

SurTec® 490 P

Desmutting Agent

Properties

- powder
- free of chromium salts and nitrates
- especially suited for bleaching and neutralisation of aluminium alloys
- no formation of toxic or irritant emissions
- suitable for anodising bathes after degreasing or pickling

Application

SurTec 490 P can be prepared nitrate-free with sulfuric acid or in case of difficulty removable coatings with nitric acid (nitrate-containing).

make-up values:	<i>nitrate-free</i>	<i>nitrate-containing</i>
SurTec 490 P	20-60 g/l	15 g/l
sulfuric acid (H ₂ SO ₄)	40-80 g/l	-
nitric acid (HNO ₃)	-	100 g/l

application time:	1-5 min	(60-300 s)
temperature:	room temperature	(20-25°C)
agitation:	air agitation is required	
tank material:	PP, PVC or steel tanks (alloy 316 L) or steel tanks with acid-resistant coating	
heating:	not recommended	
exhaust:	required for worker's protection	
hint:	After neutralization it is not necessary to rinse the parts prior to subsequent treatment.	

Technical Specification

(at 20°C)	Appearance	Bulk density (kg/l)	pH-value (at 50 g/l)
SurTec 490 P	powder, white	1.050 (0.96-1.17)	approx. 2

Maintenance and Analysis

Analyse and adjust the concentration of SurTec 490 P and of sulfuric acid resp. of nitric acid regularly.

Sample Preparation

Take a sample at a homogeneously mixed position. Let it cool down to room temperature. If the sample is turbid, let the turbidity settle down and decant or filter the solution.

SurTec 490 P – Analysis by Titration

reagents:	potassium iodide 0.1 N sodium thiosulfate solution (= Na ₂ S ₂ O ₃ solution) indicator: starch solution
procedure:	1. Pipette 5 ml bath sample into a 250 ml Erlenmeyer flask. 2. Add 2 g potassium iodide. 3. Let react 15 minutes in the dark. 4. Add some indicator. 5. Titrate with 0.1 mol/l sodium thiosulfate solution from violet to colourless-yellowish.
calculation:	consumption in ml · 2.282 = g/l SurTec 490 P

Sulfuric Acid – Analysis by Titration

reagents:	1 mol/l caustic soda solution (= 1 N NaOH solution) indicator: methyl orange solution (0.04 %)
procedure:	1. Pipette 5 ml bath sample into a 250 ml Erlenmeyer flask. 2. Dilute with deionised water to approx. 55-65 ml. 3. Add some drops of indicator. 4. Titrate with 1 mol/l NaOH solution to a colour change to yellow.
calculation:	consumption in ml · 9.8 = g/l sulfuric acid
nominal values:	40-80 g/l sulfuric acid corresponds to: 4.1-8.2 ml/l 1 mol/l NaOH solution

Nitric Acid – Analysis by Titration

reagents:	1 mol/l caustic soda solution (= 1 N NaOH solution) indicator: bromophenol blue (0.1 % in 20 % ethyl alcohol)
procedure:	1. Pipette 10 ml bath sample into a 250 ml Erlenmeyer flask. 2. Dilute to 50 ml with deionised water. 3. Add 5-8 drops of indicator solution and mix (turns to yellow). 4. Titrate with 1 mol/l NaOH solution from yellow to blue.
calculation:	consumption in ml · 6.3 = g/l nitric acid

Ingredients

- persulfate salts

Consumption and Stock Keeping

The following value per m² can be taken as estimated average consumption:

SurTec 490 P approx. 10 g

In order to prevent delays in the production process, per 1,000 l bath the following amounts should be kept in stock:

SurTec 490 P	60-120 kg
sulfuric acid	90-150 kg
or nitric acid (53 %)	200-250 kg

Product Safety and Ecology

The safety instructions and the instructions for environmental protection have to be followed in order to avoid hazards for people and environment. The Material Safety Data Sheets (according to European legislation) contain explicit details for this.

The following hazard designations and classifications into water hazard classes (WHC) have to be taken into account:

<u>product</u>	<u>hazard designation</u>	<u>water hazard class</u>
SurTec 490 P	Xn - Harmful O - Oxidizing	WHC 1

Warranty

We are responsible for our products in the context of the valid legal regulations. The warranty exclusively accesses for the delivered state of a product. Warranties and claims for damages after the subsequent treatment of our products do not exist. For details please consider our [general terms and conditions](#).

Further Information and Contact

In our forum, you can discuss topics of the surface technology:
<http://forum.SurTec.com/>

If you have any questions concerning the process, please contact your local technical department: <http://SurTec.com/International.html>

31 October 2011/DK, WT