

BIO-CLEAN

Consultants and Distributors of
Environmentally Safe Cleaning Technologies

FORMULA 815 GD-NF

*The Aero Spec
Standard in
Immersion
& Ultrasonic
Detergents*

...The Cleaning Standard in Immersion & Ultrasonic Detergents

An unrivaled combination of cleaning ability, broad material compatibility, extensive industry approvals and recyclable, produced in a safe formulation. Formula 815 GD-NF is the APE/NPE-free replacement product for Formula 815 GD. The product of choice in most immersion and ultrasonic cleaning applications.

- Unsurpassed Cleaning ability
Recognised as the standard in immersion & ultrasonic detergents
- "One Product" Parts Cleaner
Cleans virtually all metals including steels, aluminum & titanium

Benefits

- Aerospace Approved
- Independent Performance Documentation – Proven Quality Results
- Water-Based, Dilutable Formulation – For Environmental Safety & Economic Use
- Provides Long Tank Life Without Drain Down – Reduces Downtime, Saves on Maintenance Labour, Reduces Product Wastage and Cost
- In-Process Corrosion Control
- Transmits Ultrasonic Cavitation at All Temperatures
- Promotes Free Rinsing – Producing Cleaner Parts with Simplified Cleaning

Environmentally Green

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

Industry Compliance & Conformance

- **Boeing:** BAC 5749; Emulsion Cleaning (PSD 6-149)
- **Boeing:** BAC 5763; Alkaline Cleaning (PSD 6-59)
- **Goodrich:** GSIL 2006-01
- **USDA A1 (LG)**





Health, Risk and Safety Information

(R36/37/38) Irritating to eyes, respiratory system and skin.

(S2) Keep out of reach of children.

(S24/25) Avoid contact with skin and eyes.

(S26) In case of contact with eyes rinse immediately with plenty of water and seek medical advice.

(S46) If swallowed seek medical advice immediately and show this label.

(S37/39) Wear suitable gloves and eye/face protection.

INDUSTRIAL OR COMMERCIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

COSHH

Hazard Rating: IRRITANT



Packaging

EUROPEAN STOCK: 25 Litre UN Certified kegs and 208 litre Drums.

SHIPPING: Non-Hazardous for shipping by ground, sea or air freight.

STORAGE: Store in well ventilated dry areas at temperatures between 4 – 43°C

SHELF LIFE: Guaranteed shelf life is 24 months from the date of manufacture.

DISPOSAL: Biodegradable. Pre-treat by skimming and/or filtering oils and contaminants. Final sewer disposal is allowed by arrangement with your local water authority.

Companion Products

Brulin 1990 GD
The Industry Standard Spray Wash Detergent

AquaVantage 3887 GD
Brulin's Highest Technology Spray Wash Detergent

Safe for Use on Many Substrates

Formula 815 GD-NF is non-corrosive and non-staining to a wide variety of alloys. Some selected categories of materials compatible with Formula 815 GD-NF include*:

Ferrous metals: Carbon steel • Stainless Steel

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

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

Other: Glass • Painted Surfaces

Removes a Wide Range of Soils

Formula 815 GD-NF can remove a wide range of organic and inorganic soils as typically found in OEM and rebuild facilities. Some categories of soils that can be removed with Formula 815 GD-NF include*:

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

*Material Compatibility should always be confirmed via testing with specific contaminants under specific cleaning conditions. **Minor discolouration may occur under certain conditions.

Cleaning Use Ranges

System	Immersion & Ultrasonic Tanks
Dilution	5-30%, typically used at 10%
Temperature Range	54-74°C; typically used at 60-66°C
Cleaning Duration	1-30 minutes; typically 3-10 mins
Rinsing	Rinsing quality controls final cleanliness. Recommended Conductivity of final rinse water: <ul style="list-style-type: none"> • Ultra Clean Applications ≤ 50 microsiemens • Precision Cleaning ≤ 500 microsiemens • Gross Cleaning > 500 microsiemens
To avoid spotting, it is important to keep parts wet between processing stages.	

Typical Chemical Characteristics

Physical Form	Liquid
Colour	Blue
Odour/Fragrance	Mild
Viscosity	Water-thin
Weight	1.071 g/ml
pH of Concentrate	12.0
pH of Working Solution	11.5
Flash Point (PMCC)	None to boiling
Foaming Tendency	Moderate to high
Calculated V.O.C.	0% (0 g/L)
Freeze/Thaw	Reusable after thawing & remixing

Concentration Verification

BIO-CLEAN Titration Test Kit	
Sample Size:	5 mL
Titrant:	1.0 N HCl Solution
Indicator:	Bromphenol Blue
Concentration %:	Drops Titrant x 0.81
Or	
Sample Size:	10 mL
Titrant:	0.1 N HCl Solution
Indicator:	Bromphenol Blue
Concentration %:	Drops Titrant x 0.42

Burette Test Method	
Sample Size:	50 mL
Titrant:	0.5 N HCl Solution
pH Endpoint:	3.80
Concentration %:	mL Titrant x 1.25



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