

Product	Type
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EZ-MULZ™ 4409
Metal Processing
Emulsifier Base for Naphthenic Base Oil
Application

EZ-Mulz 4409 is an emulsifier base designed to emulsify naphthenic oils with aniline points of 160°F to 185°F.

Based on natural sodium sulfonate, secondary emulsifiers and other components, EZ-Mulz 4409 is ideal for formulating soluble oils.

EZ-Mulz 4409 is free from chlorine, nitrites, phenols and heavy metals.

Typical Properties

Test	Typical
Appearance	Amber, viscous liquid
Specific gravity at 25° C	1.04
Viscosity @ 40° C, cSt	105
Water wt. %	10
Total acid number, mg KOH/g	30
pH at 1%	9.2

Benefits

- Excellent emulsion stability in all naphthenic oils
- Good corrosion protection in for ferrous metals
- Compatible with extreme pressure additives such as chlorinated or sulfurized compounds

Performance

Corrosion on cast iron ships – ASTM D-4627-92
 Ratings scale: 0 = no rust and 5 = 100% rust

5% emulsion of 15% EZ-Mulz 4409 in oil.....0

Typical Applications

EZ-Mulz 4409 can be used in several metalworking applications. For example:

Use the following as a guideline, balance formula as needed

General-purpose soluble oil

% by weight

100 SUS naphthenic oil	65 - 85
EZ-Mulz 4409	15 - 25
Chlorinated additive (Extreme pressure agent)	0 - 20
Glycol ether (To modify viscosity).....	0 - 1
Biocide	0 - 3
Fungicide	0 - 1
Defoamer, if necessary.....	0 - 1

Adding some biocides may require the addition of tall oil fatty acid to balance the formula.

Storage and Handling

Recommended Maximum Long Term Storage Temperature*	Ambient
Recommended Minimum Temperature for Use	Ambient
Flash Point	>150°C COC

*Do not store with excessive heat (>150° F) over long periods.



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