

# BONDERITE C-AK 4181L AERO

## ALKALINE RUST REMOVER

(KNOWN AS TURCO 4181L)

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### INTRODUCTION

BONDERITE C-AK 4181L AERO (known as TURCO 4181L) is an amber, liquid compound formulated to remove rust, paints, lube oils, drawing pastes, cutting oils and protective oils from ferrous alloys by immersion methods.

BONDERITE C-AK 4181L AERO is highly alkaline and should not be used on tin, aluminum, zinc or any alloy containing these metals as the major constituents.

BONDERITE C-AK 4181L AERO will not attack ferrous alloys, magnesium alloys, stainless steels, brass, bronze or Monel alloys when used as directed. BONDERITE C-AK 4181L AERO can be used on titanium alloys when diluted to 12% to 15% in water at 70° to 75°C.

### FEATURES

- Approved by Pratt & Whitney, General Electric, and Rolls Royce
- Supplied in liquid form
- Can be dispensed by automatic equipment
- Readily soluble in tap water at recommended concentrations
- Concentration is controlled by simple titration
- Readily rinses from metal with tap water
- Nonflammable
- Does not require post neutralization rinse

### USE INSTRUCTIONS

**Tanks:** Tanks and associated equipment may be fabricated from stainless steel.

**Precleaning:** Heavily soiled parts should be precleaned to remove excessive oils and shop soils to reduce excessive contamination of the BONDERITE C-AK 4181L AERO bath. Your HST Sales Representative can recommend a suitable precleaner based upon the type of soils involved and your precleaning operations.

**Charging Tanks:** BONDERITE C-AK 4181L AERO is normally used at 50% to 75% in water. To prepare this solution, charge tank with 3/4 the required amount of cool clean water. Start mechanical agitation and slowly add BONDERITE C-AK 4181L AERO to agitated tank. Add balance of cool clean water to operating level.

**Processing Parts:** Maintain tank at 80° to 95°C. Immerse parts completely for 15 to 60 minutes with mechanical agitation. Air agitation is not recommended, since introduction of carbon dioxide affects the solution chemistry adversely. Rinse with warm to hot water, overflowing rinse is preferred.

**NOTE:** When processing titanium alloys, dilute to 12% to 15% with water. Operate tank from 70° to 75°C for 15 to 30 minutes. Higher concentrations and higher temperature may attack titanium alloys.

Technical Process Bulletin



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## CONTROL

### Apparatus:

1. 205945 - Pipet, 25 mL
2. 205700 - Buret, 25 mL
3. Volumetric Flask, 250 mL
4. 205402 - Beaker, 250 mL
5. pH meter
6. Pipet, 20 mL

### Reagents:

Sulfuric Acid 1.0 N

### Procedure:

1. Obtain a sample from the tank and allow to cool to room temperature.
2. Pipet 25 mL of the sample into a 250 mL volumetric flask and dilute to the mark.
3. Mix well and pipet 20 mL of the diluted sample into a 250 mL beaker. Add 100 mL DI water.
4. Titrate to pH 11.4 with 1.0 N Sulfuric Acid

### Calculation:

mL of 1.0 N Sulfuric Acid X 6.88 = % by volume BONDERITE C-AK 4181L AERO

## DISPOSAL INFORMATION

Dispose of spent solution per local, state and regional regulations. Refer to your HENKEL MATERIAL SAFETY DATA SHEET for additional disposal information.

## PRECAUTIONARY INFORMATION

### **DANGER! Contact may cause severe burns to skin and eyes.**

BONDERITE C-AK 4181L AERO contains sodium hydroxide. Avoid contact with eyes, skin and clothing. Do not take internally. Use with adequate (equivalent to outdoor) ventilation.

Protective clothing, such as a chemical face shield or goggles, gloves, boots and apron made from alkali resistant materials should be worn when using and handling this product. A NIOSH approved respirator equipped with a mechanical filter should be worn for mist conditions.

Add product to cold water with care to prevent local pockets of steam. Keep containers sealed when not in used. Transport and store in closed containers below 55°C.

Water additions to the BONDERITE C-AK 4181L AERO tank can generate excessive heat and in extreme cases can cause hazardous bumping or boiling of the BONDERITE C-AK 4181L AERO solution. Water additions are best made to a cold tank. Water additions should be made cautiously and with agitation of the entire solution.

Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and can be fatal. Follow appropriate tank entry procedures (see ANSI Z117.1-1977).

Before using this product refer to container label and HENKEL MATERIAL SAFETY DATA SHEET for additional precautionary, handling and first aid information.

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Henkel Corporation | 32100 Stephenson Highway | Madison Heights, MI 48071  
PHONE: (248) 583-9300 | FAX: (248) 583-2976 | [www.henkelna.com/](http://www.henkelna.com/)

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