

## BONDERITE C-AK 4181 L AERO

May 2018

### PRODUCT DESCRIPTION

BONDERITE C-AK 4181 L AERO provides the following product characteristics:

<b>Technology</b>	Metal Pretreatment
<b>Product Type</b>	Alkaline Cleaner
<b>Application</b>	Immersion process

BONDERITE C-AK 4181 L AERO is a liquid, strongly alkaline immersion cleaner to rapidly and economically remove strong rust and other corrosion deposits, heat deposits, colour as well as grease and dirt deposits in a single work step.

With this product, a liquid alternative to the proven powder product BONDERITE C-AK ARR-4181 AERO is available now.

Storage and handling are considerably simplified within the meaning of occupational health and safety.

BONDERITE C-AK 4181 L AERO can be used in a normal immersion bath, electrolytic and ultrasonic process.

It leaves a perfect surface. Steel components do not discolour. The base metal is not attacked. Components made from copper, brass and their alloys are slightly etched. All surfaces are left with a clean and shiny appearance.

BONDERITE C-AK 4181 L AERO prevents quick rusting after treatment. Hydrogen embrittlement does not occur when applied to iron or steel.

### TECHNICAL DATA

Composition	sodium hydroxide, caustic alkalis, salts, organic acids, surfactants
Appearance	slightly turbid liquid with light sediment at room temperature
Density (20°C), g/mL	1.3
Flash Point:	not applicable
pH:	>13

### Specifications:

AMS-1379  
CCT-APPROVED (Dec 1993)  
CCT-LB540  
CFM-CP 2054  
CFM-CP 2562  
CFM-Temp 970318  
CMM 189120  
DMR-70-256  
GE-C04-009 (70-80-30)  
GE-C04-182  
IAE-01-417  
PW-SPMC 116 (SPOP 18, 203, 211, 212, 213, 216, 221, 222, 258)  
PW-SPMC 129  
RR-OMAT 1/173N  
RR-OMAT 173C  
ASTM F-945

### DIRECTION OF 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:

BONDERITE C-AK 4181 L AERO is suited for being used on cast steel, steel, iron, stainless steel, titanium, cadmium, magnesium and copper with its alloys.

Surfaces of copper, brass and similar alloys are slightly etched.

BONDERITE C-AK 4181 L AERO removes rust and corrosion deposits, hand perspiration, oil carbon build-up, light heat deposits, cooling lubricants, etc.

BONDERITE C-AK 4181 L AERO is suited, without limitation, for use in the following industries: automotive and aircraft industries, oil refineries, railway and transport companies, maritime and river navigation, metal processing industry, for mould cleaning in the glass, rubber and plastics industry.

#### The Process:

BONDERITE C-AK 4181 L AERO is used in the immersion process diluted up to about 10% in water.

The undiluted base corresponds to a 36.5% aqueous solution of the respective powder product BONDERITE C-AK ARR-4181 AERO.

Water to the bath may under no circumstances be added to the hot bath when this is idle.

Otherwise, layers may be formed in the bath and the bath contents may suddenly spurt out when such layers mix.

Water must always be added slowly to the well moving bath, preferably to the cold bath.

Circulation of the bath liquid or the use of ultrasound increases the efficiency and reduces the immersion time.

However, bath-air movement should be avoided to prevent carbon oxide being absorbed from the air.

BONDERITE C-AK 4181 L AERO is used in the concentrations listed below:

	Steel	Copper and brass	Magnesium	Titanium
Concentration	~750 g	~450 g	~90 g	~180 g/L water
Temperature, °C	80 to 90	80 to 90	80 to 90	70 to 80
Immersion time, min	15 to 120	10 to 20	10 to 20	10 to 20
Rinsing	with cold or warm water, preferably under pressure			
Passivation	BONDERITE S-PR R-BL0L			

**Equipment:**

Mild steel is sufficient as the container material, however, stainless steel is preferred.

Heating coils from corrosion-resistant steel.

For the electrolytic process: Generator or rectifier 6-12 V.

**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
Shelf-life, months (in unopened original packaging)	24

**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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