

# STARCHEM

## StarSol 810

### *Premium Soluble Oil Cutting and Grinding Fluid Concentrate*

#### GENERAL DESCRIPTION

**StarSol 810** is a BIORESISTANT, premium soluble oil for extremely heavy duty metalworking applications. This product contains an effective combination of high quality mineral and vegetable oils and extreme pressure additives to provide excellent lubrication in extremely heavy duty machining and grinding of ferrous metals. **StarSol 810** was designed for high metal-removal rate cutting and grinding operations on carbon steels, alloy steels, stainless steels, titanium, Inconel, and other difficult-to-machine alloys. This product can significantly reduce tool and grinding wheel usage while improving part finish. **StarSol 810** has been specifically formulated to significantly extend fluid life without relying on sump-side additions of expensive additives.

#### APPLICATION

**StarSol 810** is recommended for wide variety of metalworking operations including CNC milling, turning, drilling, gun-drilling, boring, reaming, tapping, broaching, threading, and sawing operations. **StarSol 810** is an ideal choice for grinding applications including centerless, plunge, creep feed, ID/OD and surface grinding.

**StarSol 810** is not recommended for use on cast iron, copper alloys, aluminum alloys, or magnesium or alloyed magnesium.

#### ADVANTAGES

- Extreme lubricity for tough to work ferrous metals
- Reduced grinding wheel and tool usage
- Increased metal removal rates and productivity
- Superior microbial control for long sump life
- Reduced need for additives
- Low foam and mist

**StarSol 810** does not contain dicyclohexylamine, nitrite or phenolic biocides.

#### PHYSICAL PROPERTIES

<b>Form</b>	Clear, Amber Liquid	<b>Specific Gravity (H<sub>2</sub>O=1)</b>	0.99
<b>Boiling Point</b>	NA	<b>pH (concentrate)</b>	NA
<b>Flash Point</b>	350°F	<b>Typical Operating pH Range</b>	8.8 – 9.2
<b>Solubility in Water</b>	100% Miscible	<b>Refractometer Factor</b>	0.9

**AVAILABILITY**

**StarSol 810** is available in 5-gallon pails, 55-gallon drums, and in bulk.

**RECOMMENDED STARTING DILUTIONS**

Turning, Milling, Drilling 5% - 7%  
 Gun-Drilling, Boring, Reaming, Tapping, Threading, Broaching 6% - 10%  
 Centerless, ID/OD, Surface Grinding 5% - 7%  
 Plunge, Creep Feed Grinding 6% - 8%  
 Some severe applications may require higher starting dilutions.

**MIXING INSTRUCTIONS**

Always add **StarSol 810** concentrate to water. Mix concentration can be determined using a refractometer.

**StarSol 810 CONCENTRATION**

<b>Concentration Ratio</b>	<b>4% 1:25</b>	<b>5% 1:20</b>	<b>6% 1:17</b>	<b>7% 1:14</b>	<b>8% 1:13</b>	<b>9% 1:11</b>	<b>10% 1:10</b>
<b>Refractometer Reading</b>	4.0	5.0	6.0	7.0	8.0	9.0	10.0

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 30-50% 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**

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