SAFETY DATA SHEET

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ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 1: IDENTIFICATION

Product identifier used on the label M-Prep Neutraliser 5A

Other means of identification Not applicable.

Recommended use of the chemical and restrictions on use

Recommended use: PC14 Metal surface treatment products, including galvanic and electroplating products

Restrictions on use: Anything other than the above.

Details of the supplier of the safety data sheet

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): mm.us@vishaypg.com

Emergency telephone number 1-800-424-9300 CHEMTREC (24 hours)

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200

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.

Other hazards None known.

Percent of the mixture consists of ingredient(s) of unknown acute toxicity: 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%)

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 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/m³)	STEL (ppm)	STEL (mg/m³)	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.
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.

Other information VOC: 0%

SECTION 10: STABILITY AND REACTIVITY

Reactivity Stable under normal conditions.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerisation will not occur.

Conditions to avoid Adding Sodium Hydroxide to this material and/or heating will volatize Ammonia.

Incompatible materials Acids, Peroxides, metallic copper, Tin, Zinc and their alloys, halogenated compounds.

Hazardous decomposition product(s) 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

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 518 mg/kg bw of borax (corresponding to a level of 58.5 mg B/kg bw) were sterile. (Weir RJ & Fisher RS, 1972)

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.

Information on likely routes of exposure

Inhalation Possible – accidental.

Ingestion Unlikely – accidental.

Skin Contact	Possible – accidental.
Eye Contact	Possible – accidental.
Early onset symptoms related to exposure	None anticipated
Delayed health effects from exposure	None anticipated
Other information	
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.
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
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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": 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.

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