

Technical Data Sheet • CHEMEON® Deox 3000

Description:

An iron, acid, fluoride based deoxidizer designed to effectively deoxidize all wrought alloys especially those with high copper or zinc concentrations. Used at 6 -15% v/v at room temperature for 1 to 10 minutes.

Operating Conditions:

Method of Application:	Immersion
Concentration	6-15% by vol. aluminum desmutting/deoxidizing 20% removal of light scale and discoloration.
Temperature:	room temperature
Time:	1 -10 minutes.
Tank construction:	304 or 316 stainless steel, polyethylene, or rubber lined tanks

Solution Control:

Acid Concentration:

1. Pipet 10 mL of the desmutting bath into a 250 mL beaker.
2. Add ~50 mL of DI water.
3. Add approximately 2 grams of sodium gluconate and 4 to 5 drops of phenolphthalein indicator.
4. Titrate with 1.0 N NaOH until a reddish/orange color appears and lasts for at least 30 seconds.
5. Record the mL of 1.0 N NaOH necessary to reach the endpoint.
6. Calculation:

$$\text{CHEMEON® Deox 3000 (\% by volume)} = (\text{mL of 1.0 NaOH}) \times 1.02$$

The titration for the acid concentration should be sufficient to control the bath chemistry. If the concentration determined from the titration above is within range and the bath is not performing properly, the following titration should be performed.

Iron Concentration:

1. Pipet 10 mL of the desmutting bath into a 250 mL beaker.
2. Add ~100 mL of DI water.
3. Add 20 mL of 50% sulfuric acid and 4 grams of potassium iodide.
4. Mix for 20 min.
5. Titrate with 0.1 N $\text{Na}_2\text{S}_2\text{O}_3$ until the reddish color changes to light yellow.
6. Add 5 mL of starch indicator (2%) and continue titrating until the color changes from blue to clear and the clear color persists for 30 seconds.



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7. Record the mL of 0.1 N $\text{Na}_2\text{S}_2\text{O}_3$ necessary to reach the clear endpoint

8. Calculation:

$$\text{CHEMEON}^\circ \text{ Deox 3000 (\% by volume)} = (\text{mL of 0.1 N Na}_2\text{S}_2\text{O}_3) \times 0.56$$

Should the CHEMEON[®] Deox 3000 concentration differ between the acid and iron analyses, call the CHEMEON Tech Center for information on how to balance the bath.

Physical and Safety Data:

CHEMEON[®] Deox 3000 is highly acidic which requires the use of rubber gloves, face shields and protective clothing. In case of contact, flush with water. If material gets in the eyes flush with water and see a physician. Do not take internally.

Packaging:

55 gallon drum

5 gallon pail

Storage:

CHEMEON[®] Deox 3000 should be stored in a cool, dry area away from alkaline material. Keep container closed when not in use.

Waste Disposal:

CHEMEON[®] Deox 3000 may require neutralization to a specified pH range depending on Federal, State, and local waste treatment regulations. This product also contains iron and fluoride, which are regulated in some areas.

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