

Ardrox[®] E1

Hydrophilic Emulsifiable, VOC-Free

PRIMARY APPLICATION

Ardrox[®] E1 is a VOC-free, biodegradable, hydrophilic (Method D) emulsifier that can be diluted with water. Application methods include immersion, spray or foam-on. **Ardrox[®] E1** is specially formulated to use with the Ardrex VOC-free post emulsifiable penetrants, specifically, **Ardrox[®] P7F3**.

Ardrox[®] E1 minimizes background fluorescence on part surfaces and reduces excess penetrant from hollow parts. By using very high dilution ratios: 10% by volume for immersion and less than 5% for spray and foam-on applications, **Ardrox[®] E1** is economical to use.

Ardrox[®] E1 is odorless and does not contain petroleum solvents, fats, oils or greases of any kind.

CHEMICAL CHARACTERISTICS

Physical Form	Pinkish red liquid
Bulk Density	0.925 to 0.945
Flash Point	> 200°F (93°C) PMCC
Sulfur Content	< 500 ppm
Chloride Content	250 ppm
Fluoride Content	< 50 ppm per P&WA Q-81
Sodium Content	< 100 ppm
Water Tolerance	Infinite
Viscosity	42.0 centistokes ± 4 at 100°F (38°C)
Corrosion.....	Noncorrosive per AMS2644

APPROVALS

AMS 2644	General Electric
Garrett EMS 52309E	AECL
NAVSEA 250-1500-1	McDonnell Douglas
Boeing BAC 5433	Rockwell International
ASTM E-165	Rolls Royce
ASME Boiler and Pressure Vessel Code: Section V, Article 6	

APPLICATION PROCEDURE

Before applying **Ardrox[®] E1**, thoroughly clean the part surface and apply the penetrant. After sufficient contact time, remove the penetrant with a water pre-rinse and apply **Ardrox[®] E1** by immersion, spray or foam-on application.

The emulsification contact time varies with every application method; but, in general, the most effective contact time is between 60 and 120 seconds.

IMMERSION

The recommended concentration of **Ardrox® E1** is 10% by volume in water. The parts are immersed in the **Ardrox® E1** bath which should be gently agitated by mechanical or air means to provide a gentle scrubbing action. Excess air agitation will create foaming.

SPRAY

In general, concentration levels should range between 0.5 and 5%, depending on the application. Use an injection or metering pump to control the **Ardrox® E1** concentration level.

FOAM

Use a foam-on application to prevent the emulsifier from entering hollow/cored areas. The recommended concentration level is < 5% by volume. Foam-on application requires a special atomizing technique.

EFFECTS ON MATERIALS

Because **Ardrox® E1** is highly diluted with water, use a stainless steel emulsifier stations.

SAFETY AND HANDLING

Prior to handling and use of any of the materials referenced in this document, the Material Safety Data Sheets should be read and understood by all personnel in contact with these materials.

KEEP OUT OF REACH OF CHILDREN

STORAGE

Dry indoor storage at temperatures between 40°F and 100°F is recommended, away from any incompatible materials referenced in the Material Safety Data Sheets. All containers should be tightly closed when not in use.

SHELF LIFE

The shelf life is 3 years.

DISPOSAL

Any disposal of the materials referenced in this document should be in accordance with all applicable federal, state, and local regulations. The process solution can contain components other than those present in the materials as supplied. Analysis of process solutions may be required prior to disposal.

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