

BONDERITE M-AC 50-1

Known as Fixodine 50 CF/1
September 2023

PRODUCT DESCRIPTION

BONDERITE M-AC 50-1 provides the following product characteristics:

Technology	Metal Pretreatment
Product Type	Phosphating products for metals
Application	Immersion and Spray
Process components:	BONDERITE M-AC 50-1 BONDERITE M-AD 565 (BONDERITE M-AD 65)

BONDERITE M-AC 50-1 is a powder activator, added to the rinse bath prior to phosphating by immersion or spraying. It can also be used in enclosed lines.

Application Areas:

BONDERITE M-AC 50-1 is used in spray- and spray/immersion processes. It must be combined with a suitable cleaning booster.

BONDERITE M-AC 50-1 is effective in producing uniform and fine crystalline phosphate coatings on iron, steel, aluminium and zinc surfaces.

The make-up of BONDERITE M-AC 50-1 in soft or dionized water is beneficial.

TECHNICAL DATA

Bulk Density, g/L 1.1

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, for 1,000 L:

While stirring or with the circulation pump running, the following amount is added to the bath tank filled with water:

BONDERITE M-AC 50-1:
Spray application, kg 0.05 to 1.0
Dip application, kg 0.5 to 5

BONDERITE M-AC 50-1 should be predissolved in DI-water.

Operating Data:

pH-value 8.0 to 10.5
Conductivity, $\mu\text{S}/\text{cm}$
(in DI water) 60 to 6,000
Total alkalinity, (in DI water) 0.35 to 35
Temperature, °C max. 20 to 40
Duration of treatment, s 3 to 120

Bath Monitoring:

BONDERITE M-AC 50-1 solution is controlled by determination of pH and conductivity or by determination of pH and total alkalinity.

Specified range:

pH-value 8.0 to 10.5

Conductivity:

Spray application, $\mu\text{S}/\text{cm}$
(in DI-water) 60 to 1,200

Dip application, $\mu\text{S}/\text{cm}$
(in DI-water) 600 to 6,000

Total alkalinity:

Spray application
(in DI-water) 0.35 to 7.0

Dip application
(in DI-water) 3.5 to 35

Operation outside of this temperature range is not recommended without approval of the local Henkel Technical Customer Service/Application Engineering representative.

When the BONDERITE M-AC 50-1 bath is no longer effective it should be discarded and a new bath should be made up.

Titration of total alkalinity:

- Pipette 100 mL bath solution to an Erlenmeyer-flask.
- Add 4 to 5 drops of indicator bromocresol green 0.1 % solution.
- Titrate the solution against 0.1 N sulfuric acid. The point will be shown by a colour change from blue to yellow.
- The consumption of 0.1 N sulfuric acid in mL is equal to points of total alkalinity.

Remark:

The conductivity and the total alkalinity may be influenced by the water quality and the drag in of rinse water after degreasing.

Replenishment:

To increase the conductivity 100µS/cm, add per 1,000 L bath:

BONDERITE M-AC 50-1 0.085 kg

To increase the total alkalinity 1point, add per 1,000 L bath:

BONDERITE M-AC 50-1 0.14 kg

Remark:

To keep a stable concentration and an excellent performance, the replenishment of the bath with BONDERITE M-AC 50-1 should be done corresponding to the throughput (= treated surface and carrier surface) and the eventual overflow according to the make-up concentration of the bath.

The drag out according to the throughput can be calculated as follows:

(drag out: 100mL/m²):

Example:

1,000 m² x 0.1 L/m² (drag out) x
2g/L (make-up concentration) = 200 g

For throughput of 1,000 m² add 200 g BONDERITE M-AC 50-1. Further additions are necessary for an eventual overflow and/or a partial make-up.

If the pH of the activation bath is too low after addition of required amount of BONDERITE M-AC 50-1, add BONDERITE M-AD 565 (BONDERITE M-AD 65).

Classification:

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

Hazards identification
Transport information
Regulatory information

Storage:

Recommended Storage Temperature, °C	-15 to 40
Shelf life, months	36
(in unopened original packaging)	

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.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. 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.

In case products are delivered by Henkel Corporation, or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 2