

BONDERITE C-IC 3502

Known as P3 Chemacid 3502

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PRODUCT DESCRIPTION

BONDERITE C-IC 3502 provides the following product characteristics:

Technology	Industrial Cleaner
Product Type	Acid Cleaner
Application	Parts Cleaning, Derusting
Concentration	100 to 250 g/L
Operating Temperature	40 to 80 °C immersion process

BONDERITE C-IC 3502 is a sulphuric acid based cleaner for pickling and derusting of iron and steel. It is composed of sulphuric acid, nonionic surfactants and inhibitors.

Application Areas:

BONDERITE C-IC 3502 is used in industrial immersion processes.

It is particularly suitable for pickling / derusting in state-of-the-art metal pre-treatment processes.

TECHNICAL DATA

Appearance	clear, brownish liquid
Density at 20°C, g/cm ³ : (DIN 51757)	~1.54
pH-value (1% in DI water 20°C)	~1.3

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 whilst circulating to cold water.

Concentration	100 to 250 g/L (13 to 33 points)
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Operating Data:

Temperature	40 to 80°C
Duration of treatment	1 to 10 min
Iron (II)	max. 80 to 90 g/l

Bath Control:

BONDERITE C-IC 3502 solution is controlled by the following analysis:

Titration of free acid:

Feed, mL	5 mL
Titrant:	0.5 N sodium hydroxide
End point:	pH 4.0
Indicator:	bromphenolblue (0.1 % alcoholic solution)
Titration factor (TF):	7.5 g/l x ml

- Pipette 5 mL bath solution into a clean 300 mL Erlenmeyer-flask.
- Add 50 mL deionized water.
- Add 4 to 5 drops of indicator.
- Titrate the solution with 0.5 N sodium hydroxide.
- The endpoint will be shown by a colour change from yellow to blue (pH-value: 4.0).
- The added mL of 0.5 N sodium hydroxide is equal to the "Free acid" points.
- Multiply the consumption of the alkaline solution with the titration factor TF, to get the concentration in g/L.
- Divide this by 10 to get the value in %.

Example:

$$10\text{mL } 0.5 \text{ N sodium hydroxide} \times 7.5 \\ = 75\text{g/L BONDERITE C-IC 3502 } (= 7.5 \%)$$

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:	not needed
Titration factor (TF):	1.12 g/l x ml

- Pipette 5 mL bath solution into a clean 300 mL Erlenmeyer-flask.
- Add 10 mL 25% sulfuric acid.
- 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 permanent pink colour (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.

Example:

10 mL 0.1 N potassium
permanganate x 1.12
= 11.2 g/L iron (II) (= 1.12 %)

If the iron(II)-content exceeds the given limit, then part or all of the BONDERITE C-IC 3502 bath must be replaced with fresh cleaner.

Storage:

Recommended Storage Temperature	0 to 40°C
Shelf-life, months (in unopened original packaging)	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. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

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Reference 0.3