

# SAFETY DATA SHEET



Version: 2.0  
Date of Issue: 05 May 2017  
Date of First Issue: 16 July 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

## SECTION 1: IDENTIFICATION

<b>Product identifier used on the label</b>	M-Prep Neutralizer 5A
<b>Other means of identification</b>	Not applicable.
<b>Recommended use of the chemical and restrictions on use</b>	
Recommended use	PC14 Metal surface treatment products, including galvanic and electroplating products
Restrictions on use	Anything other than the above.
<b>Details of the supplier of the safety data sheet</b>	
Supplier	VISHAY MEASUREMENTS GROUP, INC.
Address of Supplier	Post Office Box 27777 Raleigh, NC 27611 USA
Telephone	+1 919-365-3800
Fax	+1 919-365-3945
E-Mail (competent person)	<a href="mailto:mm.us@vishaypg.com">mm.us@vishaypg.com</a>
<b>Emergency telephone number</b>	1-800-424-9300 CHEMTREC (24 hours)

## SECTION 2: HAZARD(S) IDENTIFICATION

<b>Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200</b>	
Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
Hazard Symbol	None assigned.
Signal Word(s)	None assigned.
Hazard Statement(s)	None assigned.
Precautionary Statement(s)	None assigned.
<b>Other hazards</b>	None known.
<b>Percent of the mixture consists of ingredient(s) of unknown acute toxicity:</b>	0%

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Substances** Not applicable

**Mixtures**

Chemical identity of the substance	%W/W	CAS No.	EC No.	Hazard classification
Sodium tetraborate pentahydrate	< 0.01	12179-04-3	215-540-4	Eye Irritation, Category 2 Reproductive toxicity, Category 1B (SCL: ≥ 4.5%)

# SAFETY DATA SHEET

Version: 2.0  
Date of Issue: 05 May 2017  
Date of First Issue: 16 July 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

## SECTION 4: FIRST AID MEASURES



### Description of first aid measures

Self-protection of the first aider

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid breathing vapours. Avoid contact with skin and eyes. Contaminated clothing should be laundered before reuse.

Inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin Contact

IF ON SKIN: Wash skin with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye Contact

IF IN EYES: Flush eyes with water for at least 15 minutes while holding eyelids open. If eye irritation persists, get medical advice/attention.

Ingestion

IF SWALLOWED: Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Do not induce vomiting. If symptoms develop, obtain medical attention.

### Most important symptoms and effects, both acute and delayed

None anticipated.

### Indication of any immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.

Notes to a physician:

Not applicable.

## SECTION 5: FIRE-FIGHTING MEASURES

### Extinguishing media

Suitable Extinguishing Media

Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable extinguishing Media

Do not use water jet.

### Special hazards arising from the substance or mixture

Not flammable. May decompose in a fire giving off toxic fumes. When heated, material will emit anhydrous ammonia vapor which necessitates respiratory and eye protection for firefighting.

### Special protective equipment and precautions for fire fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. Use personal protective equipment as required. See Section: 8. Avoid breathing vapours. Avoid contact with skin and eyes.

### Methods and material for containment and cleaning up

Absorb spillage to prevent material damage. Cover spills with inert absorbent material. Neutralize with dilute acid. Ventilate the area and wash spill site after material pick-up is complete.

## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Avoid breathing vapours. In case of inadequate ventilation wear respiratory protection. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product.

### Conditions for safe storage, including any incompatibilities

Keep only in original container. Keep container tightly closed and in a well-ventilated place.

Storage temperature

<27°C

Incompatible materials

Acids, Peroxides, metallic copper, Tin, Zinc and their alloys, halogenated

# SAFETY DATA SHEET

Version: 2.0  
Date of Issue: 05 May 2017  
Date of First Issue: 16 July 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

compounds.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Occupational Exposure Limits

No OSHA permissible exposure limit (PEL) assigned.

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
Sodium Tetraborate Pentahydrate	12179-04-3		1			NIOSH
		-	2	-	2	ACGIH, A4 Inhalable particulate matter

Note: NIOSH RELs / ACGIH TLVs

A4 - Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of the lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.

### Biological Exposure Indices

Not established

### Appropriate engineering controls

Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

### Individual protection measures, such as personal protective equipment (PPE)

General hygiene measures for the handling of chemicals are applicable. Keep good industrial hygiene. Avoid contact with skin and eyes. Avoid breathing vapours. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place. IF exposed: Flush with fresh water if contact with skin or eyes.

#### Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection.

#### Skin protection



#### Hand protection:

Wear impervious gloves. Protective index 6, corresponding > 480 minutes of permeation time. Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Neoprene or rubber gloves are recommended.

#### Body protection:

Wear suitable coveralls to prevent exposure to the skin.

#### Respiratory protection



In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. A suitable mask with filter type A may be appropriate.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Appearance	Colourless liquid.
Odor	Mild ammonia odor.
Odor Threshold	Not available.
pH	Not established.

# SAFETY DATA SHEET

Version: 2.0  
Date of Issue: 05 May 2017  
Date of First Issue: 16 July 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

Melting Point/Freezing Point	0°C
Initial boiling point and boiling range	100°C
Flash Point	Not applicable.
Evaporation rate (Butyl acetate = 1)	<1 (BuAc = 1)
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	760 mmHg @ 100°C
Vapour density	1 (Air = 1)
Relative density	1 (Water = 1)
Solubility(ies)	Soluble in water.
Partition coefficient: n-octanol/water	Not established.
Auto-ignition temperature	Not established.
Decomposition Temperature	Not established.
Viscosity	Not established.
<b>Other information</b>	VOC: 0%

## SECTION 10: STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable under normal conditions.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerisation will not occur.
<b>Conditions to avoid</b>	Adding Sodium Hydroxide to this material and/or heating will volatilize Ammonia.
<b>Incompatible materials</b>	Acids, Peroxides, metallic copper, Tin, Zinc and their alloys, halogenated compounds.
<b>Hazardous decomposition product(s)</b>	May decompose in a fire giving off toxic fumes. When heated, material will emit anhydrous ammonia vapor which necessitates respiratory and eye protection for firefighting.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on toxicological effects

<b>Acute toxicity - Ingestion</b>	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
<b>Acute toxicity - Inhalation</b>	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.
<b>Acute toxicity - Skin Contact</b>	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
<b>Skin corrosion/irritation</b>	Based upon the available data, the classification criteria are not met.
<b>Serious eye damage/irritation</b>	Based upon the available data, the classification criteria are not met.
Sodium Tetraborate Pentahydrate:	Test Result: Irritating to eyes. (EPA OPP 81-4)
<b>Respiratory or skin sensitization</b>	Based upon the available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based upon the available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based upon the available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based upon the available data, the classification criteria are not met.
Sodium Tetraborate Pentahydrate:	Rats exposed to the high dose of 518 mg/kg bw of borax (corresponding to a level of 58.5 mg B/kg bw) were sterile. (Weir RJ & Fisher RS, 1972)
<b>STOT - single exposure</b>	Based upon the available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based upon the available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based upon the available data, the classification criteria are not met.

### Information on likely routes of exposure

Inhalation	Possible – accidental.
Ingestion	Unlikely – accidental.
Skin Contact	Possible – accidental.
Eye Contact	Possible – accidental.

# SAFETY DATA SHEET



Version: 2.0  
Date of Issue: 05 May 2017  
Date of First Issue: 16 July 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

Early onset symptoms related to exposure	None anticipated
Delayed health effects from exposure	None anticipated
<b>Other information</b>	
NTP Report on Carcinogens	Not listed.
IARC Monographs	Not listed.
OSHA Designated Carcinogen	Not listed.

## SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
Persistence and degradability	Readily biodegradable.
Bioaccumulative potential	The product has no potential for bioaccumulation.
Mobility in soil	The product is predicted to have high mobility in soil. Soluble in water.
Other adverse effects	None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	Neutralize absorbent material with dilute acid.
Additional Information	Dispose of contents in accordance with local, state or national legislation.

## SECTION 14: TRANSPORT INFORMATION

Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.

	ADR/RID	IMDG	IATA
UN number	Not classified	Not classified	Not classified
UN proper shipping name	Not classified	Not classified	Not classified
Transport hazard class(es)	Not classified	Not classified	Not classified
Packing group	Not classified	Not classified	Not classified
Environmental hazards	Not classified	Not classified as a Marine Pollutant.	Not classified
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.		
Special precautions for user	See Section: 2		

## SECTION 15: REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance

#### US Federal Regulations

TSCA (Toxic Substance Control Act)	Sodium Tetraborate Pentahydrate – Subject to 25,000 lb reporting threshold.
EPCRA/SARA Section 302 Extremely Hazardous Substances	Not listed.
EPCRA Section 313 Toxics Release Inventory (TRI) Program	Not listed.
NIOSH Occupational Carcinogen List	Not listed.
OSHA List of highly hazardous chemicals, toxics and reactives	Not listed.
NTP Report on Carcinogens (RoC) List	Not listed.
Poison Prevention Packaging Act	Not listed.

#### US State Regulations

California State, Proposition 65 List	Not listed.
California State, Safer Consumer Products Regulations	Sodium Tetraborate Pentahydrate – Candidate Chemicals List.
Maine State, Toxic Chemicals in Children's Products Act	Not listed.
New Jersey State Worker and Community RTK Act	Not listed.
Pennsylvania State, Worker and Community RTK Act	Sodium Tetraborate Pentahydrate – hazardous Substance List.

# SAFETY DATA SHEET



Version: 2.0  
Date of Issue: 05 May 2017  
Date of First Issue: 16 July 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

Rhode Island State, Hazardous Substances RTK Act      Sodium Tetraborate Pentahydrate – hazardous Substance List.  
**Non-Regional**  
IARC Monographs, List of Classifications                      Not listed.

## SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation compliant with HazCom 2012 format, all sections have been updated to include new information. Please review SDS with care.

Version                      2.0  
Revision Date              05-May-2017  
Date of First Issue        16-Jul-2012

### References:

Existing Safety Data Sheet (SDS), EU Data: Harmonised Classification and Existing ECHA registration(s) for Sodium tetraborate pentahydrate (CAS No. 12179-04-3).

GHS Classification of the substance or mixture	Classification Procedure
Not classified	Threshold Calculation

### LEGEND

ACGIH: American Conference of Governmental Industrial Hygienists  
BEI: Biological Exposure Indices (ACGIH)  
IARC: International Agency for Research on Cancer  
Irr: Irritation  
NIOSH: National Institute of Occupational Safety and Health  
NTP: National Toxicology Program  
OSHA: The Occupational Safety & Health Administration  
PBT: Persistent, Bioaccumulative and Toxic  
PEL: Permissible exposure limit

REL: Recommended exposure limit  
SCL: Specific Concentration Limit  
Skin<sup>2</sup>: Risk of overexposure via dermal contact  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit value  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
URT: Upper respiratory tract  
vPvB: very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

### Disclaimers

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Vishay Precision Group gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Vishay Precision Group accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

## Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "VPG"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG's knowledge of typical requirements that are often placed on VPG products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at [vpgsensors.com](http://vpgsensors.com).

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Copyright Vishay Precision Group, Inc., 2014. All rights reserved.