



# **TURCO<sup>®</sup> PRETREAT**

## **HEAT TREAT SCALE INHIBITING COMPOUND**

### **DESCRIPTION:**

TURCO PRETREAT is a liquid, orange-colored compound formulated to inhibit the formation of tenacious scale associated with heat treating of ferrous metals, stainless steels, nickel chrome alloys and copper alloys in non-inert gas atmosphere furnaces. It may also be used as a lubricant for hot forming of sheet titanium, hot flaring of titanium tubing, and cold forming of 17-7 PH steel plate; as a protective coating for carbon steel dies used in hot sizing operations; as a rust preventive for mild steel; and as a protective coating for copper alloys during annealing. TURCO PRETREAT minimizes the need for the extremely corrosive acidic mixtures commonly used to descale heat-treatable alloys.

### **FEATURES:**

TURCO PRETREAT offers these features:

1. Significantly reduces metal loss, intergranular oxidation and surface notching
2. Easy to use
3. Shortens descaling time
4. Minimum equipment requirements

### **USE INSTRUCTIONS:**

1. Proper precleaning is essential.: Many soils, if not completely cleaned from the metal surface prior to heat treatment, can have very deleterious effects on metals alloys during the heat treat process. Undesirable alloying with the metal surfaces, often accompanied by pitting and other serious defects, can result from failure to adequately pre-clean. Cleaning may be accomplished with TURCO HTC, TURCO VITRO-KLENE, or other suitable TURCO cleaners. Consult the TDB for the cleaner chosen for recommendations on operating parameters.
2. Thoroughly rinse with overflowing water (warm preferred)
3. Acid clean in appropriate descaling solution for 5 to 10 minutes (See TDB #496 for recommended procedures). Acid cleaning is not necessary for all conditions, but it is essential where die contaminants such as lead and zinc, not removable in alkaline precleaning, are known or suspected to be present.
4. Rinse with overflowing water for 2 to 3 minutes.
5. Allow parts to dry.

## **APPLICATION OF TURCO PRETREAT:**

1. After thorough cleaning and drying, apply TURCO PRETREAT compound as soon as possible to prevent recontamination of metal surfaces.
2. TURCO PRETREAT must be thoroughly mixed before using. The best method for application of PRETREAT is by spray. A small amount of toluene may be added to adjust the viscosity to the proper spraying consistency. Normal paint spraying equipment such as a Binks Model #7 Spray Gun with a #36 SD tip is satisfactory for application of the thin coating necessary for protection. A spray pressure of 35# per square inch has been found satisfactory.
3. Coating thickness must not exceed 0.2 to 0.3 mils. at any location on the part. Thicker coatings will not function properly and can lead to part damage. Special caution must be taken in applying TURCO PRETREAT to corners or other irregular surfaces. Normally, application of thin box coatings until a uniform light orange-gold coating color appears on the surface is sufficient to obtain the recommended thickness.
4. Under normal atmospheric conditions, drying time is 1 to 5 minutes, after which time the film is normally resistant to scuffing and fingerprinting. Should it become necessary to remove TURCO PRETREAT from metallic surfaces prior to heat-treating, immersion in a TURCO alkaline cleaning solution, such as TURCO HTC, for 10 to 15 minutes will suffice.
5. Pretreated parts must be racked in the heat treat furnace to allow free circulation of air around each part in order to properly cure the TURCO PRETREAT coating. Furnace atmosphere must be slightly oxidizing. A reducing atmosphere prevents proper functioning of the TURCO PRETREAT. Note: Interior furnace surfaces must be kept clean for optimum results.

## **REMOVING THERMAL OXIDES:**

1. Immerse parts in appropriate TURCO scale removing solution. (See TDB #495 for recommended procedure, proper descaling solution.)
2. Rinse in cold, overflowing water, 2 to 3 minutes.
3. Pressure spray rinse to remove lightly adhering oxides that remain on the metal surfaces.

## **DISPOSAL INFORMATION:**

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

## **CAUTION!**

TURCO PRETREAT contains petroleum distillate, ketone and silicate. Avoid contact with eyes, skin and clothing. Do not take internally. Use with adequate (equivalent to outdoor) ventilation. Avoid prolonged breathing of vapors.

TURCO PRETREAT has a flash point of 5°C, Tag Closed Cup Method. Do not use this product near sources of ignition, such as cutting torches, welding arcs or open flames, since hazardous gases may be formed in addition to fire.

Protective clothing, such as a chemical face shield or goggles and gloves, made from solvent resistant materials should be worn when handling and using this product. A NIOSH-approved respirator should be worn when spraying this product in confined or enclosed areas or during mist conditions.

Transport and store in closed containers at temperatures from 0° to 40°C. Do not store near strong oxidizers.

Before using this product refer to container label and TURCO 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.

Rev. 6/99(Sup. 6/86)  
TDB #35