



# TECHNICAL DATA SHEET

## ESSECO AQUEOUS CLEANER M-AERO

## ESSECO AQUEOUS CLEANER CONCENTRATE

### PRODUCT DATA AND TYPICAL PROPERTIES

Esseco Aqueous Cleaner M-AERO is a heavy duty, environmentally sensible, inorganic based, aqueous cleaner designed specifically for cleaning aluminium, magnesium and titanium alloys to rigorous aircraft industry specifications as well as other ferrous and non-ferrous alloys. The unique chemistry of Esseco Aqueous Cleaner 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.

Odour	: slight odour of surfactants/detergents
pH (10% solution)	: 11.2 (approximately)
Flash Point	: none
Surface Tension	: 27 dynes/cm
Viscosity	: <100 cps
BOD	: 7350 mg/l
COD	: 225,000 mg/l
FOG	: 22,200 mg/l

### PRODUCT SPECIFICATION

Appearance	Pale straw to amber, clear to slightly hazy liquid.
Specific Gravity (25°C)	1.03-1.07
pH (25°C, neat)	11.5-12.0

### 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



# TECHNICAL DATA SHEET

## PERFORMANCE

### Features

- Corrosion inhibited
- Versatile
- Unique formulation
- No ozone depleting potential
- No VOCs
- Not hazardous
- Low toxicity, no glycol ethers
- Low foaming
- Low BOD/COD values
- Not flammable

### Benefits

meets aerospace test requirements  
safe on variety of metals and plastics  
superior cleaning results  
environmentally friendly  
no VOC permits required  
no special safety or storage conditions  
worker safety  
suitable for spray and immersion washing  
easy disposal, simple effluent treatment  
safe in all cleaning equipment

## SUBSTRATE COMPATIBILITY

Esseco Aqueous Cleaner M-AERO is formulated specifically for cleaning aluminium, magnesium and titanium alloys. However, it is also suitable for ferrous, copper and a variety of other alloys and metals. These include:

### Carbons Steels (AISI and SAE):

1010, 1020, 1030 carbon steels  
4140 low alloy Cr and Mo steels  
4340 low alloy Cr, Mo and Ni steels

### Cast Irons (high carbon steels):

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 Aluminium Alloys  
Copper/Nickel alloys

### Nickel Alloys:

Monel  
Inconel  
Incoloy  
Hastelloy

### Titanium Alloys:

Grade 2  
Grade 5  
Grade 7  
Grade 9  
Grade 12

### Aluminium Alloys:

AA 1100  
AA 2024 high Cu  
AA 3003  
AA 4032  
AA 5052  
AA 6061  
AA 7075 high Zn

### Magnesium Alloys:

Cast alloys

## Plastics, Glass substrates

These materials can also be readily cleaned in Esseco Aqueous Cleaner M-AERO, though care should be taken with the temperature of the wash solution to avoid distortion of plastic materials.



## TECHNICAL DATA SHEET

### SOILS AND CONTAMINANTS TO BE REMOVED

The following soils can be removed using Esseco Aqueous Cleaner M-AERO:

sulphur based cutting fluids	WD 40/3-in-1 oils	shop soils
automotive oils	polybutene oils	loose grit
lithium grease	cycloparaffins	cooling fluids
mineral oils	lipstick	cosmolines
vegetable oils	stick wax 140	

### PROCESS CONTROL

The product is supplied as a liquid concentrate and diluted with water to 5 - 20% Esseco Aqueous Cleaner M-AERO concentrate by volume. Aqueous Cleaner concentration in the wash bath can be measured and controlled by a simple titration using readily available test equipment.

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 Esseco Aqueous Cleaner 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.

### STANDARD PACKAGING

1000 litre Intermediate bulk containers (IBCs), 200 and 25 litre polyethylene drums.

FOR HANDLING INFORMATION PLEASE CONSULT THE SAFETY DATA SHEET