



ETHOX 4718

LUBRICANT ADDITIVE

A novel, patent-pending, water-dispersible lubricity additive for use in synthetic and semi-synthetic Metalworking fluid products. Formulations containing Ethox 4718, when evaluated by Microtap methodology, revealed superior ferrous and non-ferrous performance when compared to all other premium commercial products tested by an independent testing laboratory.

PERFORMANCE BENEFITS

- Superior ferrous and non-ferrous performance using Ethox 4718 as the single lubricity additive
- Controlled foam profile
- Tramp oil rejection
- Oil-like, non-tacky residue left on machine tool surfaces
- Excellent hard-water stability

FORMULATION BENEFITS

- Moderate viscosity – easy to handle
- Compatible with most metalworking fluid components
- Single-component, derivatized vegetable oil
- 100% active
- Formulation flexibility
- Contains no Phosphorous, Chlorine or Sulfur

STARTING POINT FORMULATIONS

Water-based full synthetic

Approx. wt %

Part A 50-60°C

Ethox 4718	12
Block-copolymer (eg Ethox 17R2)	4
Polyricinoleic acid	2
alkanolamine (ie AMP, BAE)	3
Neo-Decanoic acid	2
Water	10

Water-based full synthetic

Approx. wt %

Part B 25°

Water	47
Corrosion Inhibitor Pak	16
Pelargonic acid	2
PEG 200* Add 1-3% PEG 200 if low temp clarity and storage stability needs to be improved.	

Additional Formulation suggestions:

- Ethox 2976 is an excellent hard-water stabilizer at 1-2% in the synthetic concentrate
- Long-chain (C16+) alcohols and/or low HLB surfactants, at 2-3% in the synthetic concentrate, are excellent coupling agents





<u>Water-based semi-synthetic</u>	<u>Approx. wt %</u>	<u>Water-based semi-synthetic</u>	<u>Approx. wt %</u>
Part A 50-60°C		Part B 25°C	
Ethox 4718	12	Water	30
Naphthenic mineral oil	10	Corrosion Inhibitor Pak	16
Polyricinoleic acid	2	Pelargonic acid	2
alkanolamine	3	PEG 200	2
(eg AMP or butyl aminoethanol)			
Neo-Decanoic acid	3		
Water	20		

Additional Formulation suggestions:

- Ethox 2976 is an excellent hard-water stabilizer at 1-3% in the semi-synthetic concentrate
- Long-chain (C16+) alcohols and/or low HLB surfactants, at 1-3% in the semi-synthetic concentrate, are excellent coupling agents

FORMULATION GUIDELINES

1. Combine Part A components, while stirring, to allow neutralization of components. Slightly-elevated temp (50°C-60°C) will speed neutralization and reduce viscosity
2. Add part B bulk water (using water at 25°C) while stirring.
3. Add Corrosion Inhibitor Pak
4. Add Pelargonic acid to achieve required high temp clarity and storage stability

TYPICAL PROPERTIES

Appearance.....clear, amber liquid
 Acid Value.....20
 Viscosity, 25°C.....600 cps
 Activity.....100%

TECHNICAL CONTACT

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