

# SurTec® 652

## Cyanide-Free Alloy Zincate Treatment

### Properties

- concentrate for deposition of an iron alloyed zincate layer
- very low viscosity
- very good wetting properties
- good dripping off ability and thus small drag-out losses
- produces an excellently dense and homogeneous zincate layer on aluminium
- the zincate layer shows a strong adhesion even to aluminium containing much silicon or copper
- the layer is especially appropriated for a successive electroless plating such as electroless nickel
- a singular zincate treatment will be sufficient for almost all applications

### Application

SurTec 652 is applied in an immersion process.

make-up value: 200 ml/l (200-250 ml/l)  
(corresponding to 304-380 g/l)

In most cases, a concentration of 200 ml/l SurTec 652 will be sufficient. The use of 250 ml/l SurTec 652 is recommended for aluminium alloys which are more difficult to be treated.

make-up: Steps for make-up:

1. Fill deionised water into the tank.
2. Dissolve SurTec 652 in the water, portion by portion, stirring vigorously (solution becomes hot!).

temperature: room temperature (20-45 °C)

Usually, SurTec 652 is applied at room temperature (20-30 °C). To decrease the immersion time, it is possible to heat the solution up to max. 45 °C.

pH-value: > 12

application time: 1 min (0.5-2.0 min)  
Too long immersion time leads to a soft layer with poor adherence.

agitation: air or rack agitation

tank material: steel, stainless steel or steel with plastic coating (e.g. PP)

filtration: not necessary

heating: if necessary, heat exchanger out of hydroxide resistant material

cooling: if necessary, heat exchanger out of hydroxide resistant material

exhaust: required for worker's protection

hint: Repeated application of SurTec 652 is normally not required.

## Technical Specification

(at 20 °C)	Appearance	Density (g/ml)	pH-value (at 10 g/l)
SurTec 652	liquid, yellowish	1.496 (1.44-1.54)	12.5 (11.5-13.5)

## Maintenance and Analysis

Check the pH-value regularly. Analyse and adjust the concentration of SurTec 652 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 652 – Analysis by Titration

reagents:	0.1 mol/l EDTA (Titriplex III) triethanolamine solution (50 %) ammonium chloride solution (125 g/l) indicator: Eriochrome Black T (1 % in NaCl)
procedure:	<ol style="list-style-type: none"><li>1. Pipette 5 ml bath sample into a 250 ml Erlenmeyer flask.</li><li>2. Add 40 ml triethanolamine solution.</li><li>3. Add 10 ml buffer solution.</li><li>4. Dilute with about 100 ml deionised water.</li><li>5. Add approx. 0.25 g of indicator.</li><li>6. Titrate with 0.1 mol/l EDTA solution from red to blue.</li></ol>
calculation:	consumption in ml · 26.2 = ml/l SurTec 652

## Stock Keeping

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

SurTec 652	450 kg
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## 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 652	C - Corrosive N - Dangerous for the environment	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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