

## Low foam alkaline cleaner

### 1 General Description

Ardrox<sup>®</sup> 6333A is an aqueous based liquid concentrate comprising a blend of alkali builders, sequestrants, corrosion inhibitors and biodegradable surfactants.

Ardrox<sup>®</sup> 6333A is a multi-metal cleaner for spray washing machine, tank immersion or pressure spraying applications. It can be used to remove oils, greases, and other production soils from ferrous metals, aluminium, copper, titanium and magnesium.

Ardrox<sup>®</sup> 6333A is primarily intended for spray applications thanks to its low foaming properties and high cleaning efficiency. However, it is also capable of good performance in immersion applications on light soils, for instance in new parts manufacturing processes or prior to conversion coating.

Ardrox<sup>®</sup> 6333A has no EDTA-type chelates which can interfere with precipitation waste water treatment systems, but it does have sequestrants to reduce scale from hard water salts.

#### Approvals

✓ ASTM	F-945
✓ Airbus UK	ABP 8-1290
✓ Boeing	BAC 5749, BAC 5763
✓ GE Commercial Engines	SPM C04-163
✓ Messier-Bugatti-Dowty	SPM 32-09-01 (conformance)
✓ NATO	NSN #6850-HA-ZMT-1685
✓ Pratt & Whitney	PMC 1428, SPMC 170
✓ Rolls-Royce	OMat 1/24AC
✓ SAE	ARP 1755B (conformance), AMS 1526 (conformance)
✓ US DoD	MIL-PRF-29602

Ask your Chemetall representative for a complete list of approvals

### 2 Physical and Chemical Properties

Property	Unit	Typical Value	Test Method
Appearance	-	Amber coloured liquid	-
pH (concentrate)	-	11.6 (5% v/v solution)	-
Density	g/ml	1.14 @ 20 °C	-
(concentrate)	lbs/gal	9.51 @ 68 °F	-
Flash point	-	Non flammable	-

These are typical values only and do not constitute a specification.

### 3 Application

Ardrox<sup>®</sup> 6333A is normally used diluted with water, the concentration depending upon the degree and nature of the soiling encountered.

#### Use in spray washers

Mix Ardrox<sup>®</sup> 6333A with water at a concentration range of 2 to 10 % and then heat to 45 to 80 °C (113 °F to 180 °F). Spray the parts and then rinse in water.

### In immersion tanks

Ardrox® 6333A is mixed with water at a concentration range of 5 to 30 % and then heated to 60 to 80 °C (140 °F to 180 °F). Parts should be immersed for 5 to 10 minutes and then rinsed in water. Agitation at elevated temperatures is recommended.

### Magnesium

For cleaning magnesium, the solution pH should be maintained above 11.

Run cleaning solution as per the instructions of the engine manufacturer standard procedure or the concentration and temperature applied for conformance testing.

## **4 Effects on materials**

When used in the prescribed manner, Ardrox® 6333A is safe on the majority of metals including steel, aluminum, magnesium, copper, and cadmium plating.

Ardrox® 6333A does not cause any hydrogen embrittlement on high-strength steel or stress corrosion cracking on titanium.

It has no deleterious effect on good quality paint schemes under normal conditions of use.

## **5 Equipment materials**

Stainless steel or mild steel is suitable for tank construction.

## **6 Storage**

Store in a cool place, with protection from freezing conditions.

## **7 Safety guidance**

Before operating the process described it is important that this complete document, together with any relevant Safety Data sheets, be read and understood.

## **8 Waste release**

Any release shall respect all the applicable national and local regulation.

## **9 General information**

Chemetall supplies a wide range of chemical products and associated equipment for cleaning, descaling, paint and carbon removal, metal working and protection and non-destructive testing. Sales Executives are available to advice on specific problems and applications.

## Method of Control

### Required chemicals

- ✓ Indicator solution: Methyl orange
- ✓ Testing solution: 0.1N Sulphuric acid solution

### Measure

Restore the volume of the tank to its original level, if necessary, by adding water. Thoroughly mix and take a sample of 50 to 100 ml.

After allowing to cool to ambient pipette 5 ml of this solution into an Erlenmeyer flask, add about 50 ml distilled water and 5 to 10 drops of Indicator Solution. Titrate against Testing Solution to a colour change from yellow to pink.

Record the volume used as (V) ml, then the bath strength is calculated as follows:

$$\text{Strength (\% v/v Ardrex® 6333A)} = V \times 1.1$$

### Replenishment of the bath

Measured strength (% v/v Ardrex® 6333A) = S

Required concentration in % v/v = C

Volume of the solution in the tank = T

Volume (V) of Ardrex® 6333A concentrate which has to be added to the tank is then calculated as:

$$V (\text{Ardrex 6333A}) = T \frac{(C - S)}{(100 - C)}$$

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