BONDERITE

Technical Data Sheet

BONDERITE C-IC 144

June 2017

PRODUCT DESCRIPTION

BONDERITE C-IC 144 provides the following product characteristics:

Technology	Industrial Cleaner
Product Type	Acid Cleaner / Pickle
Application	Parts Cleaning, Derusting
Operating Temperature	70 to 85 °C immersion process

It is composed of phosphoric acid, inhibitors, anionic and nonionic surfactants.

Application Areas:

Cleaning and degreasing of iron, steel, copper, brass and aluminium surfaces with no major metal attack. Rust and oxides are fast dissolved. Overpickling is inhibited. BONDERITE C-IC 144 is used in industrial immersion processes.

TECHNICAL DATA

Appearance	clear, brown liquid
Density at 20°C, DIN 51757	~1.5 g/cm³
pH-value (in a solution of 10 g/L)	~1.8

DIRECTIONS FOR USE

Preliminary Statement:

Prior to use it is necessary to read the **Material Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed. Please also refer to the local safety instructions and contact Henkel for analytical support.

Bath Make-up:

Add the required amount carefully to 700 L cold water into the circulation system.

BONDERITE C-IC 144	105 to 150 kg (70 to 100 L)

Before the start up, fill the tank with water to the working level (1,000 L).

Operating Data:

Temperature	70 to 85°C
Duration of treatment:	1 to 15 min depends on requirements
Iron(II)	max. 27 g/L
Free acid points	7 to 10

Bath Control:

BONDERITE C-IC 144 solution is controlled by the following analysis:

Titration of free acid:

Feed, mL	10 mL
Titrant:	1 N Sodium Hydroxide
End-Point:	pH 4.0
Indicator:	bromophenolblue

- Pipette 10 mL of bath solution into a 300 mL Erlenmeyer flask and add 50 mL deionised water.
- Add 4 to 5 drops of indicator.
- Titrate slowly with 1 N sodium hydroxide solution.
- The endpoint will be shown by a colour change from yellow to reddish (pH: 4.0).
- The added mL of 1 N sodium hydroxide is equal to the "Free Acid" points.

Titration of the iron(II) content:

Before titration the presence of iron(II) in the bath solution has to be checked. A dipped in test strip must turn red

Feed, mL	5 mL
Titrant:	0.1 N potassium permanganate
End point:	pink colour, 15 sec
Indicator:	25% sulfuric acid
Titration factor (TF):	g/L x mL
Iron (II) content:	max. 27 g/L

- Pipette 5 mL of bath solution into a 300 mL Erlenmeyer flask and add 50 mL deionised water.
- Add 10 mL of indicator.
- Immediately afterwards add slowly 0.1 N potassium permanganate with a burette, while swirling or stirring the sample.
- The endpoint will be shown by a colour change to permanent pink (persists for at least 15 sec).
- The added mL of 0.1 N potassium permanganate multiplied by the factor TF 1.12 is equal to iron(II) in g/L.

If the iron(II)-content exceeds the given limit, then part or all of the BONDERITE C-IC 144 bath must be replaced with fresh cleaner.

Replenishing:

For each missing mL for a volume of 1,000 L add:

BONDERITE C-IC 144	14.5 kg (9.6 L)

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Storage:

Recommended Storage Temperature	0 to 40°C
Shelf-life, months	24
Frost-Sensitive	yes

Classification:

Please refer to the corresponding **Material Safety Data Sheets** for details on:

- **Hazards identification**
- **Transport information**
- **Regulatory information**

ADDITIONAL INFORMATION

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.
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Reference 0.5

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