



Technical Product Bulletin

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TURCO® LIQUID ALKALINE RUST REMOVER (T-4181-L)

JET ENGINE CLEANING COMPOUND

DESCRIPTION:

TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) 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.

TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) is highly alkaline and should not be used on tin, aluminum, zinc or any alloy containing these metals as the major constituents.

TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) will not attack ferrous alloys, magnesium alloys, stainless steels, brass, bronze or Monel alloys when used as directed. TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) can be used on titanium alloys when diluted to 12% to 15% in water at 70° to 75°C.

FEATURES:

TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) offers these features:

1. Approved by Pratt & Whitney, General Electric, and Rolls Royce
2. Supplied in liquid form
3. Can be dispensed by automatic equipment
4. Readily soluble in tap water at recommended concentrations
5. Concentration is controlled by simple titration
6. Readily rinses from metal with tap water
7. Nonflammable
8. 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 TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) bath. Your HST Sales Representative can recommend a suitable precleaner based upon the type of soils involved and your precleaning operations.

Charging Tanks: TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) 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 TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) 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.

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:

1. 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 Liquid ARR
(4181-L)

DISPOSAL INFORMATION:

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

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

TURCO LIQUID ALKALINE RUST REMOVER (T-4181-L) 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 should be worn during 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 T-4181-L tank can generate excessive heat and in extreme cases can cause hazardous bumping or boiling of the T-4181-L 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 SURFACE TECHNOLOGIES MATERIAL SAFETY DATA SHEET for additional precautionary, handling and first aid information.

NOTICE:

The above information and recommendations concerning this product are based upon our laboratory tests and field use experience with this or similar products. However, since conditions of actual use are beyond our control, any recommendations or suggestions are made without warranty, express or implied. Manufacturer's and seller's sole obligation shall be to replace that portion of the product shown to be defective. Neither shall be liable for any loss, damage, or injury, direct or consequential, arising out of the use of this product.

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