

METAL REMOVAL FLUIDS

QUAKERCOOL® 7350 BORON FREE - SEMI-SYNTHETIC APPLICATION SHEET

BENEFITS

- » Formaldehyde, boron, and secondary amine free
- » Enhanced bio-resistance to extend sump life and minimize strong odors
- » Exceptional emulsion stability over a wide range of water hardness
- » Beneficial tramp oil rejection
- » Excellent neat product stability over a wide range of temperatures
- » Provides good cleanliness on tools/machines and detergency characteristics

APPLICATIONS

QUAKERCOOL® 7350 is a high-performance micro-emulsion ideally suited for all operations demanding premium surface finish quality and consistent lubrication. Ideal for machining aluminum, ferrous alloys and copper.

PROPERTIES

PROPERTY	TYPICAL VALUE
Appearance neat	Clear amber/light brown
Appearance at 5% dilution	Opaque
Pounds per gallon at 60°F	8.34
Odor	Amine
Neat pH	9.6
pH at 5% dilution	9.3

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CLEANING AND PROTECTING

To clean and protect after the metal removal operation, use QUAKERCLEAN® (cleaners) and FERROCOTE® (corrosion preventives) to enhance process compatibility. Consult your Quaker Chemical representative.

FLUID MAINTENANCE

This product is diluted into water prior to use. Always add product to water to avoid creating an invert emulsion. For most operations, the dilution range is 6% to 8% by volume. Initial water hardness range of 130 - 300 ppm (as calcium carbonate) is typically suitable. Please consult your Quaker Chemical representative for more information.

STORAGE AND HANDLING

QUAKERCOOL® 7350 has a shelf life of 6 months. Like most chemicals, it should be stored out of direct sunlight in temperatures between 40°F - 100°F (4°C - 40°C).

CONCENTRATION CONTROL

REFRACTOMETER

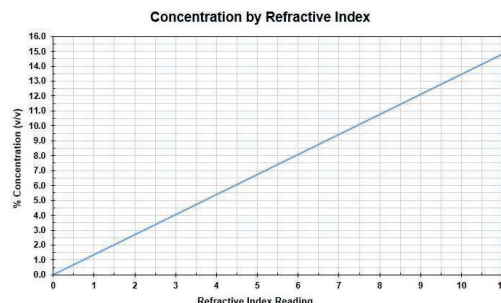
If you do not have titration equipment or are unfamiliar with the methods, your Quaker representative can provide detailed instructions and a list of suggested equipment.

In situations where titration is not feasible, you can use a refractometer to get a good approximation of coolant concentration. If you are not familiar with refractometers, or do not have one, your Quaker representative can suggest the proper equipment and show you how to use it.

Once you have obtained the refractometer reading for your system you can use the Concentration by Refractive Index chart or use the following equation to determine approximate concentration:

Refractometer reading x 1.3 = Approximate concentration of QUAKERCOOL® 7350

Quick and easy refractometers can be used to measure and verify concentration for a freshly charged system. Long term, refractometers are not recommended to measure concentration or manage your system. As systems age, more and more process variables contribute to increase inaccuracy. Water hardness, solution temperatures, tramp oil level, product chemistry, and various operations have been known to affect results.



TITRATION

Good control of coolant concentration is important to maintain optimum metalworking performance, as well as to ensure the chemical and biological stability of your fluids. Proper concentration also helps keep your total operating cost - including tooling and chemicals - at a minimum.

The best method for checking the concentration of QUAKERCOOL® 7350 is to titrate using a pH meter and a dilute acid as follows:

1. Collect a sample of the QUAKERCOOL® 7350 working solution from your machine or coolant system while the fluid is being circulated. Avoid collecting tramp oils or taking samples from a stagnant area
2. Carefully measure 25ml of this fluid into a clean 250ml beaker, and add 75ml of distilled or deionized water
3. Slowly and carefully titrate this mixture, while continuously stirring, to a pH of 6.8 using 0.5N Hydrochloric acid (HCl)
4. Record the ml of acid used and multiply by a factor of 2.60. Record this number as the concentration of your system

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