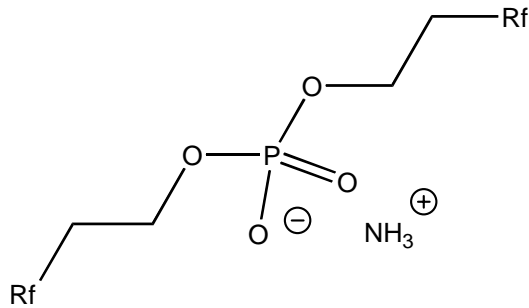


Masurf[®] LA-120A



Fluoroaliphatic Phosphate Lube Additive

Overview

MASURF LA-120A is characterized as a 19% active fluoroaliphatic phosphate ester fluorosurfactant in an aqueous solution. LA-120A contributes foam control, spreading and leveling properties, and extreme pressure lubrication properties to a wide range of metalworking applications. MASURF LA-120A is compatible with block polymer anti-wear additives and other anionic compatible ingredients.

MASURF LA-120A is Non-Flammable, and does not contain or release ozone depleting chlorofluorocarbons (CFC's), alkylphenol ethoxylates (APE's), and does not release formaldehyde. LA-120A does not contain, release or degrade to perfluorooctane sulfonate (PFOS).

Typical Properties

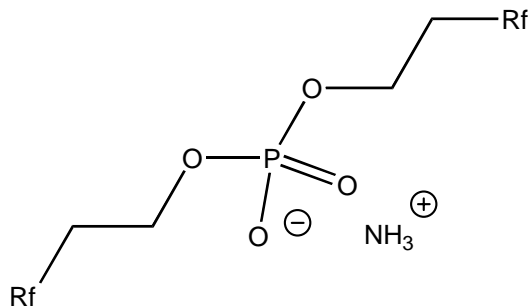
Physical form	Tan dispersion, with mild ammonia odor
Actives content %	19 wt% minimum
Aqueous surface tension @25°C dynes/cm.....	50.5@0.001%, 37.4@0.01%, 37.4 lowest
Specific gravity @25°C.....	1.08±0.04
pH	10.0±1.5
Viscosity @25°C.....	<1000 cps
Flash point	None
VOC content (volatile-water)	0
Storage	Store above 32°F and below 100°F

Handling Information

Refer to the Material Safety Data Sheet (MSDS) available from Mason Chemical Company for information on the safe use, handling and disposal of this product.

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MASURF LA-120A was evaluated in a typical EP formulation using a Falex Pin & Vee Block Test Machine:



Test Formulation:

<u>Ingredient</u>	<u>Control Wt. %</u>	<u>FS-120A Wt%</u>
Water	79.0	78.25
TEA	7.0	7.0
Boric Acid	1.5	1.5
Octanoic Acid	2.5	2.5
Na Tripolyphosphate	0.5	0.5
RP-Concentrate	9.5	9.5
Masurf LA-120A	0	0.75

Results:

Foam, 5% in DI Water:	No break, 30 sec.	Breaks <5 sec.
Rust, 3% blotter paper:	No rust	No rust
Residue:	Normal	Normal
Stability 20:1:	Stable	Stable
Falex 5% EP Test:	1600# 45 torque	4000# 40 torque

The Falex Pin & Vee Block Test Machine (Falex Corporation 1020 Airpark Dr., Sugar Grove IL, 60554-9585) is used to evaluate wear, friction and extreme pressure properties of materials and lubricants. It is suitable for testing materials, dry film bonded lubricant coatings, surface hardening coatings, fluid lubricants and additive packages.

Masurf LA-120A Fluorosurfactant dilution and mixing guidelines-

To facilitate addition and ensure adequate mixing, it is normal practice with fluoroaliphatic surfactants to add them to the system as a dilute stock solution.

ECOLOGICAL/REGULATORY INFORMATION

Based on data reported for similar products, this product has low toxicity - 96 hour TL₅₀ (Rainbow Trout): >1,000 mg/L; 48 hour EC₅₀ (Daphnia Magna): >1,000 mg/L (not toxic).

Masurf LA-120A complies with the requirements of the following chemical inventories: US (TSCA, FIFRA), Canada (DSL), Australia (AICS), Korea (ECL) and Europe (EINECS).