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Product Bulletin

Product Name: Ultrex FA 77
Product Code: 2002088
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Ultrex FA 77

Ultrex FA 77 is an alkaline soak cleaner, it's unique blend of detergents, dispersants, deflocculants, and emulsifiers, clean the surface of aluminum alloys and castings without etching the base metal. Because of its mildly alkaline properties, Ultrex FA 77 may be used to soak clean mixed loads of aluminum, other non-ferrous metals, and steel. Its formulation provides for excellent removal and emulsification of oils and grease, preparing the base metal for additional processing in a wide range of finishing cycles.

Features & Benefits

Removes stamping, forming, cutting, machining, & rust proofing oils	Suitable for barrel, rack, and mass finishing cycles
Excellent oil emulsification action at operating conditions	Keeps Polypropylene barrels clean
Rapid, efficient cleaning in standard soak cleaning cycles	Removes ink markings & fingerprints

Physical Data

Appearance	Free flowing, off white powder
Odor	Slight
Dusty	No
Foaming tendency	Moderate
Maximum solubility	16 oz/Gal at 18°F (120 g/L at 82°C)

Operating Conditions

Recommended application soak cleaner

	Range	Optimum
Concentration	4 – 12 oz/Gal (30 – 90 g/L)	8 oz/Gal (60 g/L)
Temperature	120°F – 180°F (49°C – 82°C)	150°F (66°C)
Time	2 – 5 min	As required
Agitation	Solution movement or mild air	As required

Equipment

Tank	Mild steel, reinforced polypro, or fiberglass
Heater	Steel Coil, steel immersion type, steam fed, or gas fired
Ventilation	Mechanical to maintain levels below permissible exposure limits
Agitation	Stirrer, pump, work movement, or mild air

Solution make up

Consult Ultrex FA 77 SDS sheet before handling this product for safety information and protective clothing requirements.

Be sure the process tank has been drained and cleaned. Fill to within two thirds of final operating volume with clean, warm water (100°F – 120°F, 38°C – 49°C). With good solution stirring, gradually add the required amount of Ultrex FA 77. After the required amount of Ultrex FA 77 has been added and dissolved, adjust final solution operating volume and temperature.

In mass finishing applications, add the parts and optional media. Fill the barrel with the preferred amount of cold or warm water (see pg. 1). Add the required amount of Ultrex FA 77. Process the parts as required.

Analysis procedure

The surfactants and detergents are consumed in the cleaning process by emulsifying oils and grease. Alkaline components are used up in the cleaning process, such as by saponifying fatty acids. Drag out the cleaner bath also depletes these active components. Regular maintenance additions of Ultrex FA 77 are recommended to replenish the bath. This can be accomplished by observing quality of cleaning and making Ultrex FA 77 appropriate additions per requirements of the process. Alternatively, the cleaner bath can be analyzed to determine actual concentration of Ultrex FA 77 and the required addition of product to restore the balanced ratio of all the cleaner components. The following analysis procedure is recommended:

Titration Method

1. Pipette a 10-milliliter sample of the cleaner bath into a 250 milliliter Erlenmeyer flask.
2. Add 50-100 milliliters of clean water.
3. Add 2-4 drops of Methyl Orange to develop a yellow solution color.
4. Titrate with Hydrochloric Acid or Sulfuric Acid (titrant) of known normality (0.1 normal is suggested) just until the pink color has been formed.

Calculation

Calculation: (milliliters of titrant) X (0.562) = 50% Liquid Caustic Soda (% v/v)

Process suggestions

Ultrex FA 77 is a good emulsifying soak cleaner at the higher end of the recommended operating temperature range. On cooling, some oils may be released. Therefore, skimming the cleaner is a suggested option. Solution of Ultrex FA 77 are also compatible with coalesces and oil removal filters. A process tank fitted with an overflow weir or dam is also recommended. At some point during the bath life, the buildup of oil and grease contaminants will effectively saturate it, beyond which maintenance additions or filtration will not maintain desired performance. When this occurs, the cleaner should be dumped, and a fresh solution prepared. The technical center or your Hubbard-Hall sales representative will be glad to help determine optimum bath life.

Hexavalent chromium contamination (only 30 ppm) will also shorten the cleaner bath service life. Additions of Enerox chrome reducer cer will efficiently reduce chrome to its trivalent state, precipitating it as CrIII Hydroxide, thereby extending cleaner life. Because of its free rinsing characteristics, Ultrex FA 77 is particularly suited for systems where rinsing facilities are marginal. Ultrex FA 77 is soap free. Therefore, no residues are left on cleaned surfaces.

Ultrex FA 77 is an effective soak cleaner in many aluminum processes cycles, anodizing, painting, phosphating, plating and welding. The Hubbard-Hall chemical company offers a full line of complimentary products such as: Etchants, de smutters, phosphates, and zincates, to ensure quality surface preparation.

Product profile

Caustic	No
Phosphate	Yes
Silicate	No
Chelates (EDTA, NTA types)	No

Note: Please refer to advice in recommended application section (pg. 2)

Waste Disposal

Ultrex FA 77 and its working solutions are alkaline. They may be neutralized with acid to meet local POTW or municipal effluent discharge requirements. Sludges and oils should be separated out before discharge. Spent Ultrex FA 77 solutions may contain dissolved metals from the cleaning process. Therefore, additional treatment of the solution may be required to meet discharge requirements.

Caution

Please read and understand the Ultrex FA 77 safety data sheet before handling and using this product. Recommended safety procedures for Ultrex FA 77 tank make up are described on page 2 of the technical data bulletin.

Our People. Your Problem Solvers.

For more information on this process,
please call us at 203.756.5521 or email: techservice@hubbardhall.com

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