

SAFETY DATA SHEET

Revision: 3.0 Date: 24th May 2019

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 2015/830

www.vishaypg.com

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier**
Product Name M-Prep Neutraliser 5A
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Identified Use(s) PC14 Metal surface treatment products, including galvanic and electroplating products
Uses Advised Against Anything other than the above.
- 1.3 Details of the supplier of the safety data sheet**
Company Identification VISHAY MEASUREMENTS GROUP UK LTD
Stroudley Road
Basingstoke
Hampshire
RG24 8FW
United Kingdom
Telephone +44 (0) 1256 462131
Fax +44 (0) 1256 471441
E-Mail (competent person) mm.uk@vishaypg.com
- 1.4 Emergency telephone number**
Emergency Phone No. (00-1) 703-527-3887 CHEMTREC (24 hours)
Languages spoken All official European languages.

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
- 2.1.1 Regulation (EC) No. 1272/2008 (CLP)** Not classified according to current CLP Regulations.
- 2.2 Label elements**
According to Regulation (EC) No. 1272/2008 (CLP)
Product Name M-Prep Neutralizer 5A
Contains: Not applicable
Hazard Pictogram(s) None assigned.
Signal Word(s) None assigned.
Hazard Statement(s) None assigned.
Precautionary Statement(s) None assigned.
- 2.3 Other hazards** None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances** Not applicable
3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

| Chemical identity of the substance | %W/W | CAS No. | EC No. | REACH Registration No. | Hazard Statement(s) |
|------------------------------------|--------|------------|-----------|--------------------------------------|---|
| Sodium tetraborate pentahydrate | < 0.01 | 12179-04-3 | 215-540-4 | Not yet assigned in the supply chain | Eye Irrit. 2; H319 Repr. 1B; H360FD Specific Concentration Limit Repr. 1B; H360FD: ≥ 4.5% |

For full text of H/P Statements see section 16.

SECTION 4: FIRST AID MEASURES

4.1 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 mist/vapours/spray. 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. Call a POISON CENTER/doctor if you feel unwell.

Skin Contact

IF ON SKIN (or hair): 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. Call a POISON CENTER/doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

None anticipated.

4.3 Indication of any immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES
5.1 Extinguishing media

Suitable Extinguishing Media

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

Unsuitable extinguishing Media

Do not use water jet. Direct water jet may spread the fire.

5.2 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.

5.3 Advice 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
6.1 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 mist/vapours/spray. Avoid contact with skin and eyes. Stay upwind/keep distance from source.

6.2 Environmental precautions

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

6.3 Methods and material for containment and cleaning up

Absorb spillage to prevent material damage. Cover spills with inert absorbent material. Neutralize with dilute acid. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of waste or used sacks/containers according to local regulations.

6.4 Reference to other sections

See Section: 8, 13

SECTION 7: HANDLING AND STORAGE
7.1 Precautions for safe handling

Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Avoid breathing mist/vapours/spray. 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.

7.2 Conditions for safe storage, including any

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

Revision: 3.0 Date: 24th May 2019

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 2015/830

www.vishaypg.com

incompatibilities
Storage temperature
Storage life
Incompatible materials

ventilated place.
Ambient temperatures. <27°C
Stable under normal conditions.
Acids, Peroxides, metallic copper, Tin, Zinc and their alloys, halogenated compounds.
See Section: 1.2.

7.3 Specific end use(s)**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters****8.1.1 Occupational Exposure Limits**

| SUBSTANCE | CAS No. | LTEL (8 hr TWA ppm) | LTEL (8 hr TWA mg/m ³) | STEL (ppm) | STEL (mg/m ³) | Note |
|---------------------------------|------------|---------------------|------------------------------------|------------|---------------------------|------|
| Sodium Tetraborate Pentahydrate | 12179-04-3 | - | 1 | - | - | WEL |

Source: WEL: Workplace Exposure Limit (UK HSE EH40)

8.1.2 Biological limit value

Not established.

8.1.3 PNECs and DNELs

Not established.

8.2 Exposure controls**8.2.1 Appropriate engineering controls**

Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

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

Ensure operatives are trained to minimise exposures. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier. General hygiene measures for the handling of chemicals are applicable. Keep good industrial hygiene. Avoid contact with skin and eyes. Avoid breathing mist/vapours/spray. 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 (EN166).

Skin protection

**Hand protection:**

Wear impervious gloves (EN374). Protective index 6, corresponding > 480 minutes of permeation time according to EN 374 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 (EN141 or EN405) may be appropriate.

Thermal hazards

Not applicable

Revision: 3.0 Date: 24th May 2019

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 2015/830

www.vishaypg.com

8.2.3 Environmental Exposure Controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|--|-------------------------|
| Appearance | Colourless liquid. |
| Odour | Mild ammonia odor. |
| Odour threshold | Not available. |
| pH | Not established. |
| Melting point/freezing point | 0°C |
| Initial boiling point and boiling range | 100°C |
| Flash point | Not applicable. |
| Evaporation rate | <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. |
| Explosive properties | Not explosive. |
| Oxidising properties | Not oxidising. |

9.2 Other information

Volatile Organic Compound Content: 0%

SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| 10.1 Reactivity | Stable under normal conditions. |
| 10.2 Chemical stability | Stable under normal conditions. |
| 10.3 Possibility of hazardous reactions | Hazardous polymerisation will not occur. |
| 10.4 Conditions to avoid | Adding Sodium Hydroxide to this material and/or heating will volatilize Ammonia. |
| 10.5 Incompatible materials | Acids, Peroxides, metallic copper, Tin, Zinc and their alloys, halogenated compounds. sodium hydroxide. |
| 10.6 Hazardous decomposition product(s) | Combustion products: Ammonia |

SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| 11.1 Information on toxicological effects | All test data taken from existing ECHA registrations for the substances mentioned. |
| Acute toxicity - Ingestion | Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day. |
| Acute toxicity - Inhalation | Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l. |
| Acute toxicity - Skin Contact | Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day. |
| Skin corrosion/irritation | Based upon the available data, the classification criteria are not met. |
| Serious eye damage/irritation | Based upon the available data, the classification criteria are not met. |
| Sodium Tetraborate Pentahydrate: | Test Result: Irritating to eyes. (EPA OPP 81-4) |
| Respiratory or skin sensitization | Based upon the available data, the classification criteria are not met. |
| Germ cell mutagenicity | Based upon the available data, the classification criteria are not met. |
| Carcinogenicity | Based upon the available data, the classification criteria are not met. |
| Reproductive toxicity | Based upon the available data, the classification criteria are not met. |
| Sodium Tetraborate Pentahydrate: | Rats exposed to the high dose of 336 mg/kg bw boric acid (corresponding to a level of 58.5 mg B/kg bw) were sterile (Weir RJ & Fisher RS, 1972) |

SAFETY DATA SHEET

Revision: 3.0 Date: 24th May 2019

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 2015/830

www.vishaypg.com

| | | |
|------|--------------------------|---|
| | STOT - single exposure | Based upon the available data, the classification criteria are not met. |
| | STOT - repeated exposure | Based upon the available data, the classification criteria are not met. |
| | Aspiration hazard | Based upon the available data, the classification criteria are not met. |
| 11.2 | Other information | None known. |

SECTION 12: ECOLOGICAL INFORMATION

| | | |
|------|------------------------------------|--|
| 12.1 | Toxicity | Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish) |
| 12.2 | Persistence and degradability | Readily biodegradable. |
| 12.3 | Bioaccumulative potential | The product has no potential for bioaccumulation. |
| 12.4 | Mobility in soil | The product is predicted to have high mobility in soil. Soluble in water. |
| 12.5 | Results of PBT and VPvB assessment | Not classified as PBT or vPvB. |
| 12.6 | Other adverse effects | None known. |

SECTION 13: DISPOSAL CONSIDERATIONS

| | | |
|------|-------------------------|---|
| 13.1 | Waste treatment methods | Dispose of this material and its container as hazardous waste. Neutralize absorbent material with dilute acid. Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation. |
| 13.2 | 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/ICAO |
|------|---|----------------|---------------------------------------|
| 14.1 | UN number | Not classified | Not classified |
| 14.2 | UN proper shipping name | Not classified | Not classified |
| 14.3 | Transport hazard class(es) | Not classified | Not classified |
| 14.4 | Packing group | Not classified | Not classified |
| 14.5 | Environmental hazards | Not classified | Not classified as a Marine Pollutant. |
| 14.6 | Special precautions for user | See Section: 2 | |
| 14.7 | Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable | |

SECTION 15: REGULATORY INFORMATION

| | | |
|--------|--|---|
| 15.1 | Safety, health and environmental regulations/legislation specific for the substance or mixture | Ammoniak |
| 15.1.1 | EU regulations Authorisations and/or Restrictions On Use Substance(s) of Very High Concern (SVHCs) | Sodium tetraborate pentahydrate: Entry 30: Restriction on supply of substances and mixtures to the general public, if classified as Repr. 1A or 1B. Proposed for authorisation - recommended for Annex XIV inclusion. Sodium tetraborate pentahydrate is included on the Candidate List of Substances of Very High Concern for authorisation or restriction. |
| 15.1.2 | National regulations Wassergefährdungsklasse (Germany) | Water hazard class: 1 (Self classification) |
| 15.2 | Chemical Safety Assessment | A chemical safety assessment is not required under REACH. |

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: V3.0

Sections indicated with the following have been revised:

Date of Issue: 24th May 2019

Date of First Issue: 16th July 2012

SAFETY DATA SHEET



Revision: 3.0 Date: 24th May 2019

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 2015/830

www.vishaypg.com

References:

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

Literature References:

1. Weir RJ & Fisher RS, 1972, Toxicologic studies on borax and boric acid., Toxicology and Applied Pharmacology 23: 351 - 364.

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

| Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP) | Classification Procedure |
|---|--------------------------|
| Not classified | Threshold Calculation |

LEGEND

LTEL: Long Term Exposure Limit

DNEL: Derived No Effect Level

PBT: PBT: Persistent, Bioaccumulative and Toxic

SCL: Specific Concentration Limit

STEL: Short Term Exposure Limit

PNEC: Predicted No Effect Concentration

vPvB: very Persistent and very Bioaccumulative

Hazard classification / Classification code:

Eye Irrit. 2; Eye Irritation, Category 2

Repr. 1B; Reproductive toxicity, Category 1B

Hazard Statement(s)

H319: Causes serious eye irritation.

H360FD: May damage fertility. May damage the unborn child.

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.

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.