

CEE-BEE CLEANER J-84A

by Cee-Bee®



d a t a s h e e t

CEE-BEE J-84A is a highly alkaline powder used for removing rust, heat scale, water scale, carbon, oil, and coatings.

BENEFITS

- Rapidly removes rust, other metallic oxides, and heavy carbon deposits.
- Quickly dissolves water scale, provides good oil and grease removal, and strips many paints, varnishes and synthetic coatings.
- Excellent for use in ultrasonic cleaning equipment.
- Safe on steel, cast iron, noble metals, and super alloys. May be used on titanium for a limited immersion time.

CONFORMS TO

- **ALLISON GAS TURBINE OPERATIONS (GENERAL MOTORS CORP)**
- **AMS 1380A**
- **BOEING BAC 5749, BAC 5751**
- **CFM-56 - CP.2006**
- **GENERAL ELECTRIC C04-049, ALKALINE RUST REMOVER (S102), (S1139)**
- **HONEYWELL SPM NO. 20-94/70-94**
- **INTERNATIONAL AERO ENGINES CoMAT 01-144**
- **PRATT & WHITNEY SPMC 2 (SPS 91), ALKALINE RUST REMOVER**
- **ROLLS ROYCE OMat No., 173J**
- **SNECMA**

**NOTE: To place an order email, call or FAX Customer Service at
800-932-7006 / FAX 1-216-441-1377 / orders@mcgean.com
Cee-Bee J-84A Product Code # 26013**



NOTES PRIOR TO HANDLING

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

USE PROCEDURES

USE 316 STAINLESS STEEL TANKS AND HEATERS WITH THIS PRODUCT

- Fill the tank about one-half full with water. Heat will be generated when Cee-Bee J-84A is added. Sprinkle powder in slowly and cautiously with constant and efficient mixing to avoid boiling and splattering. After the powder has been dissolved and the solution is free of lumps, add the remaining water with continuous and efficient agitation.

For Steel Parts:

1. Immerse the parts in a 2.5 to 3.0 lbs/gal., (300 - 360 g/l), bath at 190-200 degrees F.(88-93 degrees C.) for 60 minutes.
2. Remove the parts and allow excess cleaner to drain back into the tank. To reduce drag-out loss, rinse with a light mist of water over the tank, then dip in air agitated, overflowing clear water. If required, rinse with high pressure water.
3. To protect ferrous parts from flash rusting, force-dry with hot air or use a rust inhibitor Cee-Bee Nortex 3025.

Note: GE, SNECMA and CFM allow 2.0 - 3.0 lbs/gal., (240 - 360 g/l).

For Titanium Parts, a Quick Soak:

1. Immerse the parts in a 2.5 to 3.0 lbs/gal., (300 - 360 g/l), bath at 190-200 degrees F. (88-93 degrees C.) for up to 4 minutes. Longer exposure can result in prohibitive stock loss.

DO NOT ALLOW TITANIUM PARTS TO SOAK LONGER THAN 4 MINUTES IN THIS SOLUTION.

2. Remove parts and allow excess cleaner to drain back into the tank, then rinse with a light mist of water over the tank to reduce drag-out loss. Dip rinse and if required, rinse with high pressure water.

USE PROCEDURES (continued)

FOR TITANIUM PARTS ONLY

1. Immerse the parts in a 12 to 16 oz/gal., (90 - 120 g/l), J-84A bath at 160-170 degrees F., (71-77 degrees C.) for up to 30 minutes. This solution should be designated as "TITANIUM CLEANING ONLY". **At this concentration, cleaning action will be slower, but metal stock loss will not be critical.**
2. When cleaning is complete, remove the parts and allow excess cleaner to drain back into the tank.
3. Rinse with a light mist over the tank, dip rinse and then if required, rinse with high pressure water.

CONTROL

- Daily additions of water are required to make up evaporation losses. In hard water areas, soft water is recommended, Periodic additions of Cee-Bee J-84A and/or Cee-Bee Additive GO-2L or Cee-Bee Additive GO-2 are needed to replace dragout loss and active ingredients consumed during the cleaning process. To determine the concentrations, use the following procedures.
- The control procedures are based on two analysis: alkalinity and sequesterant. To properly carry out these straightforward tests you'll need the following:

REAGENTS & EQUIPMENT

ALKALINITY TEST:

| | |
|------------------------------|-------------------------|
| Deionized or distilled water | 250 ml Erlenmeyer flask |
| 1 normal acid | 50 ml beaker |
| Phenolphthalein indicator | 5 ml volumetric pipette |

SEQUESTERANT TEST:

| | |
|--|---------------------|
| Glass thermometer: range 0-230 deg.F | 50 ml grd. cylinder |
| Water bath @ 180 deg.F., or hot plate | 50 ml burette |
| High intensity lamp (like a Tensor) | 20 ml pipette |
| Coarse filter paper | ml grad. pipette |
| 50% Sodium hydroxide (NaOH) | |
| Ferric chloride hexahydrate (FeCl ₃ ·6H ₂ O) 1M, (270 gms/l) | |

Don't forget a pipette bulb!
Never pipette hazardous chemical solutions by mouth

CONTROL (continued)**Part I: ALKALINITY**

1. Pipette a 5.00 ml sample of the bath into a 250 ml Erlenmeyer flask.
2. Add approximately 50 ml DI water and 3 drops phenolphthalein indicator.
3. Titrate with 1 normal acid until the pink color disappears, the endpoint.

ALKALINITY CALCULATIONS:

*** $(\text{mls of 1N acid}) \times (0.1035) = \text{lbs/gal of J-84A based on alkalinity.}$

*** $(\text{lbs/gal J-84A @ desired operating level}) - (\text{lbs/gal based on alk.}) \times (100) = (\text{pounds of J-84A required for 100 gallons of tank solution})$

*** $(\text{lbs}/100 \text{ gal} \times 120 = \text{g}/100 \text{ liter})$

PART II: SESQUESTERANT

1. Heat a sample of the bath to 180 degrees +/- 5 degrees F. in a water bath. If the sample is heavily contaminated, filter through coarse filter paper to remove suspended solids. (Filter before heating).
2. Pipette 20.00 ml of the hot solution into the 50 ml granulated cylinder.
3. If the alkalinity titration value (from Part I) is less than 29 ml 1N acid add 50% NaOH with agitation, as determined below, and mix well:
*** $\text{Volume of 50\% NaOH to add} = (29 - \text{mls 1 N acid consumed}) \times (0.21).$
4. Add the 1 molar ferric chloride hexahydrate solution in 1.0 ml increments.
5. After each addition, stopper the cylinder, shake 30 seconds, and place in the water bath. Stir the bath. (Never stir with a thermometer). Measure the temperature: heat to 180 +/- 5 degrees F.
6. Take the cylinder out of the bath & shake it vigorously again for 30 seconds.
7. Let it set outside the bath for 1 minute at room temperature.
8. Examine the sample for undissolved precipitate using high intensity lamp.
9. As you approach the endpoint add 0.5 ml increments of ferric chloride at a time. Repeat steps 5-7 until you reach the endpoint. The endpoint is a large volume of undissolved precipitate in the bottom of the cylinder. One or two small particles isn't the endpoint.
10. After the endpoint is reached, do these calculations:

CONTROL (continued)

SEQUESTERANT CALCULATIONS:

*** $(\text{mls of } 1\text{M FeC13}) \times (0.5) = \text{lbs/gal J-84A based on sequesterant}$

*** $(\text{lbs/gal J-84A based on alk.}) - (\text{lbs/gal J-84A based on sequest.}) \times (20) = (\text{lbs of Cee-Bee Additive GO-2, required per 100 gals of the J-84A bath})$

*** $(\text{lbs}/100 \text{ gal} \times 120 = \text{g}/100 \text{ liter})$

A carbonate sludge will accumulate on the bottom of the tank. Periodic desludging will extend the useful life of the bath.

Bath will etch zinc, lead and aluminum. When contaminated with these metals, bath effectiveness is greatly reduced and, in some cases, the bath will deposit a tenacious black smut on steel parts. If auto-deposition occurs, dump the tank and recharge with fresh material.

PROPERTIES

- A free-flowing, white to off-white, highly alkaline powder.

PRECAUTIONS

- **WARNING! DANGER!** Contains caustic soda! Corrosive! Do not allow any contact with eyes, skin or clothing. May cause burns or external ulcers. Do not take internally. Do not breathe any fumes, mist or vapor. Use with adequate ventilation. Wash thoroughly after handling. Wear OSHA-approved protective gear including caustic resistant gloves, boots, full face shield, or proper OSHA approved respirator fitted with proper caustic filter cartridge. Wear proper protective clothing sufficient to prevent any skin contact.

SOME FORM OF PROPER EYE PROTECTION IS CRITICAL AT ALL TIMES

- In case of accidental contact with eyes, flush with water for at least 15 minutes. Obtain prompt medical attention! For skin contact, flush with water for at least 15 minutes. If irritation persists, seek prompt medical attention.

PRECAUTIONS (continued)

- For inhalation, remove to fresh air. For ingestion, do NOT induce vomiting. Administer large quantities of water and immediately obtain medical attention. Wash clothing before reuse.