

# AQUAVANTAGE

### **Brulin's Highest Technology Spray Wash Detergent**

#### leavy-Duty Cleaner

AquaVantage 3887 GD sets a new standard for aerospace and aviation parts cleaning. A new generation of advanced surfactant technology provides exceptional degreasing and soil removal. AguaVantage 3887 GD is a *Heavy-*Duty Cleaner with a Light-Duty Personality - cleans like a solvented, caustic product but at pH 11 and zero VOC content.

- Cleans Virtually All Soils from light oils to burned-on carbon (see Performance Properties)
- Cleans Virtually All Aerospace Metals including aluminum and titanium
- Free-Rinsing cleaner parts & simplified cleaning
- Effective in Spray Wash and also Immersion Applications a one product solution - reduces inventory and simplifies training

## CHEANER

with a

PERSONALIT



#### **Greener 14 Wavs**

More user and environmentally friendly, reducing costly paperwork

- No Hazardous Ingredients as Listed on the 7. Low Caustic MSDS (w/OSHA PELS)
- No SARA Title III, Section 313 Reportable
- No Ozone Depleting Substances
- No Global Warming Potential
- No CERCLA Reportable
- No RCRA Reportable Ingredients or Characteristics
- No Glycol Ethers
- No APs (Alkylphenols) or APEs (Alkylphenol ethoxylates)
- 10. No Chelants
- 11. No Butyl
- 12. Recycles Easily
- 13. Biodegradable
- 14. RoHS Compliant





AquaVantage 3887 GD has been independently tested to meet Rolls Royce, GE and Pratt Whitney specifications. Also has broad compatibility with typical turbine materials with supporting testing:

#### **Industry Approvals and Conformance**

- American Eurocopter: AEC QA-DCR/10-06/01
- Boeing: BAC 5749; Alkaline Cleaning (PSD 6-153) \*
- Boeing: BAC 5763; Emulsion Cleaning (PSD 6-62) \*
- Rolls-Royce: OMAT 1/24AM
- Rolls-Royce: CSS204 Type A
- Pratt & Whitney: SPMC 233, SPOP 1 (Degreasing the Exterior of the Engine); SPOP 209 (Immersion Tank Method; Aqueous Spray or Wipe with Rinsing Method; Spray Wash Machine); SPS 233
- Pratt & Whitney: PMC 1468; PS 422 Alkali Cleaner, Immersion; PS 438 Alkali Cleaner (Spray Wash)
- International Aero Engines (CoMat pending)
- **GE Aviation: List of Alloy Compatible Cleaners**
- Honeywell Aerospace: Acceptable per C5102 Rev. B

#### **Test Compliance**

- ARP 1755B: Stock Loss (Cat. 10)
- ASTM F-519: Hydrogen Embrittlement (Type 1a)
- ASTM F-945: Titanium Stress Corrosion (AMS 4916 & 4911 Alloys)
- GE Aviation: ASTM F-2111; Intergranular Attack
- **GE Aviation: Elemental Analysis Group I and Group III**
- **GE Aviation: Hot Corrosion**
- GE Aviation: Appendix F, 3.1.1, Cyanide and Sulfide Content
- PWA 36604 Rev. D: Compatibility with PWA 407 Rubber
- PWA 36604 Rev. D: Compatibility with Non-Metallic Materials
- PWA 36604 Rev. D: Hot Corrosion
- PWA 36604, MCL E-205 Type II: Titanium Stress Corrosion
- ASTM E1447: Hydrogen pickup
- Sandwich Corrosion: per Honeywell EMS 53170 Rev. C
- Sandwich Corrosion: per BAC 5763, Rev H

\* including BMS8-276 substrate

**Longer Tank Life** 

Simplifies tank maintenance by significantly extending tank life to reduce costs. Improved pH stability keeps the pH in the operational range longer, minimizing adjustments and prolonging tank life. Reduces chemical usage and operating costs.





#### Performance Properties

#### **Substrates**

AquaVantage 3887 GD is non-corrosive and non-staining to a wide variety of alloys. Some selected categories of materials compatible with AquaVantage 3887 GD include\*:

Ferrous Metals: Carbon Steel • Stainless Steel

Non-Ferrous Metals & Alloys: Aluminum • Cadmium Plating • Chrome Plating • Copper (Alloys & Plating) • Magnesium & Magnesium Alloys • Ni-Cad Plating • Nickel, Nickel Alloys & Plating • Titanium & Titanium Alloys

Plastic & Composites: Acrylics • High Density Polyethylene/HDPE • Nitrile Butadiene Rubber • Polyvinyl Chloride/PVC

AquaVantage 3887 GD removes a wide range of organic and inorganic soils. Some categories of soils that can be removed with AquaVantage 3887 GD include\*:

Buffing Compounds • Carbon • Coolants • Dirt (Particulate) • Fat • Flux • Grease • Inks • Oil (General, Cutting, Drawing Compounds, Forming, Honey, Hydrocarbon, Lubricants, Self Emulsifying, Silicone/Greases, Sulfur/Chlorinated, Water Soluble)

\*Material compatibility should always be confirmed via testing with specific contaminants under specific cleaning conditions.

#### **Cleaning Recommendations**

System	Brush-on/Wipe-on • Immersion with Significant Agitation • Spray Wash Systems (Batch or Continuous)
Dilution	Spray Wash: 3-10%, typically used at 4% Immersion: 3-20%, typically used at 5-10% Minimum recommended concentration for cleaning aluminum is 4%
Cleaning Temperature Range	120-180°F (49-82°C); typically used at 140-150°F (60-66°C)
Cleaning Duration	1-30 minutes; typically parts are clean in 1-5 minutes
Rinse Temperature	A heated rinse may improve overall performance. Some OEM process specifications may require a heated rinse.
Rinse Water Quality	Recommended conductivity of final rinse water:  ■ Ultra-Clean Applications: ≤ 50 microsiemens  ■ Precision Cleaning: ≤ 500 microsiemens  ■ Gross Cleaning: > 500 microsiemens

To avoid spotting, it is best if the parts remain wet between processing stages.

#### **Typical Chemical Characteristics**

Physical Form	Liquid
- Color	Slight Yellow
- Odor/Fragrance	Mild Detergent
- Viscosity	Water-thin
- Weight	8.85 lbs/gal (1.060 g/ml)
pH of Concentrate	11.7
pH of Working Solution	11.0
Flash Point	None to boiling (PMCC)
Foaming Tendency	Low
Cloud Point	~ 130°F (54°C)
Calculated V.O.C	0% (0 g/L)
Freeze/Thaw	Reusable after thawing & remixing

#### **Concentration Verification**

Brulin Titration Kit (Prod. No. XTRKIT)		
Sample Size:	20 mL	
Titrant:	1.0 N HCI Solution	
Indicator:	Bromophenol Blue	
Concentration %:	Drops Titrant x 0.39	

Burette Test Method		
Sample Size:	50 mL	
Titrant:	0.2 N HCl Solution	
pH Endpoint:	3.8	
Concentration %:	mL Titrant x 0.82	

DISTRIBUTED BY:

PRODUCT NUMBER



#### **Packaging**

SHIPPING: Non-hazardous for shipping by ground, sea or air in all package sizes.

STORAGE: Store in well-ventilated areas at temperatures between 40-110°F (4-43°C). Recommended shelf life of this product is 24 months.

DISPOSAL: Biodegradable. Pretreat by skimming and/ or filtering. Final sewerability is determined by the municipal sewer district covering the plant location.

#### AVAILABILITY:

- 2.5 Gal (9.5L)/2 5 Gal (19L) 55 Gal (208L)
- 275 Gal Tote (1,041L) Bulk up to 5,000 Gal (-19,000L)

#### **Companion Products**

Brulin 1990 GD (Product No. 301008) The Industry Standard Spray Wash Detergent

Formula 815 GD (Product No. 301007) The Cleaning Standard in Immersion & Ultrasonic Detergents

Formula 815 MX (Product No. 111005) The Legendary General Purpose Cleaner Degreaser