Cee-Bee
Innovative Aviation Chemistry

Product Data Sheet

Super Bee™ 400TG-ML

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

Conforms To

- Airbus
  - Application Code: 08ABC1
  - CML 11-001
  - Product Code: 860100
- AMS
  - 1526C
  - 1537B
- Boeing
  - BAC 5749
  - DPM-6629
- Bombardier
  - MPS 180-1s
- Lockheed Martin

Benefits

- Excellent grease, oil, and particulate remover.
- Does not contain nonyl-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.
- Completely aqueous and non-flammable.

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-ML in water at 10% - 25% by volume, depending on degree of contamination.
    a. A typical concentration is 15%.
2. Immerse parts in bath at 100-160°F (39 - 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.

Concentration

- Super Bee™ 400TG-ML 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
    - Hand Refractometer
    - 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-ML 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 272 nm. Use deionized water as a reference blank.
4. Calculation:

(Volume %) Super Bee™ 400TG-ML concentration = (sample absorbance @ 272 nm) X (8.85).

pH

- To insure optimum performance, maintain bath pH within the range of 9.5 to 12.0 using a reliable pH meter. Depending on soil drag-in, normal additions of Super Bee™ 400TG-ML 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-ML 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-ML.

Solution Control – Titration & Refractometer Methods

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-ML

Refractometer Reading Method

Reagents & Equipment

- Hand Refractometer (0-30 Scale), any hand-held Brix Refractometer (0-30 Scale)

Analysis Procedure by Refractometer Reading

1. Allow a sample of the Super Bee™ 400TG-ML bath to cool to room temperature 73 - 80°F (23 - 27°C).
2. Thoroughly mix the sample and immediately apply a few drops to the inclined rectangular window of the refractometer using the plastic rod provided to make the transfer.
3. Immediately close the plastic cover over the window.
4. Hold the instrument up to a strong light and read the refraction value on the scale of 0 to 30 units (water will read -0-).
5. Calculation:

(Refractometer Reading) X 3.85 = % (vol.) Super Bee™ 400TG-ML

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-ML is a liquid concentrate formulated to remove greases, oils, and particulate soil from aluminum alloys, other non-ferrous metals, and steel

Revision: 01/2022 (Rev. A3)