

BONDERITE M-NT 2040

Known as Alodine 2040
May 2022

PRODUCT DESCRIPTION

BONDERITE M-NT 2040 provides the following product characteristics:

Technology	Conversion coating
Product Type	Etch-passivation
Application	Concentration 1-3%

BONDERITE M-NT 2040 is a chromium-free etch passivation for aluminium in order to stabilize the electrical surface resistance and to improve adhesive bonding.

Application Areas:

BONDERITE M-NT 2040 is used in spray- and spray/immersion processes. It must be combined with a suitable cleaner.

BONDERITE M-NT 2040 can be used in an immersion and spray process.

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.

Chemical Data:

BONDERITE M-NT 2040
BONDERITE M-NT 2040 E1
DI water

Bath Make-up:

For the preparation of 1,000 L of BONDERITE M-NT 2040 solution add to 500 L of DI-water under stirring:

BONDERITE M-NT 2040	10 to 30 l or 13.6 to 40.8 kg
preferable	15 l = 20.4 kg

After complete dissolution fill up with DI-water to 1,000 L.

Operating Data:

Adjusting the following parameters could be necessary depending on the line conditions.

Temperature:	30 to 40
Time, sec	30 to 90
Free Acid, points	12.2 to 36.6
Reaction Titration, points	≤5

Bath Control:

The BONDERITE M-NT 2040 bath will be controlled by testing the Free Acid and the Aluminum concentration.

Free Acid (Points):

- Pipette 10 mL of a cold bath sample into an Erlenmeyer flask and dilute with 50 mL DI-water.
- Add 10 drops Bromcresol green.
- Titrate with 0.1 N NaOH until a blue colour via a green one is obtained.
- The milliliters of 0.1 N NaOH used is the Free Acid (points).

Adjustment:

To increase the value by 1.0 (point) add per 1,000 (L) of solution volume:

BONDERITE M-NT 2040 E1	0.8 l or 1.1 kg
or	
BONDERITE M-NT 2040	0.8 l or 1.1 kg

Aluminum Concentration (Points):

- Pipette 10 mL of a cold bath sample into an Erlenmeyer flask and dilute with 50 mL DI-water.
- Add 10 drops of Phenolphthalein Indicator.
- Titrate with 0.1 N NaOH until a light pink colour is obtained.
- Add a tea spoon Sodium Fluoride and dissolve. The colour is heavy pink, now.
- Titrate with 0.1 N sulfuric acid until the pink colour disappears.
- The milliliters of 0.1 N sulfuric acid used is the aluminium concentration (points).

Concentration range, points	≤5.0
Critical limit, points	15.0

Adjustment:

If the Aluminum concentration is higher than 15.0 points, the bath will be partially dumped, with DI -water refilled and readjusted.

Classification:

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

Hazards identification
Transport information
Regulatory information

Storage:

Recommended Storage Temperature, °C	5 to 50
Shelf life, months	12
(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 0.2