



Type of Bulletin: **Technical Process Bulletin**

Product Title: **DEOXYLYTE 200NC**

Product View: **DEOXYLYTE 200NC**

Description:

Status:

complete

# Technical Process Bulletin

Technical Process Bulletin No. 236923

This Revision: 07/05/2006

## DEOXYLYTE 200NC

### 1. Introduction:

DEOXYLYTE 200NC is a liquid chromium-free, sealing rinse for aluminum which promotes paint adhesion and provides bare corrosion protection when used over conversion coatings. It also produces a hydrophilic surface.

### 2. Operating Summary:

<u>Chemical</u>	<u>Bath Additive per 100 Liters:</u>
DEOXYLYTE 200NC	
Spray:	10 to 30 liters
Immersion:	10 to 50 liters
<u>Operation and Control:</u>	
pH:	6.0 ± 0.6
Time:	60 to 180 seconds, spray 1 to 5 minutes, immersion
Temperature: Celsius)	120° to 145° Fahrenheit (49 to 63°
Titration:	
Spray:	2.6 - 8.2 points
Immersion:	2.6 - 13.5 points

### 3. The Process:

The complete process normally consists of the following steps:

- A. Cleaning
- B. Rinsing
- C. Treating with conversion coat

- D. Rinsing
- E. Sealing with DEOXYLYTE 200NC solution
- F. Rinsing (DIW recommended)
- G. Drying

#### 4. Materials:

DEOXYLYTE 200NC  
Testing Reagents and Apparatus

#### 5. Equipment:

Process tank and housing may be fabricated from any of the 300 series alloy stainless steel, such as 316L or 304L. The 316L being preferred for maximum tank life. In all cases, approved welding techniques must be used. In spray applications, nozzles should be fabricated from polypropylene, PVDF or 316L or 304L stainless steel.

Process piping and pumps should be constructed of 316 or 304 stainless steel alloys. Various formulations of plastic pipe may be used with recommended support spacing, Schedule-80 being generally recommended.

Heat exchanger plates should be polished 316 stainless steel. All process circulation pump seals, valve seats, door seals, etc., which come into contact with the process solution and occasional acid equipment cleaners, should be EPDM, Viton™ or Teflon™.

Chemical feed pump parts and other elastomers which may come into contact with the concentrated replenishing chemical should be Viton or Teflon.

Support equipment available from Henkel Surface Technologies for this process includes: chemical feed pumps, level controls, transfer pumps, bulk storage tanks and complete process control systems.

Our representative should be consulted for information on Henkel Surface Technologies automatic process control equipment for this process and any additional questions.

#### 6. Sealing with the DEOXYLYTE 200NC Processing Solution:

##### Buildup:

Your representative will recommend the amount of DEOXYLYTE 200NC chemical to charge for your operation. Fill the tank about ¾ full with water and heat to operating temperature. Add recommended amount of DEOXYLYTE 200NC. Add sufficient water to bring the solution up to the working level, mix thoroughly and heat, if necessary to the operating temperature.

##### Operation:

##### Spray Application:

Time: 60 to 180 seconds  
Temp: 120° to 140° Fahrenheit  
(49 to 63° Celsius)

##### Immersion application:

Time: 1 to 5 minutes  
Temp: 120° to 140° Fahrenheit  
(49 to 63° Celsius)

#### 7. Testing and Control:

Never pipet by mouth, use a pipet filler.

##### Concentration:

Pipet 25 mls of working bath into a 150 ml beaker, add 30 mls of deionized water, add 25 ml of Reagent Solution 44 and 3 to 5 drops of Indicator 12. Titrate with Titrating Solution 31 to a reddish-brown endpoint. The concentration can be determined from the table below:

<u>Titration (ml)</u>	<u>% by volume Buildup</u>
16.2 .....	60
13.5 .....	50
9.5 .....	35
6.8 .....	25
3.4 .....	13
2.6 .....	10

NOTE: It is required to add a thumbnail size piece of aluminum foil to the Titrating Solution 31 when first opened to improve stability. Do not use Titrating Solution 31 for more than six weeks after opening or use Titrating Solution 31 which has passed its expiration date.

Operating concentration for spray application is 10 to 30 percent.

Operating concentration for immersion is 10 to 50 percent.

Addition of 2 liters per one hundred liters of bath will increase the concentration by about 1% for a bath of 40% to 50% concentration. If the bath is being operated at 20 to 30% a 2 liters per 100 liters (of bath) addition will raise the concentration by 1.5%.

#### pH Determination:

The pH of the solution is determined using a pH meter standardized at pH 4 and 7.

Frequent small additions of chemical produce more uniform results than occasional large additions, and it is best to add chemical continuously at the proper rate with a chemical metering pump into a turbulent area of the tank.

#### 8. After Seal:

##### Water Rinsing:

After sealing, the metal should be thoroughly rinsed with clean water to obtain optimum results. Again, the rinse should be dynamic with sufficient agitation to prevent the settling of contaminants on the parts. The water should be overflowed at a rate sufficient to maintain water quality of less than 150 ppm total dissolved solids, and a pH of 5 to 6. In addition, a deionized water rinse is preferable and recommended where possible.

##### Drying:

The processed metal should be dried immediately. Force drying in an oven or with a warm air blast is recommended.

#### 9. Storage Requirements:

It is recommended that the product be stored above 45° Fahrenheit. The product should be immediately warmed and stirred if temperature drops below 40° Fahrenheit for short periods of time. If the product is frozen it would be required that only complete drums are added to the tank so that the crystals formed could be redissolved.

#### 10. Waste Disposal Information:

Applicable regulations covering disposal and discharge of chemical should be consulted and followed.

Disposal information is given on the Material Safety Data Sheet for that product.

The processing bath and sludge can contain ingredients other than those present in the chemical as supplied and analysis of the solution and/or sludge may be required prior to disposal.

11. Precautionary Information:

When handling the chemical products used in this process, the first aid and handling recommendations on the Material Safety Data Sheet should be read, understood and followed.

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Testing Reagents and Apparatus

(Order only those items which are not already on hand)

<u>Code</u>	<u>Quantity</u>	<u>Item</u>
592426	500 ml	Buffer Solution 7
592447	1.0 L	Buffer Solution 4 (0.05 M Potassium acid phthalate, thymol)
596491	1	Bung Wrench
592462	2*	Beaker, 150-ml
592403	250 ml	Indicator 12
592498	2*	Pipet, 10-ml Measuring
592493	2*	Pipet, Volumetric
592494	1	Pipet Filler
593846	2.5 L	Reagent Solution 44 (50% H <sub>2</sub> SO <sub>4</sub> )
594334	2.5 L	Thermometer, Floating
592432	2 qt	Titrating Solution 31 (0.10N Iron (11) Sulfate solution or Ferrous Ammonium Sulfte (0.100N)
--	1	pH Meter

\*Includes one more than actually required, to allow for possible breakage.

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