

# STARCHEM

## StarCool 109C

### *Synthetic Cutting and Grinding Fluid Concentrate*

#### GENERAL DESCRIPTION

**StarCool 109C** is a high performance, synthetic metalworking fluid designed specifically for light duty working of cemented carbides, and is ideal for shops that prefer to use an oil-free product. **StarCool 109C** contains a proven and highly effective combination of inhibitors that significantly reduces the leaching of cobalt and nickel binders. The integrity of the carbide workpiece is maintained, and more importantly, the addition of toxic metal ions into the metalworking fluid environment is minimized.

**StarCool 109C** also provides excellent lubricity and cooling to extend grinding wheel life, and to improve workpiece finish. Grinding wheels remain open, and swarf quickly settles to the bottom of the sump for easy filtration due to superior rinsing and settling properties.

#### APPLICATION

**StarCool 109C** can be used in “stand-alone” machines and central systems. It is an ideal product for grinding applications such as surface, centerless, ID, OD, and Blanchard, and can also be used for light to moderate duty machining. StarCool 109C is extremely low foaming, making it an excellent choice in high-pressure applications.

#### ADVANTAGES

- Significantly reduces leaching of binders in cemented carbides
- Superior lubricity and cooling for extended wheel life and workpiece finish
- Excellent rinsing and settling properties for open cutting and good filtration
- Extremely low foaming in high pressure applications
- Excellent corrosion protection and microbial control
- Clear mix for good part visibility
- Rejects tramp oil for prolonged sump life
- Low odor and mist levels
- Low carry off for reduced concentrate usage

**StarCool 109C** does not contain nitrite, chlorine, silicone, or phenolic biocides.

#### PHYSICAL PROPERTIES

<b>Form</b>	Clear Liquid	<b>Specific Gravity (H<sub>2</sub>O=1)</b>	1.03
<b>Boiling Point</b>	212°F	<b>pH (concentrate)</b>	9.6
<b>Flash Point (COC)</b>	NA	<b>Typical Operating pH Range</b>	9.2 – 9.4
<b>Solubility in Water</b>	100% Miscible	<b>Refractometer Factor</b>	2.4

**AVAILABILITY**

**StarCool 109C** is available in 5-gallon pails, 55-gallon drums, and in bulk.

**RECOMMENDED STARTING DILUTIONS**

Surface, Centerless, ID, OD Grinding    4% - 6%  
Light to Moderate Duty Machining        5% - 7%

**MIXING INSTRUCTIONS**

Always add **StarCool 109C** concentrate to water. Mix concentration can be determined using a refractometer.

**StarCool 109C CONCENTRATION**

<b>Concentration</b>	<b>4%</b> <b>(1:25)</b>	<b>5%</b> <b>(1:20)</b>	<b>6%</b> <b>(1:17)</b>	<b>7%</b> <b>(1:14)</b>	<b>8%</b> <b>(1:13)</b>	<b>9%</b> <b>(1:11)</b>	<b>10%</b> <b>(1:10)</b>
<b>Refractometer reading</b>	1.7	2.1	2.5	2.9	3.3	3.8	4.2

**StarCool 109C** 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.

**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**

3000 Disney Street  
Cincinnati, OH 45209  
Tel (513) 458-8199 Fax (513) 458-8179