

Deoxidizer 126

Chrome-free, Iron-free Deoxidizer / Desmutter for Aluminum and Aluminum Alloys, used with Sulfuric, Nitric, Hydrofluoric acids or Mixtures

PRIMARY APPLICATION

Deoxidizer126 is a liquid,chrome-free, iron-free deoxidizer / desmutter for aluminum and aluminum alloys. It is used with sulfuric, nitric, hydrofluoric acids or mixtures of these acids. Deoxidizer 126 is normally used at ambient temperature, and can be used in both spray and immersion applications.

CHEMICAL CHARACTERISTICS

chemical composition	solution of inorganic oxidizing salts
physical form	liquid
odor	none
specific gravity	1.134 at 20°C (68°F)
bulk density	9.45 lb/gal at 20°C (68°F)
biodegradable.....	no
foam tendency.....	none
pH, concentrate	< 2
flash point	none

APPLICATION PROCEDURE

Deoxidizer 126 is normally applied as follows:

Deoxidizer 126 concentration	5 - 10 % by volume
Acid concentration	as needed
Temperature	60 - 90°F (15 - 32°C)
Time	1 - 10 minutes

Bath Control

Deoxidizer 126 Concentration:

1. Pipet a 1 ml sample of the Deoxidizer 126 bath into an Erlenmeyer flask.
2. Add about 50 ml of water and mix.
3. Pipet 20 ml of 0.1N Ferrous Ammonium Sulfate into the flask and mix.
4. Allow to stand for 30 seconds.
5. Add about 3 ml of Gardotest Solution 12 (50% Sulfuric acid) and mix.
6. Titrate with Gardotest Solution 4 (0.1N potassium permanganate) to a violet end point. Record ml of Gardotest Solution 4 used as "A".
7. Repeat the procedure using 50 ml of the same water from step 2 as a blank. Record ml of Gardotest Solution 4 used in this step as "B".
8. Calculation: $(A - B) \times 2.4 = \% \text{ by volume Deoxidizer 126.}$

Deoxidizer 126 Concentration (Alternate Procedure):

1. Pipet a 10 ml sample of the Deoxidizer 126 bath into an Erlenmeyer flask.
2. Dilute to approximately 50 ml with deionized water.
3. Add about 3 ml of Gardotest Solution 12 (50% Sulfuric acid) and mix.
4. Add approximately 2 grams of Gardotest Powder 28 (potassium iodide) and swirl to dissolve.
5. Add 5 ml of Gardotest Indicator 17 (soluble starch solution). Sample color will turn black.
6. Titrate with Gardotest Solution 29 (0.1 N sodium thiosulfate) to colorless endpoint. Record ml of Gardotest Solution 29 used in this step as "A".
7. Calculation: $A \times 0.88 = \% \text{ by volume Deoxidizer 126.}$

Nitric or Sulfuric Acid Concentration

1. Pipet a 5 ml sample of the bath into an Erlenmeyer flask.
2. Dilute to approximately 50 ml with deionized water.
3. Add about 3 - 4 drops of Gardotest Indicator 3 (methyl orange).
4. Titrate from red to yellow with Gardotest Solution 37 (1.0 N sodium hydroxide).
5. Milliliters used multiplied by 1.33 gives percent by volume of 42° Be (67%) nitric acid.
6. Milliliters used multiplied by 0.57 gives percent by volume of 66° Be (93%) sulfuric acid.

Hydrofluoric acid can be controlled using a fluoride selective electrode.

EQUIPMENT

The Chemetall Oakite Chemical Metering Pump can be used to automatically maintain the make up chemical requirement of this product. Please contact the Chemetall Oakite Process Equipment and Engineering Department for specific recommendations.

NOTES ON USE

Stainless steel tanks and equipment are recommended, preferably type 316L.
Avoid contact with, or mixing with chlorine-releasing materials and reducing agents.

SAFETY AND HANDLING

Prior to handling and use of any of the materials referenced in this document, the Material Safety Data Sheets should be read and understood by all personnel in contact with these materials.

KEEP OUT OF REACH OF CHILDREN

STORAGE

Dry indoor storage at temperatures between 40°F and 100°F (4.4°C and 37.8°C) is recommended, away from any incompatible materials referenced in the Material Safety Data Sheets. All containers should be tightly closed when not in use.

DISPOSAL

Any disposal of the materials referenced in this document should be in accordance with all applicable federal, state, and local regulations. The process solution can contain components other than those present in the materials as supplied. Analysis of process solutions may be required prior to disposal.

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ISO 9001 / FM 93653