

TECHNICAL DATA

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THIS CHEMICAL IS
FORMULATED FOR
INDUSTRIAL USE ONLY

WARNING

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.

PRELUDE ALU-ETCH

INTRODUCTION

PRELUDE ALU-ETCH is a combination of 46% w/w sodium hydroxide and etch additive that will avoid the precipitation of aluminium hydroxide stone in aluminium etching baths.

Using PRELUDE ALU-ETCH does away with having to add etch additive manually to bulk tank of etching bath.

It minimizes the need to handle chemicals or having to mix additive thoroughly to bulk caustic tank.

PRELUDE ALU-ETCH contains solubilizing agents that keep non-ionic surfactants in solution that may be carried over from cleaning baths and stops them from setting out on the surface of the caustic tank.

PRE ETCH TREATMENT

Aluminium should be cleaned in the appropriate PRELUDE cleaner to remove oils and other contaminants. Poor cleaning will result in differential etching.

POST ETCH TREATMENT

Rinse immediately in fresh water, prior to de-smutting.

BATH MAKE-UP AND CONTROL

| | | |
|-------------------|---|---------------------------------------|
| Initially | - | 50gm/litre caustic soda |
| Equilibrium Point | - | 70gm/litre caustic soda |
| Temperature | - | 38-70 deg Celcius (Ideally 60-70C) |

ETCH TIME

3 - 20 minutes - (Depending on desired finish)
Air agitation is recommended.

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SOLUTION CONTROL

Reagents - N/I HCL
- phenolphthalein
- sodium fluoride

METHOD

A. Titrate 10ml of etch bath with N/I Hcl using phenolphthalein as the indicator until pink color disappears.

= TITRATION A

B. Re-zero burette and add 10gms of sodium fluoride = re-titrate until pink color disappears - add a further 5 gms of sodium fluoride and if pink color appears re-titrate until all pink color disappears - the end point.

= TITRATION B

CALCULATION: $1.58 (2.8A - B) = \text{gm/litre NaOH}$
 $B = \text{gms/litre dissolved aluminium.}$

SUGGESTED OPERATION

1. Maintain etch bath at 50gms/litre NaOH from PRELUDE ALU-ETCH PLUS
 2. When dissolved aluminium reaches 40gms/litre increase NaOH concentration from PRELUDE ALU-ETCH to 60gms/litre.
 3. When dissolved aluminium reaches 70gms/litre increase NaOH concentration from PRELUDE ALU-ETCH to 70gms/litre.
- Maintain this concentration. The etch bath will reach an equilibrium point somewhere between 100-140gms/litre aluminium.

PRECAUTIONS

Effective fume extraction should be used to remove hydrogen gas evolved during etching. PRELUDE ALU-ETCH is alkaline and therefore protective clothing including goggles, gloves and apron are recommended when handling. Any splashes should be rinsed immediately with clean water.

Medical attention should be sought as soon as possible.