

E-308 Fully Synthetic Water-Based Metalworking Coolant

Product Overview

E-308 is a mineral-oil-free fully synthetic heavy-duty coolant engineered for high-precision and high-load metal machining. It is compounded with extreme pressure anti-wear additives, multi-functional rust & corrosion inhibitors, wetting dispersants and exclusive synthetic lubrication packages.

This fluid delivers balanced ultra-high cooling efficiency, heavy-duty EP lubricity and long-term anti-corrosion protection. It is widely applicable to cutting, turning, deep-hole drilling, tapping and grinding operations on carbon steel, stainless steel, alloy steel and aluminium alloys.

Product Features

Outstanding Extreme Pressure Lubrication

- Advanced synthetic lubricants drastically reduce cutting resistance, suppress tool abrasion and extend tool service life.
- Perfect for heavy-duty processes including deep-hole drilling and carbide cutting; prevents tool chipping and workpiece thermal burn.

Multi-Metal Anti-Rust & Anti-Tarnish Performance

- Multi-path rust inhibition technology safeguards ferrous metals against rust, and protects aluminium, copper and other non-ferrous metals from oxidation and discoloration.
- Provides inter-operation rust protection for machine tools and finished workpieces to lower post-processing rejection rates.

Superior Detergency & Low Residue Property

- Built-in wetting dispersants rapidly separate metal swarf and tramp oil, maintaining clean machine sumps and workpiece surfaces with minimal hard deposits.
- Light residual film simplifies post-process cleaning and cuts equipment maintenance costs.

Excellent Hard Water Stability & Low Foam Characteristic

- Tolerant to both soft and hard industrial water, maintaining consistent performance throughout the service cycle and prolonging fluid replacement intervals.
- Low-foam formulation eliminates foam overflow interference under high-flow pump circulation.

Technical Specifications

Test Item	Test Condition	Typical Parameter
Concentrate	Undiluted neat liquid	45–47 %
Appearance	Visual Inspection	Pale yellow transparent liquid
pH Value	5% concentration in tap water	8.0 – 8.5 (mild alkaline)
Standard Working Concentration	General machining	5% (1:19 dilution ratio)
Heavy-Duty Concentration	High-load drilling/tapping	10–12.5% (1:8 ~ 1:10 dilution ratio)
Water Compatibility	Tap / industrial water	Compatible with soft & hard water

Application Scope

Compatible Workpiece Materials

1. Ferrous Metals: Carbon steel, stainless steel, alloy steel, cast iron
2. Non-Ferrous Metals: Aluminium alloys, copper alloys

Supported Machining Processes

Turning, milling, planing, deep-hole gun drilling, tapping, precision surface grinding

Applicable Equipment

CNC machining centres, lathes, milling machines, drill presses, automated continuous production lines

Mixing & System Maintenance Guidelines

Dilution Preparation

- Standard light/medium load: Mix 1 part E-308 concentrate with 19 parts clean tap water (5% concentration).
- Heavy-duty cutting, deep drilling or hard alloy machining: Adjust ratio to 1:8 ~ 1:10.
- Always add coolant concentrate into pre-filled water tank while running circulation pump for uniform blending.

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Daily & Periodic Maintenance

- Fully clean machine sump, pipes and filter system before initial filling to avoid cross-contamination with old fluid.
- Regularly monitor working fluid pH (target 8.0–8.5) and concentration; top up neat concentrate or clean water to maintain set parameters.
- Install filtration equipment to remove metal fines and extend service life.

Daily & Periodic Maintenance

Normal load: 3–6 months service life. Replace immediately if liquid turns cloudy, generates persistent foam or loses anti-rust performance.

Safety & Handling Precautions

- Do not mix E-308 with other brands or types of metalworking fluids, which will cause performance degradation and stability failure.
- Wear chemical-resistant gloves for prolonged direct skin contact; rinse skin thoroughly with clean water after contact.
- For aluminium & magnesium alloy processing, remove accumulated metal chips frequently to avoid chemical oxidation reactions.
- Avoid splashing fluid into eyes; flush eyes with plenty of running water if contact occurs and seek medical advice if irritation persists.

Packaging, Storage & Shelf Life

- Standard Packaging: 18L plastic drum, 200L steel drum; custom IBC 1000L totes available on request.
- Storage Rules: Store sealed drums in cool, dry indoor warehouse, shielded from direct sunlight and high heat sources; fully re-seal lids after partial use.
- Shelf Life: 12 months unopened under recommended storage conditions.