

# SurTec® 655

## Yellow Chromate for Aluminium

### Properties

- liquid concentrate
- appropriate for aluminium and its alloys
- produces iridescent to deep yellow layers
- for dip-, spray- and wipe processes
- improves the varnish adherence

### Application

make-up value:	0.8 %vol	(0.5-1.1 %vol)
make-up:	Steps for make-up: 1. Fill the water into the tank. 2. Then add the calculated amount of SurTec 655.	
temperature:	room temperature (20-35°C)	
pH-value:	approx. 1.9 (1.8-2.2) adjust with nitric acid or sodium hydroxide	
application time:	1-15 min	
tank material:	chromium-nickel steel or mild steel with PVC or rubber coating, or any other material resistant to chromic acid and fluoride	
agitation:	not necessary	
heating:	in winter time necessary, out of acid resistant material	
exhaust:	necessary	
hints:	For removal of oxide and copper layers, remaining on the surface after degreasing and alkaline pickling of certain alloys, an acidic deoxidizer such as SurTec 494 or SurTec 495 is necessary.	

### Technical Specification

(at 20°C)	Appearance	Density (g/ml)	pH-value (at 7 g/l)
SurTec 655	liquid, orange-dark brown	1.440 (1.42-1.46)	2 (1.6-2.4)

### Maintenance and Analysis

Check the pH-value regularly. Analyse and adjust the concentration of SurTec 655 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 655 – Analysis by Titration

reagents:	sulfuric acid (30 %) potassium iodide p.a. 0.1 N sodium thiosulfate solution starch solution (1 %, only stable for 1 week)
procedure:	<ol style="list-style-type: none"><li>1. Pipette 20 ml bath into the 250 ml Erlenmeyer flask with ground joint and stopper.</li><li>2. Add 2 g potassium iodide.</li><li>3. Acidify with 15 ml sulfuric acid.</li><li>4. Close the flask with the stopper and let it react in the dark for about 20 min (the solution becomes dark brown).</li><li>5. Then dilute with 100 ml deionised water.</li><li>6. Titrate with 0.1 N sodium thiosulfate solution until the solution gets pale.</li><li>7. Add approx. 2 ml starch solution (colour changes to dark blue).</li><li>8. Titrate again with 0.1 N sodium thiosulfate solution until the dark blue colour turns to colourless resp. light green.</li></ol>
calculation:	consumption in ml · 0.049 = %vol SurTec 655

## Ingredients

- chromic acid
- nitric acid
- complex fluorides

## 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](#).

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

SurTec 655                      35 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 655	T - Toxic N - Dangerous for the environment	WHC 3

## 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>

21 June 2011/DK, WT