Technical Data Sheet

RLT-F30
Micro-Emulsion EP Metalworking Coolant

Description

RLT-F30 is a high-performance semi-synthetic micro-emulsion coolant formulated with premium extreme pressure (EP) additives, high-efficiency corrosion inhibitors and specialized lubricants.

Formulated free of sulphur and sodium nitrite, this fluid minimizes occupational health risks and eliminates chemical staining risks on workpieces. Its advanced biostable package suppresses bacteria and fungal growth, delivering an extended service life and reducing frequent fluid change costs.

This coolant balances superior cooling, lubrication, anti-rust and heavy-duty EP performance. It is compatible with CNC machining centres, multi-task machine tools and centralised cooling circulation systems. It supports turning, drilling, milling and grinding operations on ferrous metals, copper and aluminium alloys.

Features and Benefits

- Superior EP lubrication: Reduces cutting friction, tool wear and surface burrs for improved surface finish and longer tool life
- Excellent biostability: Resists microbial degradation, avoids odour build-up and extends sump life
- Dual metal protection: Provides reliable rust prevention and anti-tarnish protection for both ferrous and non-ferrous metals (Cu, Al)
- Long service cycle: Low carry-off rate, stable working concentration to lower overall operational costs
- Powerful detergency: Rapidly flushes metal swarf, tramp oil and machining residues to keep machine sumps clean
- Low hazard formulation: Sulphur & sodium nitrite free, milder to operators' skin

Typical physical and chemical properties

Test Parameter	Test Condition	Typical Value
Concentrate Appearance	Undiluted neat product	Pale yellow clear liquid
Diluted Fluid Appearance	5% concentration in deionised water	Homogeneous milky white micro-emulsion
pH Value	5% concentration in deionised water	8.5 – 9.5

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Test Parameter	Test Condition	Typical Value
Water Miscibility	Mixed with clean water	Fully miscible at all ratios, no separation or sediment

Mixing & Application Instructions

Standard mixing ratio: 1 : 20

Operating Guidelines

- Always add water to the machine sump first, then slowly pour in the coolant concentrate while running the circulation pump to achieve uniform mixing.
- Monitor working fluid concentration and pH regularly during production; top up with neat concentrate when concentration drops below target levels.
- Remove metal swarf, floating tramp oil and sediment from the sump on a routine basis to maintain fluid stability.

Application Scope

Compatible Equipment

CNC machining centres, multi-purpose machining tools, grinders, drill presses, centralised coolant circulation systems

Machining Operations

Turning, drilling, reaming, tapping, milling, surface grinding and general metal cutting

Suitable Workpiece Materials

Carbon steel, alloy steel, cast iron, copper, aluminium & aluminium alloys

Unsuitable Material

Magnesium alloys

Storage & Handling

- Packed in 20L plastic or 200L steel drums; 12-month shelf life unopened.
- Store drums indoors in a covered warehouse; outdoor storage is prohibited.
- Keep away from direct sunlight and high-temperature heat sources to prevent concentrate degradation.
- Store barrels horizontally or keep lids tightly sealed to avoid rainwater pooling on drum tops, which causes dilution and contamination.
- Fully reseal drums after partial use to prevent water ingress and microbial contamination.
- Optimal storage temperature range: 5°C – 35°C.

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