

SurTec® 436

Stainless Steel Pickling

Properties

- acidic liquid
- utilisation as immersion pickle
- nitric-acid-free, therefore no nitrite or nitrate in the waste water
- no harmful formation of nitrogen oxide gases (NOx)
- treatment of different stainless steel types like martensitic, ferritic and austenitic steels is possible
- dissolves welding oxides which are removed completely in the subsequent electropolishing treatment
- because of the low fluoride concentration only very small attack on titan which is often used as contact material in automated installations

Application

For immersion application:

make-up values:	7-10 %vol
application time:	4-6 hours
temperature:	30-40 °C
tank material:	stainless steel tank, lined with polyethylene (PE) or polypropylene (PP)
heating:	required, made of acid resistant material
exhaust:	required for worker´s protection
filtration:	possible
agitation:	air agitation recommended
hints:	Only in combination with a subsequent electropolishing treatment the pickle is able to clean the weld seams completely.

Technical Specification

(at 20 °C)	Appearance	Density (g/ml)	pH-value (conc.)
SurTec 436	liquid, colourless, clear	1.275 (1.26-1.29)	< 1

Maintenance and Analysis

Analyse and adjust the concentration of SurTec 436 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 436 – Analysis by Titration

reagents:	1 N caustic soda solution (= 1 mol/l NaOH solution) potassium fluoride (KF, p.a.) indicator: phenolphthalein solution
procedure:	1. Pipette 10 ml bath sample into a 250 ml Erlenmeyer flask. 2. Dilute with deionised water up to 100 ml. 3. Add 3 g of potassium fluoride, mix thoroughly and wait for 2 minutes. 4. Add 5-10 drops indicator solution. 5. Titrate with 1 mol/l caustic soda solution to a permanent pink colourisation of the solution.
calculation:	consumption in ml = points SurTec 436
nominal values:	7.6-11 points

Ingredients

- sulfuric acid
- hydrofluoric acid
- surfactants

Consumption and Stock Keeping

The consumption depends heavily on the drag-out. To determine the exact amounts of drag-out, see [SurTec Technical Letter 11](#).

The following values can be taken as estimated average consumption:

SurTec 436 5-20 g per m²

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

SurTec 436 100 kg

Product Safety and Ecology

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

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 436	T - Toxic C - Corrosive	WHC 2

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>

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