



**Product**

**Type**

**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**

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

**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
<b>EZ-Mulz 4409</b> .....	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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