

## BONDERITE® C-AK 1022R1

April 2024

### Product description

BONDERITE® C-AK 1022R1 provides the following product characteristics:

Technology	Alkaline cleaner
Product type	Alkaline cleaner
Application	Aluminium and its Alloys

BONDERITE® C-AK 1022R1 is a liquid alkaline cleaner. It can clean the oil and dirt on the substrate by spraying or dipping.

BONDERITE® C-AK 1022R1 is N&P free cleaner, especially suitable for cleaning before phosphorus-free conversion process.

### Direction 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.

#### Equipment:

The storage tanks, pinches, pumps and pipes used in the process can be made of mild steel. The maintenance will be easy if the spray nozzles are made of 300 series stainless steel in spray processes. The heat exchanger should be made of polished 316 stainless steel if heating by steam or hot water, but the gas combustion furnace tube should be made of 80 gauge carbon steel pipe or equivalent material.

All sealing parts for process circulation pump valves and other elastic materials may contacting with the bath solution should be nitrile rubber (Buna-N), chlorosulfonated polyethylene rubber(Hypalon) or synthetic rubber. EPDM rubber should be avoided.

Automatic process control equipments are used to automatically control the processes, which can make quality stabilize and control costs. Auxiliary equipments designed for this process include pneumatic chemical transfer pump, metering pump, liquid level controller, whole solenoid valve, and storage tank.

Our sales representatives will give suggestions about Henkel automatic process control equipments and other problems of this process.

### Operating data:

Operating control	Spraying	Dipping
Free alkalinity, mL	10 ~ 15	15 ~ 20
Total alkalinity/Free alkalinity	<2.5	< 2.5
Time, min	0.5 ~ 2	2 ~ 3
Temperature, °C	20 ~ 40	20 ~ 40

### Bath make-up per 100 L:

	Spraying	Dipping
BONDERITE® C-AK 1022R1	21.5 kg = 16.1 L	32.5 kg = 23.8 L
BONDERITE® C-AD RT-1020S	2 kg = 2 L	6 kg = 6 L

BONDERITE® C-AD 1021S and BONDERITE® C-AD 1022S are also available for higher-temperature cleaning processes:

	Spraying	Dipping
BONDERITE® C-AK 1022R1	21.5 kg = 16.1 L	32.5 kg = 23.8 L
BONDERITE® C-AD 1020S	2 kg = 2 L	6 kg = 6 L
(or BONDERITE® C-AD 1021S)	2 kg = 2 L	
BONDERITE® C-AD 1022S)		6 kg = 6 L
Temperature, °C	40 ~ 50	50 ~ 60

- The optimal operating temperature of BONDERITE® C-AD RT-1020S is 25~30°C, and form is easily to be produced when spraying below 20°C.
- The optimal operating temperature of BONDERITE® C-AD 1021S is 45~50°C, and form is easily to be produced when spraying below 45°C.
- The optimal operating temperature of BONDERITE® C-AD 1022S is 55~60°C, and only used for dipping process.

1. Add cold water to 3/4 volume of the tank, then add appropriate amount of chemicals.
2. Stir or circulate until uniform, add enough water to the working level.



**Bath control:**

Use aurilave, sucking by mouth is forbidden.

**Free alkalinity:**

1. Pipette 10 mL bath solution into a clean 150 mL Erlenmeyer-flask.
2. Add 50 mL deionized water.
3. Add 5 drops of phenolphthalein solution.
4. Titrate against 0.1N HCl standard solution.
5. The point will be shown by a color change from red to colorless, and it will not fade for half a minute.
6. The consumption of 0.1N HCl standard solution in mL is equal to points of free alkalinity.

While the optimum free alkalinity value is determined, the parameter should be within the range of  $\pm 0.5$  points around the optimum value by daily control.

To increase 1 point of free alkalinity per 1000 L bath, the chemical should be added as follows:

	Spraying	Immersion
BONDERITE® C-AK 1025R1	2 kg (1.5 L)	2 kg (1.5 L)
BONDERITE® C-AD RT-1020S	0.2 kg (0.2 L)	0.4 kg (0.4 L)
(or BONDERITE® C-AD 1021S	0.2 kg (0.2 L)	
BONDERITE® C-AD 1022S)		0.4kg(0.4L)

The cleaning ability of bath changes with the following factors: the type of contaminants, effective cleaning time and the features of equipments.

**Total alkalinity:**

1. Cool bath solution to room temperature.
2. Pipette 10 mL bath solution into a clean 150 mL Erlenmeyer-flask.
3. Add 50 mL deionized water.
4. Add 5 drops of Bromocresol Green Indicator.
5. Titrate against 0.1N HCl standard solution.
6. The point will be shown by a color change from blue to yellow.
7. The consumption of 0.1N HCl standard solution in mL is equal to points of total alkalinity.

The bath should be discharged partly or entirely when the total alkalinity to free alkalinity ratio is  $>2.5$ .

**Waste water treatment:**

Regulations regarding the handling and discharge of chemicals should be understood and followed. The handling requirements please refer to chemical MSDS Materials Safety Data Sheets. The bath is alkaline. The bath and the rinsing water should be neutralized or treated as waste water (referring to waste water treatment information guide No.1007, available on demand) before discharge to sewer.

The bath solution and the dregs accumulated in tank may contain different components from the chemicals provided. The solution and the residue should be analysed before treatment.

**Precautions:**

When handling the chemical in the form as supplied, the precautionary, first aid and handling recommendations on the Material Safety Data Sheet for the product should be read, understood and followed.

Do not get in eyes, on skin or on clothing. Wear mask, rubber gloves and protective clothing while handling.

**Classification:**

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

**Hazardous Information**  
**Transport Regulations**  
**Safety Regulations**

**Storage:**

There are no special storage requirements for BONDERITE® C-AK 1022R1. Please put the chemical in a warm surrounding and stir thoroughly before use if freezing happens when stored in low temperature.

High temperature should be avoided when storing BONDERITE® C-AD RT-1020S , BONDERITE® C-AD 1021S and BONDERITE® C-AD 1022S. Indoor or near room-temperature places are recommended to store.



## Additional information

### Disclaimer

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