

SurTec® 190

Liquid Cleaner Concentrate

Properties

- liquid highly alkaline cleaner concentrate
- can be applied as electrolytic cleaner for iron and steel parts
- in combination with SurTec 091 it is suitable for the intensive electrolytic degreasing as well as for ultrasonic and hot degreasing
- very high electrolytic conductivity
- excellent cleaning results even in low current density areas
- very good removal of pigment impurities
- can be applied anodic or cathodic
- free of EDTA, NTA and cyanides

Application

make-up values:

for electrolytic degreasing:

SurTec 190 10 - 25 %vol (corresponds to approx. 60-150 g/l KOH)

for electrolytic degreasing with fume suppressing:

SurTec 190 10 - 25 %vol (corresponds to approx. 60-150 g/l KOH)

SurTec 091 0.05-0.2 %vol

for intensive electrolytic degreasing:

SurTec 190 10 - 25 %vol (corresponds to approx. 60-150 g/l KOH)

SurTec 091 0.5-2.0 %vol

for ultrasonic and hot degreasing:

SurTec 190 5 - 10 %vol

SurTec 091 0.3-1.0 %vol

make-up: Steps for make-up:

1. Fill SurTec 190 into the tank.
2. Add the calculated amount of tap water
(caution: solution becomes hot!).
3. Depending on the application, add SurTec 091.

temperature: room temperature to 60 °C *for electrolytic degreasing*
50-90 °C *for hot degreasing*

application time: 5-30 min

anodic current
density: 4 A/dm² (2-10 A/dm²)

cathodes: semi bright nickel plated steel electrodes (or stainless steel)

agitation: rack movement or barrel rotation

tank material: steel with PP or PVC coating

filtration and oil separation: continuous filtration recommended:
2 times the total volume per hour

heating: necessary; made of alkaline resistant material

exhaust: required for worker's protection

recommended process sequence:

1. hot immersion cleaning SurTec 190 + SurTec 091
2. hydrochloric acid pickling SurTec 424
3. anodic electrolytic cleaning **SurTec 190**
4. neutralisation SurTec 481
5. recovering rinse
6. non cyanide alkaline zinc plating SurTec 704
7. recovering rinse
8. nitric acid activation, pH 1
9. Chromiting SurTec 680
10. hot air drying

Please consider:

The needed rinsing steps that have to be applied after the single treatment steps are not completely listed here. Quality and quantity of the rinsing methods have to be adapted adequately to the plating line.

Technical Specification

(at 20 °C)	Appearance	Density (g/ml)	pH-value (at 10 g/l)
SurTec 190	liquid, colourless-yellow, clear	1.440 (1.38-1.50)	> 13

Maintenance and Analysis

Analyse and adjust the concentration of SurTec 190 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 190 – Analysis by Titration

reagents: 1 N hydrochloric acid or sulfuric acid
indicator: methyl orange solution (0.04 %)

- procedure:
1. Pipette 10 ml bath sample into a 250 ml Erlenmeyer flask.
 2. Dilute with 100 ml deionised water.
 3. Add 3 drops of indicator.
 4. Titrate with 1 N acid from yellow-orange to red.

calculation: consumption in ml · 0.86 = %vol SurTec 190

Ingredients

- potassium hydroxide
- silicates
- salts of organic acids

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](#).

A typical drag-out of 100 ml/m² results in a consumption of approx. 20 ml SurTec 190 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 190 250 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 190	C - Corrosive	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>

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