

STARCHEM

StarCool 171

High Performance Synthetic Cutting and Grinding Fluid Concentrate

GENERAL DESCRIPTION

StarCool 171 is an extremely heavy-duty synthetic cutting and grinding fluid designed for ferrous materials. This product has been specifically formulated to significantly extend useful fluid life without relying on sump-side additions of expensive additives. **StarCool 171** possesses excellent lubricating and corrosion inhibition properties, and can be used in “stand-alone” machines and central systems. This high-performance synthetic is perfect for those shops that prefer to use an oil-free metalworking fluid.

APPLICATION

StarCool 171 provides superior performance on tough-to-cut materials such as stainless steels, alloy steels and titanium in turning, milling, drilling, boring, and broaching operations without chlorine or sulfur-based additives. **StarCool 171** also exhibits very low mist levels and is ideal for grinding applications such as centerless, ID, OD, Blanchard, and creep feed grinding. It is extremely low foaming, making it an excellent choice for high pressure applications. **StarCool 171** is not recommended for copper or aluminum alloys.

ADVANTAGES

- Superior lubricity for ferrous metals without the use of EP additives
- Extremely low foaming in high pressure applications
- Excellent corrosion and microbial control
- Low odor and mist
- Clear mix for good part visibility
- Rejects tramp oil for long sump life
- Low carry off for reduced concentrate usage
- Oil-free for easy recycling or disposal

StarCool 171 does not contain nitrite, dicyclohexylamine, chlorine, silicone or phenolic biocides.

PHYSICAL PROPERTIES

Form	Clear Liquid	Specific Gravity (H₂O=1)	1.07
Boiling Point	212°F	pH (concentrate)	9.8
Flash Point (COC)	NA	Typical Operating pH Range	8.9 – 9.3
Solubility in Water	100% Miscible	Refractometer Factor	1.6

RECOMMENDED STARTING DILUTIONS

ID, OD, Surface Grinding	5% - 6%
Centerless, Creep-Feed Grinding	6% - 10%
Milling, Drilling, Turning	5% - 10%
Tapping, Reaming, Sawing	6% - 12%
Broaching	10% - 20%

MIXING INSTRUCTIONS

Always add **StarCool 171** concentrate to water. Mix concentration can be determined using a refractometer.

StarCool 171 CONCENTRATION

Concentration	5% (1:20)	6% (1:17)	7% (1:14)	8% (1:13)	10% (1:10)	15% (1:6.6)	20% (1:5)
Refractometer Reading	3.1	3.8	4.4	5.0	6.3	9.4	12.5

StarCool 171 is not recommended for use on magnesium or alloyed magnesium

Using premixed concentrate as makeup will improve performance and reduce usage. The specific makeup concentration selected for your situation should balance the water evaporation rate with the coolant carry-off rate. Adding makeup concentrate at 20-30% of the desired working concentration will generally maintain the proper concentration in use. The use of deionized or mineral-free water will also improve performance, prolong sump life, and reduce concentrate usage.

AVAILABILITY

StarCool 171 is available in 5-gallon pails, 55-gallon drums, and in bulk.

HEALTH & SAFETY

The most recent MSDS is available from either **STARCHEM** or your authorized **STARCHEM** Distributor.

NOTES

- Consult **STARCHEM** before using this product on any metals or applications not specifically recommended
- Do not use any metalworking fluid additives except as recommended by **STARCHEM**
- The general description, recommended uses, application data and statements in the product literature are guidelines. Because this product may be used for a variety of applications over which the manufacturer has no control, the manufacturer assumes no liability for incidental, consequential, or direct damages of any kind, regardless of causes, including negligence.

CIMCOOL® FLUID TECHNOLOGY

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