



PRODUCT DESCRIPTION

EcoLine™ Cutting Fluid is a multifunctional biodegradable concentrate for metal cutting operations. This liquid cools the work pieces and tools, prevents welding of metals during the metalworking process and provides excellent corrosion protection and lubrication during the cutting process.

High-performance characteristics make EcoLine™ Cutting Fluid ideally suited for heavy-duty cutting, milling, turning, drilling, broaching and other machining operations.

When added to water in the ratio of 1:40 to 1:20, EcoLine™ Cutting Fluid gives a stable emulsion which provides excellent cooling and little or no smoke during use. This concentrated fluid can be used in small amounts providing cost savings. When used as directed, EcoLine™ Cutting Fluid prevents corrosion during in-plant processing, storage and export shipment for up to 12 months.

FEATURES

- Environmentally friendly and biodegradable
- Replaces hazardous mineral oil
- Excellent for operations which require rapid cooling
- Contains no chlorinated compounds, chromates or nitrites
- Low to no smoke or burning vapors
- Excellent anti-wear properties
- Excellent lubricity
- Excellent extreme pressure properties
- Cleans parts by removing rust and oil
- Provides excellent corrosion protection
- Displaces water and oil from metal surfaces
- Economical - can be diluted 1:40 with water

APPLICATION

Add EcoLine™ Cutting Fluid to water using a high dispersion-mixing blade. Mix for 5-10 minutes. The emulsion should remain stable indefinitely. In case of separation, emulsion can be remixed.

TYPICAL APPLICATIONS

- Lubricant for heavy-duty rolling, grinding, extruding, stamping and cutting
- In-plant machining
- Biodegradable preservative for hot-rolled, cold-rolled, galvanized and aluminized steel during operation, storage and shipment
- Hydrostatic testing
- Machining coolant

TYPICAL PROPERTIES

Appearance	Clear amber liquid
Non-volatile Content	89-93%
pH	8.5-9.0 (1% aqueous)
Density	7.7-7.8 lb/gal (0.92-0.93 kg/l)

TEST RESULTS

ASTM D 1748 (Humidity Chamber)
Pass 220 hours (for 2.5% solution)
Pass 800 hours (for 5% solution)

ASTM D 4627-86 (Cast Iron Chip Test)
Pass (1% solution)

ASTM D 2670 (Falex Pin and VEE Block Wear Test)
Conditions:
Run in/5 min. 350 lb (159 kg)
Gage load/15 min. 900 lb (408 kg)

Results:
Total Teeth Wear 17 (2.5% solution)
10 (5% solution)
Seizure (Yes/No) No (2.5% solution)
No (5% solution)

Tapping Torque Test
Specimen Type 1215 steel
Speed (high speed taps) 400 rpm

Conventional Cutting Fluid	6.257 (2.5%) 6.195 (5%)
EcoLine™ Cutting Fluid	5.962 (2.5%) 5.814 (5)

STORAGE AND PACKAGING

EcoLine™ Cutting Fluid is packaged in 16 oz. (455 ml) ready-to-use, 5 gallon (19 liter) pails concentrate, 55 gallon (208 liter) drums concentrate, liquid totes and bulk.

The product should be stored sealed in the warehouse to avoid freezing. Agitate before each use. The shelf life of EcoLine™ Cutting Fluid is up to 24 months.

