



## Technical Data Sheet

### CleanSafe™ 787C Aqueous Cleaner

#### Product Description

**CleanSafe 787C Aqueous Cleaner** is an aerospace approved high performance cleaning agent specially designed for use in spray-in-air and agitated immersion cleaning processes.

CleanSafe 787C is designed to remove difficult soil such as corrosion inhibiting compounds (CICs), drawing oils, forming compounds, greases, hydraulic fluids, lubricants, oils and metalworking fluids. It has been shown to outperform traditional aqueous cleaners in side-by-side testing.

CleanSafe 787C is safe for use on ferrous and non-ferrous alloys such as untreated aluminum, alodined and anodized aluminum, carbon steel, copper and copper alloys, stainless steel, titanium and magnesium. It is approved by the South Coast Air Quality Management District (SCAQMD) as a Clean Air Solvent.

#### Features and Benefits

- Aerospace Approved
- Low VOC
- NPE/APE free
- Phosphate free
- Safe on Metals, Composites
- Non-Foaming
- Cleaning Prior to NDT
- Non-Scaling
- Long Bath Life

#### Properties

Odor	Mild
Specific Gravity (25°C)	1.08
pH Value (10%)	11.6

#### Soils Removed

- Coolants
- Corrosion Inhibiting Compounds
- Cosmoline Mineral Oils
- Cutting Oils
- Drawing Fluids
- Fingerprints
- Hydraulic Fluids
- Lubricating Oils
- Mill Oils
- Particulates
- Synthetic Oils
- Water-Soluble Oils

#### Equipment

Suitable for use in spray-in-air washers and immersion systems with mechanical agitation. Bath concentration may be monitored by titration, refractive index or conductivity.



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#### Use Instructions

**Spray-in Air Cleaning:** Add **CleanSafe 787C** to the wash tank, using a concentration between 3-10% by volume. Typical operating temperatures range between 100-180°F (38-82°C)

**Immersion Cleaning:** Add **CleanSafe 787C** to the wash tank, using a concentration between 5-15% by volume. Typical operating temperatures range between 100-180°F (38-82°C). CleanSafe 787C is non-foaming and can be highly agitated using air, direct mixing or spray-under-immersion.

**Ultrasonic Cleaning:** Add **CleanSafe 787C** to the wash tank, using a concentration between 5-15% by volume. Typical operating temperatures range between 100-120°F (38-49°C).

#### Approvals / Testing

##### Approvals

- **Bell Helicopter** M/C 2100-00097
- **Boeing**
  - BAC 5749 (6-153)
  - BAC 5763(6-62)
  - Boeing Defense HMS20-1267, -2125, -2126, -2127, -2128, -2412
- **Engine Alliance** GP700 SPM EAP-2202
- **General Electric Aircraft Engines** SPM 70-21-22 (C04-289) and Detergent Products
- **Honeywell** EMS53170 (I & II), C5012
- **IAE CoMat** 01-565
- **Messier-Dowty** PCS-2621
- **Pratt & Whitney**
  - POP1800 (PMC 1465)
  - POP573-AD (PMC 1465)
  - POP58-R (PMC 1465)
  - SPOP209 (SPMC 190)
  - SPOP209 (SPMC 190)
- **Rolls-Royce**
  - CSS204
  - OMat 1/24L
- **Safran** In-1500 Products Used for Degreasing-Alkaline
- **Spirit AeroSystems** SPS 107630
- **United Services** (CLE3007-34)

##### Testing

- **SAE**
  - ASTM F483, F502, F519, F945, F1110, F1111, D816, E1447; SAE ARP 1755B Stock Loss

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### Aqueous Cleaner

#### Bath Monitoring Procedures by Titration

#### Materials

- Phenolphthalein Indicator Powder Pillows or 1% phenolphthalein indicator solution
- Burette
- N Sulfuric Acid ( $H_2SO_4$ ) solution
- Erlenmeyer flask
- DI water

#### Procedure

1. Obtain a 100ml sample from the bath and dilute to 200ml with DI Water in an Erlenmeyer flask.
2. Add the contents of one Phenolphthalein Indicator Powder Pillow or add 5-10 drops of 1% phenolphthalein indicator and swirl into solution. Solution should turn pink.
3. Using a burette begin adding 0.1 N  $H_2SO_4$  to the flask while swirling. Continue to add 0.1 N  $H_2SO_4$  until the solution remains clear for 30 seconds. Record the number of milliliters required. Use the equation below to determine the volume of CleanSafe 787C needed to return to the bath to its starting concentration.

CleanSafe 787C Concentration (Wt %)	Number of Milliliters
2	12
4	20
6	28
8	36
10	44
12	52
14	60

*Note: The following equation can be used to determine the gallons of CleanSafe 787C needed to return the wash bath to its original starting concentration.*

Tank Volume x (Starting Concentration – Measured Concentration)

$(100 - \text{Starting Concentration})$

= Gallons to Add (CleanSafe 787C)

*\*Additional test methods available through your Vantage team members.*



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### Environmental/Regulatory/Sustainability

Ozone Depletion Potential (ODP)	Zero
Global Warming Potential (GWP)	Zero
Chemical Oxygen Demand (COD) (0.1% conc.)	383 mg/L
Volatile Organic Compound (VOC)	90 g/L
Hazardous Air Pollutant (HAP)	No
Superfund Amendments and Reauthorization Act (SARA)	Not Regulated
Hazardous Air Pollutants (NESHAPs)	Not Regulated
Resource Conservation and Recovery Act (RCRA)	Not Regulated
Nonylphenol Ethoxylates (NPEs)	None
Alkylphenol Ethoxylates (APEs)	None
Phosphates	None

### Disposal/Safety

#### Disposal

Vantage recommends contacting your current or local environmental service company for proper disposal.

#### Safety

Please see Safety Data Sheet for further information.

### Packaging

Available in 44 lb (20 kg) pails and 485 lb (220 kg) drums.

### Shelf Life

36 months when stored in original, sealed container above 50 °F (10 °C). Protect product from freezing.

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