ERIE INDUSTRIAL
E I S C
FROM CUT TO FINISH
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# Tech Cool® 35052

**Premium grade, heavy-duty, chlorinated EP, semi-synthetic metalworking fluid, designed to machine and grind difficult-to-machine materials.**

## PRIMARY APPLICATION

Tech Cool® 35052 is a heavy-duty, bio-resistant premium grade semi-synthetic metal working fluid designed for machining and grinding. Tech Cool 35052 is specifically formulated for those facilities machining aluminum, titanium, inconel and other difficult to machine alloys.

Tech Cool 35052 is formulated to provide protection against the growth of bacteria without the use of biocides, DCHA or other secondary amines.

Tech Cool 35052 is exempt under Rule 1144 of the SCAQMD since flashpoint is > 200°F.

## CHEMICAL CHARACTERISTICS

| | |
|---|---|
| chemical composition | petroleum based with extreme pressure additives |
| physical form | amber liquid |
| odor | mild, pleasant |
| bulk density | 8.60 lbs/gallon |
| water solubility | emulsifies |
| foaming tendency | low |
| pH at working concentration | 9.3 |

## APPLICATION

Tech Cool 35052 is recommended for general machining and grinding operations at the following concentrations:

| | |
|---|---|
| Grinding | 4% to 6% |
| Machining | 5% to 12% |

Tech Cool 35052 is safe for use on Stainless Steels, Inconels, Hastalloy, and other ferrous alloys. It is also safe for use on aluminums and aluminum alloys as well as 356 and 380 series cast aluminum.

Tech Cool 35052 is designed to be mixed directly with water and is suitable for tapping, reaming, sawing, turning, ID and OD grinding or similar operations.

### SOLUTION CONTROL

Refractometer Readings - Tech Cool 35052 can be measured using a handheld refractometer (0-30 Brix).
Refractometer factor = 1.0

A titration can be run on a working bath of Tech Cool 35052, but to effectively determine the “endpoint” of the titration, a pH meter is required. For most applications, the refractometer is the only control method required, and is the most reliable method.

Tech Cool 35052 can be controlled by following titration:

1. Take 5 ml. of sample in a flask.
2. Add 100 ml. of water and a stir bar.
3. Put the flask on a magnetic stir plate and insert a calibrated pH electrode.
4. Fill the burette with Gardotest Solution 45 to the zero ml. mark.
5. Add slowly the titrant until the sample “first reaches” to pH 4.0.
6. Record the ml. of titrant used.
7. Calculate concentration as % b. v. = ml. of titrant x 2.13

**BENEFITS**

- Excellent emulsion stability
- Bio-resistant without use of biocides, DCHA, or secondary amines
- Low foaming, suitable for high speed machining
- Hard water stable (to 1,200 ppm)
- Excellent protection from staining on aluminum and ferrous alloys
- Low maintenance requirements
- Improved tramp oil rejection designed for extended fluid life and recycling
- Low oil misting

## EQUIPMENT

The Chemetall Americas Refractometer (0-30 Brix) can be used to measure the refractive index (Brix) of this product/solution. Water driven proportioners can be used to automatically feed the premixed solution of this product to the sumps. The Coolant Filter System can be used to filter out sludge, and oils from the metalworking fluids and help control any microbial growth in the sump. Please contact the Chemetall Americas Process Equipment and Engineering Department for specific recommendations.

## REGULATORY APPROVALS

Tech Cool 35052 meets the requirements of BAC 5008, Section 12.1 Weight Change Corrosion Testing and Section 12.5 Titanium Corrosion Testing.

Tech Cool 35052 is Boeing approval for use on Titanium, Inconel and other high-nickel alloys after extensive onsite testing.

## NOTES OF USE – **(see Material Safety Data Sheet)**

Always add Tech Cool 35052 to water; never add water to Tech Cool 35052 concentrate.

## SAFETY AND HANDLING

Prior to handling and use of the material referenced in this document, the Material Safety Data Sheet should be read and understood by all personnel in contact with these materials.

## STORAGE

Dry indoor storage at temperatures between 40ºF and 100ºF (4.4ºC and 37.8ºC) is recommended, away from any incompatible materials referenced in the Material Safety Data Sheets. All containers should be tightly closed when not in use.

## KEEP OUT OF REACH OF CHILDREN

## DISPOSAL

Any disposal of the materials referenced in this document should be in accordance with all applicable federal, state, providential and local regulations. The process solution can contain components other than those present in the materials as supplied. Analysis of process solutions may be required prior to disposal.



Chemetall

*ISO 9001/FM 93653*

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