



# Ultrex AS 181 W

Ultrex AS 181 W is a highly alkaline soak cleaner, formulated especially for steel and copper. Its formulation provides for excellent removal of oils and grease, preparing the base metal for additional processing in a wide range of finishing cycles.

## Features & Benefits

|  |   |
|--|---|
| Excellent emulsification properties                        | Dispenses and suspends soils                          |
| Rapid, efficient cleaning in standard soak cleaning cycles | Suitable for barrel, rack, and mass finishing cycles. |

## Physical Data

|                    |   |
|--------------------|---|
| Appearance         | Free flowing, off white powder          |
| Odor               | Slight                                  |
| Dusty              | No                                      |
| Foaming tendency   | Moderate                                |
| Maximum solubility | 24 oz/Gal at 180°F<br>(180 g/L at 82°C) |

## Product Profile

|                            |     |
|----------------------------|-----|
| Caustic                    | Yes |
| Phosphate                  | Yes |
| Silicate                   | Yes |
| Chelates (EDTA, NTS types) | No  |

## Hazard Classification

|                   |  |
|-------------------|--|
| DOT Hazard Class  | 8 (Corrosive Material)                       |
| DOT Shipping Name | Corrosive Solid, Basic Inorganic N.O.S.<br>* |
| UN Number         | 3262   |
| Packing Group     | II   |
| Guide Number      | 154  |

\* contains Sodium Hydroxide & Sodium Metasilicate



## Operating Conditions

|               | Range                           | Optimum                |
|---------------|---------------------------------|------------------------|
| Concentration | 8 – 16 oz/Gal<br>(60 – 120 g/L) | 12 oz/ Gal<br>(90 g/L) |
| Temperature   | 140°F – 190° F<br>(60°C – 88°C) | 165° F (74°C)          |
| Time          | 2 – 5 min                       | As required            |
| Agitation     | Solution movement or mild air   | As required            |

Note: The high alkalinity of Ultrex AS 181 W solutions may darken or etch brass parts somewhat. Aluminum and zinc parts will be severely etched. Your Hubbard-Hall Technical Representative will recommend a suitable soak cleaner for these sensitive metals.

### 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

**DANGER!! Ultrex AS 181 W contains Sodium Hydroxide. Consult Ultrex AS 181 W SDS sheet before handling this product. It should be handled with all the safety precautions associated with Sodium Hydroxide.**

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 to 120°F, 38°C to 49°C). With good solution stirring, gradually add the required amount of Ultrex AS 181 W.

Rapid additions may result in localized boiling and spattering!

After the required amount of Ultrex 181 W 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 page 1). Slowly add the required amount of Ultrex AS 181 W. Process the parts as required.

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 of the cleaner bath also depletes these active components. Regular maintenance additions of Ultrex AS 181 W are recommended to replenish the bath. This can be accomplished by observing quality of cleaning and making



appropriate additions per requirements of the process. Alternatively, the cleaner bath can be analyzed to determine actual concentration of Ultrex AS 181 W and the required addition of product to restore the balanced ratio of all the cleaner components.

### Process suggestions

Ultrex AS 181 W is a highly emulsifying soak cleaner. On cooling, some of the oils will be released. Therefore, skimming the cleaner to remove oils is recommended. Solutions of Ultrex AS 181 W are also compatible with coalesces and oil removal filters. 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 Inc. 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 Cr(III) Hydroxide, thereby extending cleaner life. Because of its free rinsing characteristics, Ultrex AS 181 W is particularly suited for systems where rinsing facilities are marginal. Ultrex AS 181 W is soap free. Therefore, no residues are left on cleaned surfaces. With proper post rinsing, parts entering the electro cleaner should be water break free.

## Titration Method

1. Pipette a 5 mL sample of the cleaner bath into a 250 mL Erlenmeyer flask.
2. Add 50 to 100 mL of clean water and swirl to mix well.
3. Add 2 to 4 drops of Phenolphthalein indicator to develop a pink solution color.
4. Titrate with 0.5 N Hydrochloric Acid just until the pink color has been discharged.
5. Record mL used.

Calculation

$$\text{Concentration (oz/Gal)} = \text{mL } 0.5 \text{ N HCl} \times 0.8$$

## Test Kit Method

1. Fill test bottle  $\frac{1}{4}$  full of water.
2. Using syringe provided, add  $\frac{1}{2}$  mL of Ultrex AS 181 W solution.
3. Add 5 to 10 drops Phenolphthalein indicator.
4. Add 0.72 N Hydrochloric Acid, while mixing the solution until solution turns from pink to clear.
5. Record the number of drops used.

Calculation

$$\text{Concentration (oz/Gal)} = \# \text{ Drops } 0.72 \text{ N HCl} \times 0.36$$



## Waste Disposal

Ultrex AS 181 W 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 AS 181 W 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 AS 181 W Safety Data Sheet before handling and using this product.

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please call us at 203.756.5521 or email: [techservice@hubbardhall.com](mailto:techservice@hubbardhall.com)

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