oxo aluminum tri-isopropoxide, contained in a naphthenic carrier oil.

TYPICAL PROPERTIES

Appearance	Clear Yellow Liquid
Specific Gravity	1.00
Aluminum Content	12.5-12.9 %
Flash Point (PMCC)	>142°F

USE INFORMATION

Kolate 7013 can be used to prepare industrial aluminum complex greases. The aluminum content is 12.7% and the carrier oil is a 100 SUS severely hydrotreated naphthenic base stock. Kolate 7013 releases only 1/3 of the amount of alcohol during manufacturing when compared to using powdered Aluminum Isopropoxide as the starting aluminum source.

FORMULATION

A typical starting formula for an aluminum complex base grease would have a soap concentration of 7.5% with a benzoic acid to fatty acid molar ratio of 0.75/1.0, and a total acids to aluminum molar ratio of 1.9/1.0. The formula would contain the following percentages of raw materials:

FATTY ACID	5.25%	assumes mw of 272
BENZOIC ACID	1.77%	
KOLATE 7013 LV	3.78%	0.48% as Aluminum
OIL	<u>92.5%</u>	
	100%	

The base oil type and choice of fatty acid used will often require the soap concentration and molar ratios to be adjusted for optimization of the base grease. For further information on formulations and suggested manufacturing procedures see the “Kolates” Technical Bulletin.