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Technical Data Sheet

CHEMEON® Cleaner 4100

Description:

CHEMEON Cleaner 4100 is an acidic soak, ultrasonic, spray and wipe cleaner that may be used for the removal of a variety of soils and oxides from aluminum, stainless steel, Monel, and other high nickel alloys.

CHEMEON Cleaner 4100 contains REACH and ROHS compliant surfactants and solubilizers designed to remove forming lubricants, machining oils, and light rust or scale from these substrates. It is also effective for lime scale removal.

CHEMEON Cleaner 4100 is a very effective single step cleaner/acid activator pretreatment for the application of CHEMEON TCP-HF conversion coatings. CHEMEON Cleaner 4100 is also suitable as a combination cleaner/deoxidizer for aluminum anodizing and will not etch polished aluminum when used as recommended.

General Operating Parameters:

Method of Application: Soak
Concentration: 5% – 15% by volume, depending on the soils
Temperatures: Room to 170 °F
Time: 2 – 10 minutes depending on substrate and soil load
Tank Material: Lined mild steel or stainless steel
Heaters: Stainless steel or Teflon coated heating coils recommended

Method of Application: Spray
Concentration: 2% – 5% by volume, depending on the soils
Temperatures: 160 to 170 °F
Time: 2 – 10 minutes depending on substrate and soil load

Method of Application: Soak (Aluminum)
Concentration: 5% – 10% by volume, depending on the soils
Temperatures: Room to 170°F (120°F typical)
Time: 2 – 10 minutes (2.5-5 minutes typical)

Ventilation is recommended for heated or spray systems.



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Process Example:

CHEMEON Cleaner 4100 as a pretreatment for CHEMEON TCP-HF

CHEMEON Cleaner 4100 may be used as a single step pretreatment for application of CHEMEON TCP-HF, eliminating the need for a nitric acid dip or deoxidizer step after cleaning.

1. Clean - CHEMEON Cleaner 4100 10% v/v, 120°F, 2.5 minutes.
2. Rinse - 1-2 minutes, ambient temperature, DI or reverse osmosis recommended.
3. Rinse - 1-2 minutes, ambient temperature, DI or reverse osmosis recommended.
4. Conversion Coat - TCP-HF 28% v/v, 5-6 minute, 75°F, pH 3.8-3.9.
5. Rinse – 0.5 minutes, ambient temperature, DI or reverse osmosis recommended.

Solution Control by titration:

1. Pipette 25.0 mL of the cleaning solution a 250 mL Erlenmeyer flask and add 25 mL of deionized water.
2. Add 3 to 5 drops of phenolphthalein indicator to the flask and swirl to mix.
3. Titrate solution with 1.0 N NaOH solution to a slight pink endpoint.
4. Record the mL of 1.0 N NaOH used.
5. Calculate the percent strength of cleaner by volume using the equation below.

$$\text{Concentration Cleaner 4100 (\% vol.)} = 1.5x \text{ volume (in mL) 1.0 N NaOH solution}$$

Physical Data:

Specific gravity	1.09
Solubility in water	complete
Appearance and odor	light amber, clear, mild odor
pH 10% solution	1.0 to 2.
pH concentrate	<1

Storage:

CHEMEON Cleaner 4100 should be stored in a cool, dry area. Keep container closed when not in use.

Waste Disposal:

CHEMEON Cleaner 4100 may require neutralization to a specified pH range depending on Federal, State, and local waste treatment regulations.

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