

LOGAMOL S5000

Fully Synthetic Cutting & Grinding Coolant

LOGAMOL S5000 is a high performance, fully synthetic, water-soluble, bio-stable coolant for multifunctional heavy cutting and grinding on Steels, Harden Steels and Cast iron.

LOGAMOL S5000 has very unique chemistry that free and it is from Potassium hydroxide, Monoethanolamine, Diethanolamine, Triethanolamine and MIPA. It is also free from silicone oil, nitride, nitrites and active sulfur. The freedom from these chemicals allows extremely long sump life by elimination of bio-nutrient source.

LOGAMOL S5000 improves machining tool life by incorporating a special Extreme Pressure Additive (EP-Additive) that reduces “Built-Up-Edge“ (BUE) that welded on to cutting tools during heavy cutting process. The reduction of BUE reduces friction and adhesion lost of tool material. Hence maintaining the original shape and dimension of cutting tools. This allows better dimension accuracies, better surface finishing and lower tools replacement cost.

LOGAMOL S5000 is a blend of various synthetic base oils that allow balance of lubrication effect and solution stability. LOGAMOL S5000 forms a true solution when it is added into water. It also provides benefits of dispersing small amount of lubrication oil from machine without reducing its original bio-stability significantly. The dispersed mineral oil also provides benefits of less summing of cast iron chips.

LOGAMOL S5000 contains surfactant that will allow easy maintenance of production machine’s cleanliness.

LOGAMOL S5000 eliminates growth of anaerobic, aerobic bacteria and fungus with its unique chemistry. A minimum level of biocide additives is built in the coolant concentrate to eliminate bacterial from raw water supply line.

LOGAMOL S5000 exhibits extremely stable pH level even under severe microbial input from raw water top-up, hence the bacterial count maintenance program shall use Dip-Slid System rather than maintenance system that uses the indication of pH drop.

LOGAMOL S5000 contains a special additive that reduces coolant mist pollution from High Pressure systems. This improves worker health and safety, less contamination and fluid loss.

LOGAMOL S5000 requires water hardness of 1 to 2 °dh (German Hardness) or 17.5 to 35 ppm, to run on extremely low foam condition. Nevertheless extremely soft water condition will foam LOGAMOL S5000 slightly. Hence a system using extremely soft water requires a small amount of initial hardness treatment for high turbulence flow, otherwise no treatment of raw water is required.

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Application

LOGAMOL S5000 typically used according to concentration recommended as below:

- Cylindrical and centerless grinding: 3 – 4%
- Surface grinding: 2 – 3%
- Steel Turning, milling, drilling: 5 %
- Steel Reaming, Threading, Fine Boring and Broaching: 6% or higher
- Cast Iron Machining: 5%
- In cornel machining: 10% or higher
- Deep hole boring: 15% or higher
- Steel pipe forming and weld removal: 5 % or higher
- Band sawing: 8% or higher
- Light deep forming: 25% or higher
- Automatic transfer production line: 10%
- CNC-Machining of automotive Iron parts: 6%
- Low-Speed horizontal Chain Broaching: 20% 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 S5000** with normal mineral oil, synthetic and soap base cutting coolant as this may affect the properties and useful life of **LOGAMOL S5000**.
- **LOGAMOL S5000** is not designed for yellow metal machining as it may tarnish the fresh cut yellow metal surface. Always test coolant compatibility when working with new materials.
- 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

- Reflectometer: 1.8 @ 28 °C
(It is important to calibrate the reflectometer by DI water before determining the coolant concentration).
- **LOGAMOL S5000** does not give off unpleasant odor that affects workers comfort.
- **LOGAMOL S5000** 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.
- **PETRONAS Fluid Management Program** is specially designed to reduce the overall production and disposal cost for large volume users.
- **LOGAMOL S5000** works with **LOGAMOL ADDITIVE S5000** to generate synergistic effect in this special fluids management program. The residue on machined parts can be easily removed by **LOGAMOL ELC-S** neutral cleaner. **LOGAMOL FERCEPT S5000** is strongly recommended for flushing of coolant storage tanks and equipment to eliminate bio-organism that is harmful to the system and new coolant.

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Chemical & Physical Data

Characteristics	Value
Concentrate	
Specific Gravity @ 20°C, g/cm ³	1.07
Viscosity @ 40°C, mm ² /s	45.5
Solution	
Corrosion Protection	
2.5%	SO/RO
3.5%	○
pH Value , 5.0%	9.3
Foaming , 3.0% (DI Water)	1.1 Volume
5 °dh Hardness	Immediately
Residue , 5.0 %	Oily, re-soluble
Indoor Corrosion Protection (Steel Parts)	2 weeks

Machining Coolant Preparation

Always mixed **LOGAMOL S5000** 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 HO technical engineers.