



Technical Process Bulletin

Technical Process Bulletin No.
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TURCO C-298 GL

Immersion Cleaner for Aluminum and Aluminum Alloys

1. Introduction:

TURCO C-298 GL is a liquid immersion cleaner for aluminum and aluminum alloys. It is formulated for use in anodizing and conversion coating lines. It is free rinsing and will remove a variety of soils including oils, greases, inks, and wax based markings. It contains no silicates or borates.

2. Operating Summary:

<u>Chemical:</u>	<u>Bath Preparation per 100 Gallons:</u>
TURCO C-298 GL	8 to 20 gallons
<u>Operation and Control:</u>	
Concentration Range:	12.3 - 30.5 mL (8-20 V%)
Normal Operating pH Range:	6.7 - 8.7 (For information only)
Time:	5 to 15 minutes
Temperature:	130 to 160°F, maximum (54 to 71°C)

3. The Process:

- A. Cleaning with TURCO C-298 GL
- B. Water rinsing
- C. Etch or bright dip (optional)
- D. Water rinsing (optional)
- E. Deoxidizing /desmutting with suitable TURCO DEOXALUME material (optional)
- F. Water rinsing
- G. Required anodizing or conversion coating.

4. Materials:

TURCO C-298 GL
Testing reagents and apparatus

5. Equipment:

The process and related equipment, pumps, and piping for use with this solution should be constructed of stainless steel. The heat exchanger plates should be stainless steel. All process circulating pump seals, valve seats, and other elastomers which come in contact with the working process solution should be Buna-N, Teflon or Viton. EPDM elastomers should be avoided.

Automatic process control equipment, which promotes consistent quality and controlled costs, is available. Auxiliary equipment, which is engineered and specified for this process, include air operated chemical transfer pumps, chemical metering pumps, reliable level controls, solenoid valve assemblies and bulk storage tanks. All chemical pump seals, valve seats and other elastomers which come in contact with the concentrated solution can be Buna-N, Teflon, Viton, or Hypalon.

Our sales representative should be consulted for information on Henkel Surface Technologies automatic process control equipment for this process or other matters related to this process. In addition, the "Henkel Surface Technologies Equipment Design Manual" may be consulted.

6. Cleaning with the TURCO C-298 GL cleaner solution:

Buildup:

Fill the tank about three-fourths full with room temperature water. For every 100 gallons of final solution volume add 8 to 20 gallons of TURCO C-298 GL chemical, (the specific amount to be added depends on the desired bath strength). Circulate until thoroughly mixed. Finally, add sufficient water to bring solution up to the working level. Heat to the desired operating temperature.

Operation:

Time: 5 to 15 minutes
Temperature: 130 to 160°F (54 to 71°C)

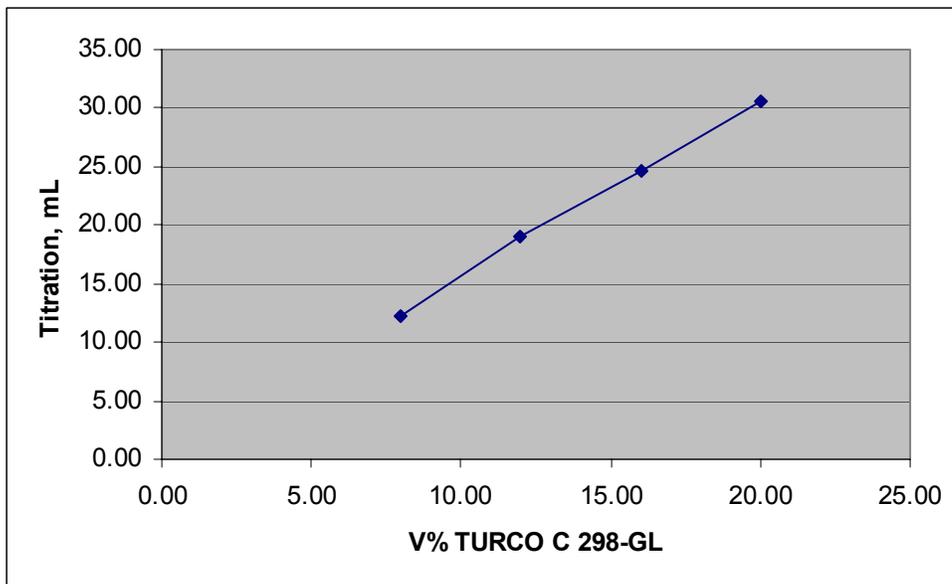
It is recommended that the bath be continuously agitated by mechanical means such as a Lightin' Mixer or similar device while processing work. **Air agitation is to be avoided.**

7. Testing and Control:

TURCO C-298 GL Cleaner Concentration:

Using a 25 mL measuring pipet, transfer 10 mL sample into a 100 mL volumetric flask. Make to volume with deionized water and mix. Using a 25 mL measuring pipet, transfer a 5 mL aliquot into a clean Erlenmeyer Flask or a beaker. Add about 25 mls of DI water. Add 10 drops of Indicator 99 and swirl to mix. The solution may turn blue. Add 5 ml of Auxiliary Test Solution 76 and swirl to mix. The solution will turn pink. Slowly begin adding Titrating Solution 45, while swirling until 1 or 2 drops changes the mixture from Pink to a Blue (not Purple) end-point. Read the concentration of the surfactant in the bath from the following chart, or use the following formula to calculate the concentration.

$$\% \text{ by volume TURCO C-298 GL} = \text{TS } 45 \text{ mL} \times 0.65$$



Recommended Replenishment:

To increase the concentration by 1 V% add 4 liters of TURCO C-298 GL per 100 gal.

8. After Treatment:

After cleaning with TURCO C-298 GL, the work is thoroughly rinsed in cold water. The rinse should be continuously overflowed and the overflow should be regulated with the rate of production so that the main body of the rinse never becomes excessively contaminated.

9. Storage Requirements:

TURCO C-298 GL is a liquid product which may freeze after extended storage at low temperatures. It is recommended that the product be stored above 32°F. If the product does become frozen it should be moved to a warm place and allowed to thaw. After complete thawing, and thorough mixing the product may be used with no loss of effectiveness.

10. Waste Disposal Information:

Applicable regulations covering disposal and discharge of chemicals should be consulted and followed.

Disposal information for the chemical, in the form as supplied, is given in the Material Data Safety Sheet for this product.

11. Precautionary Information:

When handling the chemical products used in this process the first aid and handling recommendations on the Material Data Safety Sheets for each product should be read, understood and followed.

The processing bath is alkaline and may cause irritation of the skin and eyes. Do not get in eyes, on skin or on clothing. Do not take internally. Wear face shield, rubber gloves, and protective clothing when handling. In case of contact, follow the recommendations on the Material Data Safety Sheets for TURCO C-298 GL.

Testing Supplies and Reagents
(Order only those items which are not already on hand).

<u>Code</u>	<u>Quantity</u>	<u>Item</u>
*****	1	Buret, 50-ml
592488	1	Flask, Erlenmeyer, 250-ml
595541	1	Pipet, 25 mL Measuring
592415	250 mL	Indicator 99, 250 ml
592453	1.0L	Aux Test Solution 76
592451	1.0L	Titrating Solution 45

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