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Product Title: Turco® 5578-GL
Product View: Turco 5578-GL
Description: Alkaline Etchant for Titanium, Columbium and Tantalum Alloys
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Technical Product Bulletin

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Turco® 5578-GL
Alkaline Etchant for Titanium, Columbium and Tantalum Alloys

DESCRIPTION:

TURCO 5578-GL is a liquid product formulated for alkaline etching of titanium, columbium and tantalum alloys by immersion systems or spray applications.

TURCO 5578-GL is an effective etch prior to adhesive bonding, diffusion bonding, painting, welding and brazing.

FEATURES:

TURCO 5578-GL offers these features:

1. Supplied in liquid form
2. Can be dispensed by automatic equipment
3. Readily soluble in water at recommended concentrations
4. Concentration is controlled by simple titration
5. Readily rinses from metal with water
6. Nonflammable in concentrate or working solution.
7. Does not require post neutralization rinse

USE INSTRUCTIONS:

Tanks: Tanks and associated equipment must be fabricated from stainless steel.

Charging Tanks: TURCO 5578-GL may be used as received (100%) or diluted to 75% Turco 5578-GL with 25% water. If it is to be diluted, charge the tank with 25% of the required amount of cool clean water (D.I. water preferred). Start mechanical agitation and slowly add TURCO 5578-GL to the agitated tank. Add balance of cool clean water to the operating level. Heat to the desired operating temperature.

Processing Parts: Maintain tank at 80°C (175°F) to 95°C (204°F). Immerse parts completely for 15 to 60 minutes with mechanical agitation. The etching time varies with the part specification requirements. Rinse with warm to hot overflowing water.

Note: Should a surfactant be required for meeting a specific

specification, PTD-5112-J can be added at a level of 0.1 lb per 100 gallons of solution.

CONTROL:

Turco 5578-GL Titration

Apparatus:

1. 205945 - Pipet, 25 mL
2. 205700 - Buret, 25 mL
3. 205982 - Erlenmeyer Flask, 250 mL
4. 205402 - Beaker, 250 mL
5. pH meter
6. 205943 - Pipet, 10 mL
7. Volumetric Flask, 250 mL

Reagents:

1. Standard Sulfuric Acid 1.0 N
2. Alizarin yellow, 1 % in isopropanol

Procedure:

1. Obtain a sample from the tank and allow to cool to room temperature.
2. Pipet 25 mL of the cooled 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 , or to the Alizarin Yellow indicator end point (4 drops - color change from pink to yellow).

Calculation:

mL of 1.0 N Sulfuric Acid x 6.88 = % by volume Turco 5578-GL

DISPOSAL INFORMATION:

Dispose of spent solution per local, state, federal 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 5578-GL contains sodium hydroxide. Avoid contact with eyes, skin and clothing. Do not take internally. Always use with adequate (equivalent to outdoor) ventilation.

Protective clothing, such as a chemical face shield or goggles and 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 for alkali mist conditions.

Add product to cold water with care to prevent local pockets of steam. Keep containers sealed when not in use. Transport and store in closed containers below 55°C (132°F).

Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces which can be fatal. Follow appropriate tank entry procedure (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.

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
592463.....	1.	Beaker, 250 mL
592488.....	2*	Flask, Erlenmeyer, 250 mL
592493.....	2*	Pipette, 25 mL volumetric
592494.....	1.	Pipette Filler
**	1.	pH Meter
595584.....	1.	Pocket Thermometer, (0-220°F)

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

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