

BONDERITE M-AD MN-4

Known as Thermoil Toner 101/ Additive MN-4
February 2017

PRODUCT DESCRIPTION

BONDERITE M-AD MN-4 provides the following product characteristics:

Technology	Metal Pretreatment
Product Type	Additive
Application	Phosphate baths

BONDERITE M-AD MN-4 is a powder product to increase the manganese content in phosphate baths together with decreasing of "Free Acid".

TECHNICAL DATA

Composition	inorganic salts
Appearance	whitish to light-brown powder
pH	alkaline

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.

Application:

BONDERITE M-AD MN-4 is used to increase the manganese content in phosphate baths together with decreasing of "Free Acid".

a) To increase the Manganese-content 0.1 g/L add to the 1,000 L bath (as slurry in water):

BONDERITE M-AD MN-4 0.23 kg

With this addition the "Free Acid" decreases 0.37 points and the "Total Acid" 0.18 points.

b) To neutralize the "free acid" by 1 point the following amount, slurried in water, is added per 1,000 L of bath solution:

BONDERITE M-AD MN-4 0.6 kg

Storage:

Recommended Storage Temperature	0 to 50°C
Shelf-life, months (in unopened original packaging)	36

Classification:

Please refer to the corresponding **Material Safety Data**

Sheets for details on:

Hazards identification

Transport information

Regulatory information

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Reference **N/A**