Cee-Bee
Innovative Aviation Chemistry

Product Data Sheet

Super Bee™ 300LF

Super Bee™ 300LF is a low-foaming aqueous alkaline cleaner for immersion, spray wash, spray/rinse, steam injection, ultrasonic and pre/post NDT Cleaning Applications.

Conforms To

- Airbus
- AMS
- Boeing
- CFM
- General Electric
- Goodrich
- Honeywell Aerospace
- International Aero Engines
- Lockheed Martin
- Messier-Bugatti-Dowty
- Pratt & Whitney
- Rolls Royce
- Snecma

Full Listing on Page 2

Benefits

- Excellent grease and oil remover.
- Low foaming when used in agitated tanks or spray washers.
- Effectively neutralizes fuselage surface after paint stripping.
- Free rinsing.
- Safe on steel, aluminum, titanium, magnesium and copper alloys.
- Safe on most paints and plastics.

Properties

- A clear to slightly hazy liquid
- Mild solvent 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.

Conforms To (Continued)

- Airbus
  - AIPA 09-01-003
  - A330-ATA32 Wheel Hubs
  - CML 11-001
  - CML 11-033
- Aircraft Braking System Corp. (ABSC)
- AMS
  - 1562B, 1537A, 1537B
- ARP
  - ARP 1755
- ASTM
  - G-47, F-945-85, F-483, F-945
- Boeing
  - BAC 5744, 5749, 5763
  - DPM 6373-5
  - D6-17487 Rev. T
  - HMS20-1267/2125
- Bombardier
  - BAPS 180-001
- BUPI United Kingdom
- CFM
  - CP 2615
- Douglas
  - CSD 1 & CSD 3
- Federal Express
- General Electric
  - 70-21-22 Methods 1 & 2
  - 70-21-24 Exterior Engine Cleaning
  - CO4-221
- International Aero Engines
  - Comat 01-480
- Lockheed Martin
  - EMAP G32.0200
    - STM 32-301C, Type I, Class 1A
    - LCM 32-2089C, Type 1, Class 2
  - EMAP G32.0206
    - STM 32-301C, Type 11, Class 1A
- Goodrich
  - CMM 32-40-24
  - CMM 32-40-44
  - CMM 32-40-50
  - CMM 32-41-75
- Goodrich & Messier
  - CMM 32-41-75
  - CMM 32-41-89
- Goodrich & Messier-Bugatti
  - CMM 32-41-83
- Honeywell
  - CMM 32-40-13
  - SPM 32-49-01
- Pratt & Whitney
  - PWA 36604 (Rev. C)
  - SPMC 181
- Rolls Royce
  - CSS 204 (Type A)
  - OMAT 1/24R
  - MLC 104
- SAAB
- Safran
  - PR-1500
  - DMR 70-700
- Sikorsky
- United Launch Alliance
  - DPM 8994

Use Procedure

Tank Recommendation

- Stainless Steel (300 Series) is recommended for use with Super Bee™ 300LF.

Immersion Tank Cleaning

1. Mix Super Bee™ 300LF in water at 10% - 25% by volume, depending on degree of contamination.
2. Immerse parts in bath at 120 - 160°F (50 - 70°C) for 5 to 30 minutes. Best results are obtained if the solution is agitated.
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.

Spray Wash Cleaning

1. Charge tank with a 5% to 20% by volume in-water solution of Super Bee™ 300LF (depending on degree of contamination) and heat to 120 - 160°F (50 - 70°C).
2. Spray wash for 5 to 30 minutes as required.
3. If spray washing equipment does not employ a rinse cycle, spray rinse parts with water or immerse in an air-agitated, overflowing water rinse tank.

Degreasing of Engine Exteriors Prior To Disassembly

1. Mask all openings to the engine interior as prescribed by the engine manufacturer.
2. Spray or foam on Super Bee™ 300LF and allow cleaner to dwell 10 to 20 minutes.
3. Flush entire engine with warm/hot water or steam.

Ultrasonic Cleaning

1. Mix Super Bee™ 300LF in water at 15% to 25% and operate at 120 - 140°F (50 - 60°C), for 5 to 15 minutes.

NOTE:

- In combined Immersion Soak/Ultrasonic applications the solution strength can be reduced to the range 8% to 20% while elevating the temperature from 85 - 160°F (30 - 70°C) for periods of 10 to 20 minutes.

Use Procedure (Continued)

Neutralizing Paint Stripped Surfaces

1. Preferably used on metal surfaces stripped with an acid-activated paint remover such as Cee-Bee® E-1004J.
2. Remove all loosened paint with brush and/or squeegee.
3. Steam-Clean stripped surfaces with hot 140 - 175°F (60 - 80°C) hot water.
4. Neutralize surfaces with a 120 - 160°F (50 - 70°C) 3 to 5% Super Bee™ 300LF solution. Start spray-on at the bottom and work upwards.
5. If steam cleaner equipment is not available, spray a 5 to 7% concentration of Super Bee™ 300LF on the fuselage surface.
6. Rinse surface thoroughly with water.

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.

Tank Control Parameters

Operating Temperature

- Operating the solution below the recommended temperature will reduce cleaning performance.

Concentration

- Super Bee™ 300LF solution concentrations can be determined by the following analysis procedures:
  - 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
  - Hand Refractometer

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™ 300LF 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™ 300LF concentration = (sample absorbance @ 272 nm) X (32.14).

pH

- To ensure optimum performance, maintain bath pH within the range of 10.0 to 12.0 using a reliable pH meter. Super Bee™ 300LF pH Adjuster is available in two versions:

  Solid pH Adjuster
  - Add with agitation 1 ounce of solid pH adjuster for each 100 gallons (75 grams per 1,000 liters) of tank solution to increase pH by 0.1 unit.

  Liquid pH Adjuster
  - Add with agitation 0.02% of tank solution to increase pH by 0.1 unit. Note that this addition is only valid for a pH below about 10.8.

- When adjusting Super Bee™ 300LF solutions with a pH 10.8 or above, more Liquid pH adjuster will be necessary.
- 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™ 300LF.

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™ 300LF

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™ 300LF 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 4.7 = % (vol.) Super Bee™ 300LF

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