

BONDERITE C-IC 3500

Known as Chemacid 3500

February 2017

PRODUCT DESCRIPTION

BONDERITE C-IC 3500 provides the following product characteristics:

Technology	Industrial Cleaner
Product Type	Acid Spray - Cleaner
Application	Parts Cleaning, Derusting
Concentration	100 to 250 g/L
Operating Temperature	50 to 90 °C spray process

BONDERITE C-IC 3500 is a phosphoric and sulphuric acid containing, fast-acting pickling and derusting agent for iron and steel, especially suited for equipment cleanouts. Surfaces which were pickled with BONDERITE C-IC 3500 can be lacquered after rinsing and phosphating or passivating.

Application Areas:

BONDERITE C-IC 3500 is used in industrial spray 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, DIN 51757	~1.54 g/cm ³
pH-value (20% solution):	~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:

The bath container is filled to three quarters with cold water. For each 1,000 L add slowly with pump circulating:

BONDERITE C-IC 3500	
Immersion:	155 to 465 kg = 100 to 300 L
Spray:	16 to 80 kg = 10 to 50 L

Afterwards fill the bath completely.

Operating Data:

Total acid range	Immersion: 21 to 63 Spray: 2 to 10
Iron(II)	max. 30 g/L
Temperature	50 to 90°C
Duration of treatment	Immersion: 10 to 60 min Spray: 1 to 10 min

Bath Control:

BONDERITE C-IC 3500 solution is controlled by the following analysis:

Titration of total acid:

Feed:	5 mL
Titrant:	1 N Sodium Hydroxide
End point:	pH-value ~8.5
Indicator:	Phenolphthaleine

- Pipette 5 mL bath solution into a clean 300 mL Erlenmeyer-flask.
- Add 50 mL deionized water.
- Add 4 to 5 drops of Phenolphthalein indicator.
- Titrate the solution with 1 N Sodium Hydroxide.
- The endpoint will be shown by a colour change from colorless to pink (pH-value: ~8.5).
- Multiply the consumption of the alkaline solution with the titration factor 2, to get the "Total 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:	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 of 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 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.

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 3500 bath must be replaced with fresh cleaner.

Replenishment of the bath:

After partial draining resp. partial loss of the bath the volume has to be filled up with water. Determine the "Total Acid" concentration after mixing.

For each missing point "Total Acid" and for each 1,000 L of bath solution add:

BONDERITE C-IC 3500 7.4 kg = 4.8 L

Classification:

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

Hazards identification

Transport information

Regulatory information

Storage:

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

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 0.1