

CEE-BEE® J-84AL



ALKALINE DESCALER CLEANER

CEE-BEE® J-84AL is an alkaline liquid concentrate; excellent at removing rusts, heat and water scales, corrosion products, carbon, oils, and coatings.

BENEFITS

- Rapidly removes rust, metal oxides, corrosion products, and heavy carbon deposits
- Quickly dissolves water scale, excellent at removing oils and greases, and strips many paints, varnishes and synthetic coatings
- Compatible for use in ultrasonic cleaning equipment
- Safe on steels, cast iron, noble metals, titanium and super alloys, May be used on titanium for a limited immersion time.

PHYSICAL PROPERTIES

Appearance	Liquid	Solubility	Water soluble	Flammability	Non-flammable
Colour	Colourless	pH	>13	Density	1.561 g/ml
Odor	Mild odour	Flash Point	N/A		

AVAILABLE FORMATS



20L

20CB84LP

208L

20CB84LD

1000L

20CB84LT

APPROBATIONS

- AMS 1379A
- CFM CP2006
- GENERAL ELECTRIC C04-049
- HONEYWELL SPM NO. 20-94/70-94
- INTERNATIONAL AERO ENGINES OMAT 01-188
- PRATT & WHITNEY SPMC 91 (SPS 91-1) (SPS 158-8)
- ROLLS ROYCE OMAT 173J
- SNECMA
- T.O. 2-1-111, SPMC 2

USE PROCEDURES

USE 316 STAINLESS STEEL TANKS AND HEATERS WITH THIS PRODUCT. ALSO USE MECHANICAL AGITATION.

Fill the tank about one-half full with water. Since heat will be generated when CEE-BEE® J-84AL is added to the water, add slowly and cautiously with constant and efficient mixing to avoid boiling and splashing. Add remaining water and continue mixing.

Immersion of Steel Parts:

1. Immerse parts in a 30–37 %, by volume, J-84AL bath (example: 1.18–1.42 litres of J-84L, per 4.55 litres bath solution). Operate bath at 85–95 °C (190–200 °F), for 60 minutes.
2. Remove parts while allowing dragged out bath solution to drain back into tank. To reduce drag out losses, rinse with a light mist of water over the bath's tank. Immerse in an air agitated, overflowing water rinse tank. If necessary, rinse with high pressure water.
3. To protect steel parts from flash rusting, dry with hot air, or apply CEE-BEE® Nortex 3025 rust inhibitor. Note: GE, SNECMA and CFM allow 25–37 % volume concentrations.

Ultrasonic Cleaning:

1. Use at 10-15% J-84AL by volume in water, (13-20 fl. oz/gal) (98-150 g/l), at 160-170 degrees F. (70-75 degrees C.). Higher concentrations and/or temperatures will reduce effectiveness.
2. Cavitation begins at about 160 degrees F. (70 degrees C.)
3. Turn the unit on when the bath nears this temperature.
4. Position parts in the tank to receive maximum cavitation.
5. When clean, remove and rinse with high pressure water or dip the parts in air-agitated, overflowing, clear water.

For Titanium Parts: A Quick Soak:

1. Immerse the parts in a 40 to 48 fl. oz/gal., (30-37%) (300-360 g/l), J-84AL bath at 190-200 degrees F. (88-93 degrees C.) for up to 4 minutes. **DO NOT ALLOW TITANIUM PARTS TO SOAK LONGER THAN 4 MINUTES IN THIS SOLUTION.** Longer exposure can result in prohibitive stock loss.
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.
3. Dip rinse the parts and if required, rinse with high pressure water.

For Titanium Parts, a Slow Soak:

1. Immerse the parts in a 12 to 16 oz/gal., (90-120 g/l) (9.3-12.3%), J-84AL 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.
 - 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.

SOLUTION CONTROL

Daily additions of water are recommended to compensate for bath's volume loss from evaporation. In hard water (scale) areas, soft water addition is recommended. Also, routine bath additions of CEE-BEE® J-84AL and CEE-BEE® Additive GO-2L, are recommended to replace dragout losses and the chemical contents consumed during bath operations. To determine bath concentrations use the following procedures.

REAGENTS and EQUIPMENT

ALKALINITY TEST; Delonized (DI) or distilled water • 250 mL Erlenmeyer flask • 1 N sulfuric acid, 50 mL beaker • Phenolphthalein indicator, 5 mL volumetric pipette

SEQUESTRANT TEST

Glass thermometer: range 0–110 °C (0–230 °F) • 50 mL graduated cylinder • Heated water bath, or hot plate capable of 82 °C (180 °F), 50 mL burette • High intensity lamp (e.g., Tensor), 20 mL pipette • Coarse filter paper, 5 mL graduated pipette • 50 % Sodium Hydroxide (NaOH) • ferric chloride hexahydrate (FeCl₃·6H₂O) 1M, (270 g/L)

Part I: ALKALINITY

1. Pipette a 5 mL sample of the bath solution into a 250 mL Erlenmeyer flask.
2. Dilute bath solution sample to 100 mL with DI water, and add 3 drops phenolphthalein indicator. For very dark tank solutions, additional phenolphthalein indicator solutions may be required to clarify endpoint.
3. Titrate with 1 N sulfuric acid until pink colour disappears.

ALKALINITY CALCULATIONS:

*** $(\text{mLs of 1N acid}) \times (1.6) = \text{fl. oz./gl. of J-84AL, based on alkalinity}$

*** $[(\text{fl.oz./gl J-84AL @ desired level}) - (\text{fl.oz./gl based on alk.})] \times (0.78) =$

$(\text{gallons of J-84AL required for 100 gallons of tank solution})$

*** $\text{oz./gal} \times 7.7 = \text{mL/litre}$

Part II: CONCENTRATION BASED ON SEQUESTRANT (OPTIONAL)

1. If bath is noticeably contaminated, filter sample through coarse filter paper to remove suspended solids.
2. Pipette 20 mL sample into 100 mL graduated cylinder.
3. If alkalinity titration (Part 1) is less than 29 mL 1N acid (or 10 mL for low concentration tanks), add and mix 50 % NaOH, following recommendation below.
(29 – mL 1N acid consumed) X 0.21 – mL 50 % NaOH required.
(10 – mL 1N acid consumed) X 0.21 – mL 50 % NaOH required.
4. Heat sample in hot water bath to 82 °C (180 °F).
5. Remove sample from bath and add ferric chloride solution at 1 mL increments.
Seal with stopper and shake for 30 seconds while examining for undissolved precipitates using high the intensity lamp. Once precipitates are observed, place sample back in hot water bath and heat.
6. After reheating, remove sample from bath stopper, shake for 30 seconds (wait for any precipitates that may be caught in foam to settle out) and examine for red precipitates.
7. Repeat steps 5 through 6 until a large volume of undissolved red precipitates are present at the bottom of cylinder. 1 to 2 small particles should not be considered the end point. Repeat steps until a significant amount of precipitates are observed. After end point is reached, calculate as follows:

SEQUESTRANT CALCULATIONS:

*** $(\text{mLs of 1M FeCl}_3) \times (4.8) = \text{fl.oz./gal J-84AL based on sequestrant}$

*** $[\text{J-84AL based on alkalinity}] - (\text{fl.oz./gal J-84AL based on sequest.}) \times (0.43) =$

$(\text{gallons of CEE-BEE® Additive GO-2L, required per 100 gals of the J-84AL bath})$

*** $\text{oz./gal} \times 7.7 = \text{mL/liter}$

LEGISLATION

- WHMIS Regulated

SAFETY & HANDLING

- Refer to Safety Data Sheet (SDS) for additional information
- Dispose of container and its contents in compliance with all applicable regulations.
- DANGER! This product contains sodium hydroxide which is highly corrosive. Avoid contact with eyes, skin and clothing. • Avoid breathing mists from the product. Do not ingest product. Personal Protective Equipment (PPE), including chemically resistant gloves, face shield and safety glasses must be worn during use. • Do not use in confined areas. Use with adequate ventilation. In case of eye or skin contact, rinse affected areas with plenty of water, for at least 15 minutes. Seek medical attention immediately. • If inhaled, immediately seek fresh air. If swallowed, seek medical attention immediately.

Information and recommendations regarding this product are presented in good faith. However no guarantees are associated with the data presented in this document, and no such guarantees should be interpreted from the information and expected results presented. We do not assume any liability for damage, loss or injury, direct or indirect, related to the use of this product.

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