

# M-Aero aerospace approved aqueous cleaner

## Technical Data Sheet



**Banner Chemicals Group UK**  
Flying the flag of excellence for over 150 years

### GENERAL DESCRIPTION

**M-Aero aqueous degreaser** is a heavy duty, environmentally sensible, inorganic based, aqueous cleaner designed specifically for cleaning aluminum, magnesium and titanium alloys as well as other ferrous and non-ferrous alloys to meet rigorous aircraft industry specifications

The unique chemistry of M-AERO makes it ideal for use in ultrasonic, agitated batch washer and spray washer applications. This product exhibits oil splitting properties at elevated temperatures so may be used with skimming or coalescing filtering systems to extend bath life.

### PROCESS DESCRIPTION

**M-Aero** is supplied as a liquid concentrate and in use is diluted with water to 5 - 20% M-AERO by volume.

The operating temperature range is 45 - 75°C, with typical use at 65 - 70°C. "Spray-in-air", mechanical or ultrasonic agitation is used to enhance cleaning.

Parts cleaned with M-AERO can be rinsed with warm water prior to drying. Black light NDT inspection requires water rinsing so as to avoid false readings.

Oil Separation: Esseco Aqueous Cleaner M-AERO rapidly splits oils to the surface of the wash solution to allow for separation and extending the bath life of the cleaning chemistry.

Water Hardness: Esseco Aqueous Cleaner M-AERO is tolerant up to 200 ppm of total water hardness.



### FEATURES & BENEFITS

- Corrosion inhibited meets aerospace test requirements
- Versatile safe on variety of metals and plastics
- Unique formulation for superior cleaning results
- No ozone depleting chemicals
- No VOCs so no VOC permits required
- Not hazardous thus no special safety or storage conditions required
- Low toxicity, no glycol ethers for better worker safety
- Low foaming suitable for spray and immersion washing
- Low BOD/COD values easy disposal, simple waste water effluent treatment
- Not flammable making it safe to use in all cleaning equipment

**APPROVALS:** **M-Aero** meets the following requirements:

- **Boeing BAC 5763** Emulsion Cleaning & Aqueous Degreasing, Type II
- **Boeing BAC 5749** Alkaline Cleaning
- **Boeing PS 12024** Cleaning, Aqueous Degreasing
- **Boeing D6-17487** Exterior & General Cleaners & Liquid Waxes
- **Douglas Aircraft CSD No.1** General Purpose Cleaner
- **Pratt & Whitney PWA 36604** Titled Approval of Cleaners used in the manufacture and overhaul of Parts
- **Rolls Royce CSS 200** Control Procedures for the Purchase & Supply of Consumable Material used during Manufacture
- **Rolls Royce CSS 204** Aqueous Cleaners
- **AMS 1526B** Cleaner for Aircraft Exterior Surface, Water Miscible, Pressure Spraying Type
- **GM Tox Number 334052**
- **Ford Tox No. 151174**



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### TYPICAL PROPERTIES\*

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Appearance.....	Pale straw to amber, clear to slightly hazy liquid.
Odour.....	slight odour of surfactants/detergents
Specific Gravity.....	1.03 - 1.07 @25°C
pH (25°C, concentrated).....	11.5 -12.0
Surface Tension.....	27 dynes/cm
Viscosity.....	<100 cps
Flash Point.....	none
COD.....	7350 mg/l
BOD .....	225,000 mg/l
FOG.....	22,000 mg/l

### MATERIALS COMPATIBILITY

**M-aero** is formulated specifically for cleaning aluminum, magnesium and titanium alloys. However, it is also suitable for ferrous, copper and a variety of other alloys and metals. These include:

Carbons Steels (1010, 1020, 1030 carbon steels, 4140 low alloy, Cr and Mo steels, 4340 low alloy Cr, Mo and Ni steels) Cast Irons SAE – G2500 cast iron, SAE – J434c ductile iron), Stainless Steels (AISI – 304, 304L, 316, 316L, Super-austenitic, ferritic, martensitic alloys, Duplex stainless steel, Cast stainless steel), Copper Alloys (Yellow Brass, Admiralty Brass, Naval Brass, Nickel Aluminum Alloys, Copper/Nickel alloys), Nickel Alloys (Monel, Inconel, Incoloy, Hastelloy), Titanium Alloys (Grades 2,5,7,9,12) Aluminum Alloys (AA 1100, AA 2024 high Cu, AA 3003, AA 4032, AA 5052, AA 6061, AA 7075 high Zn) Magnesium Alloys and Cast alloys

**M-aero** is compatible with plastic and glass substrates, though care should be taken with the temperature of the wash solution to avoid distortion of plastic materials.

### ENVIRONMENTAL POLICY

It is the aim of the Banner Chemicals Group to provide their customers the finest quality products and services whilst operating to the highest Health & Safety standards and minimizing the impact on the Environment. This is obtained through an Integrated Management System (IMS). This system meets and where possible exceeds, the requirements of International Standards, ISO 9001:2008 (Quality), ISO 14001:2004 (Environmental) and OHSAS 18001:2007 (Health & Safety) The company is committed to preventing pollution by ensuring that its products are developed, handled, transported, used and disposed of safely and in compliance with relevant Environmental & Health & Safety Legislation, the CBA's Responsible Care Programme, Product Stewardship and Industry Codes of Practice.

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