

BONDERITE C-AK FERLON

ALKALINE CLEANER

(KNOWN AS TURCO FERLON)

Issued 5/31/2013

DESCRIPTION:

BONDERITE C-AK FERLON (known as TURCO FERLON) is a highly alkaline chelated, granular product used for removing rust, paint and light scale from steel without attack on the base metal. BONDERITE C-AK FERLON (known as TURCO FERLON) is approved for use in the jet engine process for carbon and oxide removal. It also removes stains from steel, bronze and copper.

HANDLING CHARACTERISTICS:

BONDERITE C-AK FERLON (known as TURCO FERLON) contains highly alkaline materials and is corrosive. Contact with the skin or eyes may cause severe irritation or burns. The same safety precautions should be observed as when handling caustic type materials. Personnel should wear eye protection, rubber gloves and apron or other protective clothing when working with BONDERITE C-AK FERLON (known as TURCO FERLON). Tanks used for BONDERITE C-AK FERLON (known as TURCO FERLON) should be provided with an adequate exhaust system to protect workers against irritating or corrosive airborne contaminants. Material Safety Data Sheets are available upon request from Henkel Corporation.

EQUIPMENT RECOMMENDATIONS:

Process equipment constructed of stainless steel is recommended. BONDERITE C-AK FERLON (known as TURCO FERLON) will not attack sound ferrous metals, but will definitely dissolve rust. Therefore, tanks and heating coils should be inspected for badly rusted spots or questionable welds before using BONDERITE C-AK FERLON (known as TURCO FERLON) to avoid leaks that might arise if the rust is dissolved away.

Mild steel heat exchangers and steam pipes may have short life in BONDERITE C-AK FERLON (known as TURCO FERLON). The 300 series stainless steel heat exchangers and piping are recommended for BONDERITE C-AK FERLON (known as TURCO FERLON) solutions.

OPERATING INSTRUCTIONS:

Operation: Rust Removal		Control:
Concentration		1.5-2.0 lb./gal (180-240 g/L)
Temperature:		180-210°F (80-100°C)
Processing Time:		
Immersion:	As required: depends on solution concentration, temperature and current density.	

Note:

Periodic reverse current with 15 seconds cathodic (direct) and 5 seconds anodic (reverse) cleaning is recommended to reduce rust removal time. Use graphite or carbon electrodes. If a smut develops in electro-derusting, it may be removed by addition of sodium cyanide, 1-4 oz/gal (7-30 g/L). To accelerate rust and oxide removal in difficult jobs, add 6-8 oz/gal (4-6 g/L) of sodium cyanide to the BONDERITE C-AK FERLON (known as TURCO FERLON) solution and operate at temperatures not over 135°F (55°C). Sodium cyanide decomposes in strong alkaline solutions and must be replaced at regular intervals.



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Operation: Paint Stripping	Control:
Concentration	2 lb/gal (240 g/L)
Temperature:	At or near boiling
Processing Time:	
Immersion:	As required

Note:

Most paints can be stripped at lower concentrations and temperatures than noted above. Where time is not critical, BONDERITE C-AK FERLON (known as TURCO FERLON) can even be used at room temperature.

BONDERITE C-AK FERLON (known as TURCO FERLON) is the most effective alkaline stripper for steam gun use or for flow-on stripping such as stripping road machinery.

Carbon and Oxide Removal from Stainless Steel:

BONDERITE C-AK FERLON (known as TURCO FERLON) at 1.5 to 3.0 lb./gal (180-360 g/L), 150-210°F (65-100°C), is used on stainless steel, especially aircraft parts, for carbon and oxide removal.

Addition to Steel Electrocleaners:

BONDERITE C-AK FERLON (known as TURCO FERLON), 3 to 6 oz/gal (20-45 g/L), added to regular steel electrocleaners such as F.S. or MAXAMP, will improve the detergency, smut removal, and prolong the life of the electrocleaner.

Barrel Finishing of Steel Parts:

Use 6 to 32 oz/gal (45-240 g/L) of BONDERITE C-AK FERLON (known as TURCO FERLON) for stain removal from steel and stainless steel parts by barrel finishing. BONDERITE C-AK FERLON (known as TURCO FERLON) is also excellent for parts difficult to bright finish. Hot solutions are beneficial.

Stainless Removal from Steel, Bronze and Copper:

For stain removal from steel, bronze or copper, use 1.5 to 2.0 lb./gal (180-240 g/L) of BONDERITE C-AK FERLON (known as TURCO FERLON) at 160°F (70°C) to boiling. Immerse the parts until clean, usually 5 minutes or more. The stain removal is expedited by cathodic or periodic reverse current.

Cleaning Silver Plated Ball and Roller Bearings:

Silver plated ball and roller bearing assemblies such as those found in aircraft engines are readily stripped of carbon and gum deposits by soaking for 30 to 60 minutes in a solution of 2 lb./gal (240 g/L) BONDERITE C-AK FERLON (known as TURCO FERLON) at 200°F (95°C), covered with a layer of NORDALL an inch or two deep. The NORDALL will coat the parts as they leave the BONDERITE C-AK FERLON (known as TURCO FERLON) and prevent staining. Water rinse, spray thoroughly with **Varsol or Oleum spirits**, then store in solvent.

Zinc Phosphate Removal:

A zinc phosphate coating is often applied to heavy steel such as automobile bumper stock to hold lubricant and facilitate drawing. The lubricant and phosphate coating must be removed prior to polishing and plating. After cleaning the drawing compound, BONDERITE C-AK FERLON (known as TURCO FERLON) at 4 oz/gal (30 g/L) in an immersion application at 180°F (80°C) can remove the phosphate coating.

SOLUTION CONTROL:

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1. Pipette a 10 mL sample of the BONDERITE C-AK FERLON (known as TURCO FERLON) bath into a 250 mL Erlenmeyer flask.
2. Add 50 mL of distilled or deionized water and 3 to 4 drops of Phenolphthalein indicator. Solution should be red.
3. Titrate to endpoint (red to colorless) with 1.0N Hydrochloric Acid (HCl)
4. CALCULATIONS:

oz/gal BONDERITE C-AK FERLON (known as TURCO FERLON) = $0.66 \times (\text{mL of } 1.0\text{N Hydrochloric Acid})$

gm/L BONDERITE C-AK FERLON (known as TURCO FERLON) = $4.95 \times (\text{mL } 1.0\text{N Hydrochloric Acid})$

STORAGE:

Keep container tightly closed when not in use. Store in cool, dry area. Do not store near acids. Avoid contact with acids, reducing agents, organic halogens, aluminum, zinc or tin.

WASTE DISPOSAL:

BONDERITE C-AK FERLON (known as TURCO FERLON) may require neutralization to a specified pH range depending on Federal, State and local waste treatment regulations. Unneutralized solutions are corrosive. Waste disposal methods are available upon request from Henkel Surface Technologies.

PRECAUTIONS

DANGER:

CAUSES SEVERE BURNS. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED.

Contains sodium hydroxide. Do not get in eyes, on skin, on clothing. Avoid breathing dust or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

FIRST AID:

CALL A PHYSICIAN IMMEDIATELY

Ingestion:

Do not take internally. If swallowed, dilute by drinking large quantities of water or milk. DO NOT induce vomiting.

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. GET MEDICAL ATTENTION IMMEDIATELY.

Eye Contact:

Immediately flush with plenty of water for at least 15 minutes. GET MEDICAL ATTENTION IMMEDIATELY.

Skin Contact:

Flush skin immediately with plenty of water for at least 15 minutes. Wash with mild soap and water. Remove contaminated clothing. If irritation or burns are present, GET MEDICAL ATTENTION IMMEDIATELY.

KEEP OUT OF REACH OF CHILDREN



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ATTENTION:

When empty, containers will still be hazardous because of product residue. All labeled hazard precautions must be observed.

TESTING REAGENTS AND APPARATUS

(Order only those items which are not already on hand.)

<u>Code</u>	<u>Quantity</u>	<u>Item</u>
592477	1	Buret assembly, 25 mL automatic
592488	2*	Flask, Erlenmeyer, 250 mL
592398	1	Indicator 3 (Phenolphthalein)(250 ml)
592475	1	Indicator dropping bottle
592492	2*	Pipette, 10 mL volumetric
592494	1	Pipette filler
592499	1	Pitcher, graduated, plastic
594334	1	Thermometer, floating
592440	1	Titration Solution 60 (1.0N HCl) (4 Liters)

*Includes one more than actually required, to allow for possible breakage.

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