ALPHA CHEMICALS PTY LTD

Manufacturers and Importers of Industrial Chemicals

ABN 29 001 174 741

P.O. Box 657 Dee Why NSW 2099 Australia
4 Allen Place Wetherill Park NSW 2164Australia
www.AlphaChemicals.com.au

Phone +61 2 9982 4622
sales@alphachem.com.au

TECHNICAL DATA SHEET

LIQUID, AMBIENT TEMPERATURE, ALUMINIUM DESMUT

ALPHA DESMUT FN160

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ALPHA DESMUT FN160

Alpha Desmut FN160 is a liquid desmuter, deoxidiser and neutraliser for use in the process of anodising aluminium after caustic based etching and thorough rinsing has been completed. Following the Desmut step the work must be double rinsed before it is ready for anodising.

Alpha Desmut FN160 is an acidic product, formulated to prevent pitting if the aluminium alloy.

Alpha Desmut FN160 use solution can easily be controlled by simple chemical titration methods.

Alpha Desmut FN160 contains an oxidising agent, and strong mineral acids. Normal safety precautions used in handling such materials should be observed. NOTE **Alpha Desmut FN160** does not contain any chromium.

Operating Conditions:

Concentration:	5% V/V is recommended (50 litres per 1,000 Litres)
Temperature:	Ambient.
Water:	Good quality tap water.
Immersion time:	5 minutes.
Agitation:	Air agitation is beneficial in mixing of the solution, and enhances performance of the product on the aluminium.
Filtration:	Not required.
Post Rinsing:	2 stage, immediate rinsing in ambient temperature mains water.

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Preparing an Alpha Desmut FN160 Bath:

1) Tanks constructed or lined with rigid polyvinyl chloride (PVC), or polyethylene (PE) are preferred. Mild steel, 200 series, and 400 series stainless steel are NOT acceptable. The rinse tanks following the ALPHA DESMUT FN160 step should be constructed of the same material.

2) Half fill the process tank with water. Add the required quantity of Alpha Desmut FN160, based on 5% of the working volume of the tank.

3) Add the balance of the water to reach the working level in the tank, and commence agitation.

4) Any profiles that fall to the bottom of the tank, should be removed as soon as practical.

Use of an Alpha Desmut FN160 Bath:

1) Proper, thorough rinsing of the aluminium after caustic etching and before the use of the ALPHA DESMUT FN160 is very important in order to maintain bath stability and reduce chemical consumption.

2) Air agitation of the ALPHA DESMUT FN160 bath is very beneficial to the process. If the rinses between caustic etching and ALPHA DESMUT FN160 are dirty, and not well maintained, then some foaming may appear as a result of the air agitation in the ALPHA DESMUT FN160 bath.

3) Under most conditions, and with proper product concentration and bath maintenance, process loads of aluminium may be stored in the ALPHA DESMUT FN160 bath between shifts (ie 6- 8 hours), so that a immediate start of the rectifiers is possible for the following shift.

4) With proper product concentration and bath maintenance, a solution of ALPHA DESMUT FN160 should be pumped over and the tank cleaned out on an annual basis. Making up a brand new solution is not normally required.

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Analytical Control Method:

A) Total acid titration.

This is simple but not a very accurate measure of the concentration for a used solution. It is a good test for a new or nearly new solution.

1) Take a sample of the Alpha Desmut FN160 bath.

2) Take a 10 ml aliquot of the solution.

3) Dilute with approximately 50 ml with mains water.

4) Add approximately 5 drops of phenolphthalein indicator.

5) Titrate with 1.0 N sodium hydroxide until a pink end point is reached.

6) Each ml of 1.0 N sodium hydroxide = 0.9 % V/V concentration.

B) Oxidation Titration.

This is a more reliable test, especially for the testing of a used solution.

1) Take a sample of the Alpha Desmut FN160 bath.

3) Take a 10 ml aliquot of the solution.

3) Add 15 mls of 10 % Potassium Iodide solution.

4) Add 15 mls. of 50 % sulphuric acid.

5) Add ¼ teaspoon Iodine indicator powder (Iotect, or starch). The solution will now be a dark blue

6) Titrate with 0.1 N sodium thiosulphate until the solution has lost its dark blue colour.

7) Each ml of 0.1 N sodium thiosulphate = 2 % V/V concentration