

BONDERITE C-AK 1372

Known as Ridoline 1372

February 2015

PRODUCT DESCRIPTION

BONDERITE C-AK 1372 provides the following product characteristics:

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

BONDERITE C-AK 1372 is a strongly alkaline powder cleaner based on phosphates.

Application Areas:

BONDERITE C-AK 1372 is a multi-metal cleaner suitable for steel, zinc coated steel and aluminium. It can be applied by either spray or immersion processes.

TECHNICAL DATA

pH-value (1% solution): ~12.8

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:

The following quantities are required for each 1,000 L of bath.

Fill the tank with warm water (40 to 50°C), start pumping and add to the bath.

BONDERITE C-AK 1372 5 to 15 kg

Operating Data:

Depending on the line conditions, we recommend to run the bath within the following parameters:

<u>Free alkalinity:</u>	
Aluminium/Steel:	11 to 16.5
HDG:	5.5 to 11
<u>Temperature °C:</u>	
Steel/HDG:	40 to 70
Aluminium:	40 to 60
<u>Treatment time:</u>	
Immersion, min:	1 to 3

Spray, sec:	5 to 25
Spray pressure, bar:	1.0 to 3.0

Bath Control:

When processing Aluminium, the BONDERITE C-AK 1372 solution is controlled by the titration of the free alkalinity and aluminium contamination.

When processing HDG or Steel, the BONDERITE C-AK 1372 solution is controlled by the titration of the free and total alkalinity.

Aluminium Substrate:

- Pipette 10 mL of bath solution into an Erlenmeyer flask and add 50 mL Deionised water.
- Add 4 to 5 drops of Phenolphthalein indicator.
- Titrate the solution against 0.1 N Sulphuric acid. The end point will be shown by the colour change from pink to colourless.
- The consumption of 0.1 N Sulphuric acid in mL is equal to titration A.
- Add to the previous cleaner titration solution 1g sodium flouride with stirring.
- Refill the burette to the zero mark.
- If the pink colour returns, slowly add 0.1 N Sulphuric acid until the pink colour just disappears.
- Wait 1 minute and titrate, if necessary, again to a colourless solution.
- Record the number of mL of 0.1 N Sulphuric acid used as titration B.

Calculation:

Free Alkali (points) = A - 1/3B

The content of the aluminium in the bath can be calculated by multiplying Titration B by a factor of 0.09.

Example:

Titration B showed 9.6 mL of 0.1 N Sulphuric acid. This is given an aluminium content of $9.6 \times 0.09 = 0.86$ g/L.

HDG/Steel Substrate:Free alkalinity:

- Pipette 10 mL of bath solution into an Erlenmeyer flask and add 50 mL Deionised water.
- Add 4 to 5 drops of Phenolphthalein indicator.

- Titrate the solution against 0.1 N Sulphuric acid. The end point will be shown by the colour change from pink to colourless.
- The consumption of 0.1 N Sulphuric acid in mL is equal to the point of free alkalinity.

Total alkalinity:

As the cleaner is used and becomes contaminated, the total alkalinity value will increase. Thus the ratio of the total alkalinity to free alkalinity will also increase. This becomes a measure of the contamination of the cleaner solution.

- Pipette 10 mL of bath solution into an Erlenmeyer flask and add 50 mL Deionised water.
- Add 4 to 5 drops of Bromophenol indicator.
- Titrate the solution against 0.1 N Sulphuric acid. The end point will be shown by the colour change from blue-purple to yellow.
- The consumption of 0.1 Sulphuric acid in mL is equal to the point of total alkalinity.

Divide the value by the free alkalinity value to determine the alki ratio.

The maximum value for the alkalinity ratio will vary depending on the metal mix, the soils present and on the cleaner bath temperature. The value can only be established from line observations, but usually is set at less than 2. Either periodic dumping or a continuous over flow should be employed to maintain the ratio at its optimum value.

Replenishing:

For every 1 mL of missing free alkalinity add 0.9 kg BONDERITE C-AK 1372 per 1,000 L bath volume.

Equipment:

Pipette - 10 mL
Erlenmeyer flask - 300 mL
Burette - 25 mL
Deionised water
0.1 % Alcoholic phenolphthalein solution
Bromophenol blue indicator
0.1 N Sulphuric acid
Sodium Fluoride

Classification:

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

Hazards identification
Transport information
Regulatory information

Storage:

Temperature, °C	-5 to 50
Minimum life time, months	36

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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