Cee-Bee
Innovative Aviation Chemistry

Product Data Sheet

Super Bee™ 400TG

Super Bee™ 400TG is a liquid concentrate formulated to remove greases, oils, and particulate soil from aluminum alloys, other non-ferrous metals, and steel. Super Bee™ 400TG provides long bath life and high level of soil loading.

Conforms To

- Bombardier
  - BAPS 180-001
  - BAPS 180-40
  - PPS 31.01
- Embraer
  - NE 40-012
- Goodrich
  - MP10-007, Rev. A
- Spirit AeroSystems
  - GAMPS 4105

Benefits

- Excellent grease, oil, and particulate remover.
- Low foaming when used in mechanically-agitated immersion applications.
- Does not contain non-phenol ethoxylate (NPE) or other alkyl phenol ethoxylates (APE's).
- Safe on steel, aluminum, titanium, magnesium and copper alloys.
- Does not contain chromium or solvents.

Properties

- Clear to slightly hazy, pale yellow liquid
- Mild surfactant odor

Notes Prior to Handling

Before using your Cee-Bee® products, all safety and operating instructions should be read and understood. If you have any questions, please contact your Cee-Bee® representative before proceeding.

Use Procedure

Immersion Tank Cleaning

1. Mix Super Bee™ 400TG in water at 10% - 25% by volume, depending on degree of contamination.
    a. A typical concentration is 15%.
2. Immerse parts in bath at 130-160°F (55 - 70°C) for 5 to 30 minutes. Best results are obtained if the solution is agitated either mechanically or with eductors.
3. When cleaning is complete, remove parts from bath and allow excess solution to drain back into the tank.
4. Spray rinse parts over tank and immerse in an air-agitated, overflowing water rinse tank.

Tank Control Parameters

Operating Temperature

- Operating the solution below the recommended temperature will reduce cleaning performance. Foam may develop when operating the tank at temperatures below 120°F (50°C).

Concentration

- Super Bee™ 400TG solution concentrations can be determined by;
    - UV Spectrophotometer
        - **Note:** For larger volume tank solutions where pH Adjuster will likely be required, the UV Spectrophotometer method will produce the most accurate concentration readings
    - Titration Analysis

Solution Control – UV Spectrophotometer Method

UV Spectrophotometer Method

Reagents & Equipment

- Deionized water
- UV Spectrophotometer
- 10 mm Quartz Cuvettes
- 2 ml Class A Volumetric Pipette
- 100 ml Class A Volumetric Flask

Analysis Procedure

1. Pipette 2 ml from a foam-free sample of Super Bee™ 400TG working bath to a 100 ml volumetric flask.
2. Dilute the flask to volume with de-ionized water, stopper, and mix well by gentle inversion (keep foam to a minimum).
3. Measure the absorbance of this dilution using a 10 mm quartz cuvette at 268 nm. Use deionized water as a reference blank.
4. Calculation:

(Volume %) Super Bee™ 400TG concentration = (sample absorbance @ 268 nm) X (25.1).

pH

- To insure optimum performance, maintain bath pH within the range of 10 to 11.5 using a reliable pH meter. Depending on soil drag-in, normal additions of Super Bee™ 400TG to replace standard usage should be enough to maintain the bath within the correct pH range and no special additions of Super Bee™ 400TG-ML are necessary.
- If the pH begins to approach its lower limit, then add additional Super Bee™ 400TG to increase the pH. Generally, this will require 0.5% by volume to raise the pH 0.1 units.
- If air agitation is used, then the pH may decrease as carbon dioxide is introduced into the bath. In this case, Super Bee™ 300LF Liquid PH Adjuster may be needed to keep the bath within the pH limits. If required, approximately 0.024% of the tank volume of PH Adjuster will raise the pH 0.1 units.

Note

- If concentration and pH are within their recommended ranges, and performance is not satisfactory, the tank should be dumped and recharged with a fresh solution of Super Bee™ 400TG.

Solution Control – Titration Method

Titration Method

Reagents & Equipment

- pH Meter
- 250 ml Erlenmeyer Flask
- 50 ml Burette
- 50 ml Volumetric Pipette
- 0.1 N Acid, Standardized
- Deionized or Distilled Water

Analysis Procedure by Titration

1. Pipette 50 ml of tank solution into a 250 ml Erlenmeyer flask.
2. Add approximately 50 ml DI water.
3. Titrate with 0.1N acid to pH of 9.0 and record ml acid as A.
4. Continue titration to a pH of 4.0 and record total ml acid as T.
5. Calculation:

(T – A) X (1.16) = % (vol.) Super Bee™ 400TG

Safety, Handling, and Precautions

- Skin or eye contact can cause irritation. Chemical goggles or face shield and chemical-resistant gloves are recommended.
- In case of accidental contact, flush area thoroughly with water. If irritation persists, seek medical attention.
- Do not take internally.

Contact Us

United States
McGean
Phone: +1-216-441-4900
Fax: +1-216-441-1377
Email: Aviation@McGean.com

United Kingdom
McGean-Rohco (UK) Ltd.
Phone: +44-1902-456563
Fax: +44-1902-457443
Email: Aviation@McGean-Rohco.co.uk

Singapore
McGean Singapore
Phone: +65-6863-2296
Fax: +65-6863-2297
Email: Info@ceebee.com.sg

China
Cee-Bee Aviation Materials (Xiamen) Co. Ltd.
Phone: +86-592-551-3689
Email: Info@ceebee.com.cn

Super Bee™ 400TG is a liquid concentrate formulated to remove greases, oils, and particulate soil from aluminum alloys, other non-ferrous metals, and steel. Super Bee™ 400TG provides long bath life and excellent soil holding and suspension.

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