

# LOGAMOL E160

## High Performance, Bio-Stable Cutting Coolant

LOGAMOL E160 is a high performance water soluble, bio-stable coolant for multifunctional cutting, grinding and forming operations on Aluminum, Aluminum alloys, Steels, Harden Steels, Stainless Steels, Copper and Alloys.

LOGAMOL E160 has very unique chemistry that is free from alkylamine. It is also free from silicone oil, nitride, nitrites and active sulfur. The absence of these chemicals allows long sump life.

LOGAMOL E160 is blends of various mineral base oils that allow balance of lubrication effect and emulsion stability. Due to its extremely stable and effective additives package *LOGAMOL E160* forms stable emulsion when added into water system. It also provides benefits of taking up tramp oil without effecting the stability of the coolant.

### Special Properties

- **LOGAMOL E160** exhibits extremely stable pH even after prolonged service.
- **LOGAMOL E160** does not contain lower glycols that are believed to be harmful to machine paint, it is very safe to use on alkaline resistant paint type of production machines.
- **LOGAMOL E160** does not induce skin irritation. However no one should use any metal working coolant as cleaning fluid for their hands as this may induce extremely high variant of bacterial, fungus and virus into the coolant system. Polymer or latex protective gloves should be worn to avoid direct contact with metal working coolant.

### Tests

Passed Aluminum Staining Test (Pure Aluminum / 6061 Aluminum)

- Die-cast surface semi-submerge @ 5% @ 30°C @ 72 hours
- Fresh cut surface semi-submerge @ 5% @ 30°C @ 72 hours

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## Application

**LOGAMOL E160** typically used according to concentration recommended as below:

- Cylindrical and centerless grinding: 3 – 4%
- Surface grinding: 3%-4%
- Aluminum and Steel Turning, milling, drilling: 5 %
- Aluminum and Steel Reaming, Threading, Fine Boring and Broaching: 6% or higher
- Stainless Steel Turning, milling, drilling: 6 % or lighters
- Stainless Steel Reaming, Threading, Light Boring and Broaching: 7% or higher
- Cast Iron Machining: 5%-6%
- Deep hole boring: 15% or higher
- Steel pipe forming and weld removal: 3 % - 5%
- Band sawing: 5% - 8%
- Deep forming for thin material: 15% or higher

*NOTE: The above recommended usage concentration is served as a guideline for your selection. The actual usage depends very much on individual process and can be influence by many other factors.*

## Precaution:

- Do not contaminate **LOGAMOL E160** with normal mineral oil, synthetic and soap base cutting coolant as this may affect the properties and useful life of **LOGAMOL E160**.
- Cyclone filtration system is not suitable for filtration of machining coolant as this type of filtration system induces heavy foaming and it will reduce the anti-foaming properties of the lubricant.

## Determination of Coolant Concentration

- Refractive Index: 1.0

(It is important to calibrate the refractometer by DI water before determining the coolant concentration).

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## Typical Properties

Characteristics	Test Method	Value
Appearance (emulsion)	Visual	Clear brown
Specific Gravity @ 20°C, g/cm <sup>3</sup>	ASTM D792	0.887
pH Value , 5.0%	pH	9.78
Cast Iron Chip Corrosion Resistant Test	IP 125 or IP 287	0 degree at 4% conc.
Emulsion Quality	Visual	Fine Milky emulsion

## Machining Coolant Preparation

Always mixed **LOGAMOL E160** into water when preparing fresh coolant. DO NOT mix water into neat cutting coolant.

## Packaging

- 18 Liters pail, 209 Liters Drum.

## Customer Advice

For further assistance on product MSDS, recommendation or technical queries, please liaise with the regional technical services engineer or contact HQ technical engineers.