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WARNING:

**This chemical is formulated
for industrial use only**

Contact with skin or clothing or other improper handling or use of this product may result in bodily harm or other damage. Before using or mixing the contents with other substances, all labels applied to container, the applicable Technical Data Sheet and Material Safety Data Sheet should be read and specific instructions and precautions followed to assure correct use and personal safety.



ALUMI-TRI

TRIVALENT CHROME TREATMENT FOR ALUMINIUM AND ITS ALLOYS

ALUMI-TRI is a liquid chemical used in the trivalent chrome pre-treatment of aluminium and its alloys prior to liquid or powder painting.

ADVANTAGES

- * Offers excellent corrosion resistance
- * Guarantees strong adhesion
- * Alternative to hexavalent chrome systems

Description

ALUMI-TRI is a one pack product; it is a green liquid. The process requires using ALUMI-TRI as follows:

Process Sequence

1. ALUMIBRITE
2. Rinse
3. Rinse
4. ALUMI-TRI
5. Rinse
6. Rinse (DI water optional)
7. Warm Air Dry (Max 80°C - Optional)

Operating conditions

ALUMI-TRI	20% v/v
pH	3.7 - 3.95
Temperature	Ambient - 40°C
Total acidity	2 - 4 ml
Dipping time	2 - 4 minutes (temp dependant)

The final result depends from different conditions:

- * maintain the suggested operative parameters in a narrow range
- * type of aluminium used
- * the type of cleaning used before the treatment process.
- * Aluminium should be painted as soon as ALUMI-TRI process has completed and dried for maximum corrosion protection

● *Bringing the Best Products to the Surface* ●

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Maintenance

Add the chemical according to the consumption.

Adjust pH with 5% Sulphuric & 1% sodium hydroxide solution accordingly

TANKS & EQUIPMENT

Stainless steel (316)

Polythene

PVC

Bath solution control

Method of analysis

Reagents:

Sodium Hydroxide, 10%

Hydrogen Peroxide, 30%

Potassium Iodide

0.1N Sodium Thiosulphate

Starch solution

Procedure

1. Pipette 100mL sample into 250mL Erlenmeyer flask, add 20mL sodium hydroxide solution
2. Add approx. 5mL Peroxide, stir for 5 minutes.
3. Add a further 5ml Peroxide, stir for 5 minutes at room temperature.
4. Boil the solution for 30-40 minutes under stirring. It is important to evaporate excessive peroxide. The maximum evaporation loss should be 50mL.
5. Chill the solution and filter it using a fine grained filter paper.
6. Rinse with approx 10mL DI water. The filtrate must be clear of precipitates.
7. Dilute the filtrate with DI water up to about 100mL.
8. Add 40mL hydrochloric acid (colour change from yellow to orange)
9. Add about 1g potassium iodide
10. Titrate with 0.1N Sodium Thiosulphate until the solution is only slightly yellow.
11. Add starch solution and continue to titrate until blue colour disappears.
12. Record as T

Calculation

$T \times 1.613 = \% \text{ of ALUMI-TRI}$

Safety

Good industrial hygiene should be carried out when using Alumi-tri.

Gloves, glasses and aprons should be worn to avoid human contact.

For more detailed information, please refer to Material Safety Data Sheet (MSDS)