

BONDERITE C-AK 2105 CH

August 2021

PRODUCT DESCRIPTION

BONDERITE C-AK 2105 CH provides the following product characteristics:

| Technology | Industrial Cleaner |
|--------------|---------------------|
| Product Type | Alkaline Cleaner |
| Application | Metal Pre-Treatment |

BONDERITE C-AK 2105 CH is a highly alkaline liquid product, free from surfactants and silicates.

It is used in immersion or spray applications.

BONDERITE C-AK 2105 CH contains special substances such as chelating agents, dispersants and stabilizers that allow the product to be used as metal cleaner for surfaces (iron/steel) or phosphate coating remover or aluminium/aluminium alloys deoxidizer/etching agent.

BONDERITE C-AK 2105 CH finely and homogeneously etches aluminium and holds up the metal dissolved solution, preventing scale formation on tank's walls or heating coils.

As a consequence, the maintenance costs can be reduced and bath life increased.

The product needs to be always combined with a suitable cleaning surfactant additive, to be suggested by our Technical Service.

Application Areas:

When used as etchant in aluminium pre-painting cycles BONDERITE C-AK 2105 CH is able to dissolve the alloying elements from aluminium surface, and therefore increase its chemical resistance to chemical corrosion.

TECHNICAL DATA

Density (20°C), g/cm³ 1.465

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.

Application:

Iron and steel:

Phosphate coating removal:

BONDERITE C-AK 2105 CH must be used in water solution at following working parameters:

| Concentration, % | 5 to 15 |
|------------------|----------|
| Temperature, °C | 50 to 70 |
| Time, min | 1 to 10 |
| Pressure, bar | 1 to 2 |

(only for spray application)

Degreasing:

BONDERITE C-AK 2105 CH must be used in water solution at following working parameters:

| Concentration, % | 1 to 5 |
|------------------|----------|
| Temperature, °C | 50 to 70 |
| Time, min | 1 to 10 |
| Pressure, bar | 1 to 2 |

(only for spray application)

Aluminium and its alloys:

BONDERITE C-AK 2105 CH must be used in water solution at following working parameters:

| Concentration, % | 0.5 to 1.5 |
|------------------|------------|
| Temperature, °C | 50 to 70 |
| Time, min | 1 to 10 |
| Pressure, bar | 1 to 2 |

(only for spray application)

Bath Make-up:

- Fill the tank with clean net water up to ¾ of its volume.
- Turn the re-circulating pumps on and warm up to working temperature.
- Add the suggested quantity of BONDERITE C-AK 2105 CH previously diluted in water.
- Bring the tank to final volume and run the re-circulating pump for 15 to 20 minutes at working temperature.
- Make the final controls.

Bath Control:

Bath control for iron and steel:

- Take a bath sample (about 100 mL) and cool it down to about 20°C.
- Transfer 10 mL into a 250 mL flask, add 50 mL of distilled water and some drops of phenolphthalein



indicator (0.3 % hydro-alcoholic solution).

 Titrate with 0.1 N Hydrochloric Acid (HCI) solution until the colour turns from violet to colourless and mark the number of mL of 0.1 N HCl as value A.

Calculation:

% BONDERITE C-AK 2105 CH = mL (A value) x 0.18

Bath control for aluminium and its alloys:

Both, the product concentration and the dissolved aluminium concentration (B value), need to be determined according to the following method:

BONDERITE C-AK 2105 CH and aluminium (B value) content determination:

- Take a bath sample (about 100 mL) and cool it down to about 20°C.
- Transfer 10 mL of bath into a 250 mL flask.
- Add 50 mL of distilled water and some drops of phenolphthalein indicator (0.3 % hydro-alcoholic solution).
- Titrate with 0.1 N hydrochloric acid (HCI) until the colour turns from purple to colourless. Take note of the number of mL HCI 0.1 N used (A value) and reset the volume.
- Add about 5g potassium fluoride (KF) or sodium fluoride powder (NaF).

The solution will turn to purple again in presence of dissolved aluminium.

Titrate until it turns to colourless again.

Keep adding some more KF or NaF until the purple colour doesn't show up any more.

The number of mL HCl 0.1 N used for the second titration represents the B value and corresponds to the aluminium content in the bath.

Calculation:

% BONDERITE C-AK 2105 CH = (A - B/3) x 0.18

Dissolved Aluminium (g/L) = B x 0.09

Bath Replenishment:

The bath needs to be replenished depending on product concentration. As far as aluminium and its alloys are concerned, please consider that the bath has to be discharged if the Aliminium concentration gets higher than 20 g/L.

Advices:

Slight differences in the product appearance do not affect its performance.

A continuous or intermittent solution overflow is needed to keep the BONDERITE C-AK 2105 CH cleaning bath free from floating oils.

BONDERITE C-AK 2105 CH-bath needs to be treated in a waste water plant before discharge.

Waste water disposal must be carried out according to the directives of local authorities.

Caution:

BONDERITE C-AK 2105 CH is highly alkaline.

Hazard information and safety instructions given on the labelling and safety data sheets have to be taken into account.

Classification:

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

Hazards identification Transport information Regulatory information

Storage:

Recommended Storage Temperature, °C -10 to 40 Shelf-life, months (in unopened original packaging)

Store in a cool, well ventilated area. Always tightly reseal the container to prevent evaporation or contamination.



ADDITIONAL INFORMATION

Disclaimer

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 0.1