# SAFETY DATA SHEET

**Version: 1.0**
**Date of Issue: 20 April 2018**
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**www.vishaypg.com**

**In accordance with Schedule 1 of Hazardous Products Regulations (HPR) (WHMIS 2015)**

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

**Product identifier**

| | |
|---|---|
| Product Name | M-Prep Conditioner A |
| Other Means of Identification | None |

**Recommended use and restrictions**

| | |
|---|---|
| Recommended use | PC14 Metal surface treatment products, including galvanic and electroplating products. |
| Restrictions on use | Anything other than the above. |

**Initial Supplier Identifier**

| | |
|---|---|
| Company Identification | VISHAY MEASUREMENTS GROUP, INC. |
| Telephone | Post Office Box 27777<br>Raleigh, NC 27611<br>USA |
| E-Mail (competent person) | mm.us@vishaypg.com |

**Emergency telephone number**

| | | |
|---|---|---|
| Emergency Phone No. | 1-800-424-9300 | CHEMTREC (24 hours) |
| Languages spoken | English | |

## SECTION 2: HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

| | |
|---|---|
| **In accordance with Schedule 1 of Hazardous Products Regulations (HPR) (WHMIS 2015)** | Corrosive to Metals - Category 1 |

**Label elements**

Hazard Pictogram(s)

| | |
|---|---|
| Signal Word(s) | WARNING |
| Hazard Statement(s) | May be corrosive to metals. |
| Precautionary Statement(s) | Obtain special instructions before use.<br>Absorb spillage to prevent material damage.<br>Store in corrosive resistant container with a resistant inner liner.<br>Dispose of contents in accordance with local, state or national legislation. |
| **Other hazards** | None known |

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Substances** Not applicable

**Mixtures**

GHS Classification

| Chemical Name | CAS No. | Concentration (%W/W) | Common name(s), synonym(s) of the substance | Hazard classification |
|---|---|---|---|---|
| Phosphoric Acid | 7664-38-2 | 5 - 10 | Orthophosphoric acid; trihydroxidooxidophosphorus | Corrosive to Metals - Category 1<br>Acute toxicity (Oral) - Category 4<br>Skin corrosion/irritation - Category 1B<br><br>**Specific Concentration Limit**<br>Skin corrosion/irritation - Category 1B: C ≥ 25%<br>Skin corrosion/irritation - Category 2: 10% ≤ C < 25%<br>Eye Irritation - Category 2: 10% ≤ C < 25% |

Prescribed Concentration Ranges used for trade secret purposes (Canada Gazette, Part II, Vol. 152, No. 8)

## 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: Remove person to fresh air and keep 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** | May cause irritation to eyes, skin and air passages. |
| **Indication of any immediate medical attention and special treatment needed** | Unlikely to be required but if necessary treat symptomatically. |

## 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. Reacts with metals liberating hydrogen. Reaction products may include hydrogen cyanide. May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide. May react with some metals including aluminum, magnesium, and zinc, resulting in evolution of phosphorus oxides. |
| **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. |

| | |
|---|---|
| **Environmental precautions** | Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. |
| **Methods and material for containment and cleaning up** | Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Cautiously neutralize remainder. Then wash away with plenty of water. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste. |
| **Reference to other sections** | See Section: 8, 13 |

## 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. Store in corrosive resistant container with a resistant inner liner. Keep container tightly closed and in a well-ventilated place. |
| Storage temperature | <27 ℃ |
| Incompatible materials | May react with some metals including aluminum, magnesium, and zinc, resulting in evolution of phosphorus oxides. |
| **Specific end use(s)** | See Section: 1.2 |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Occupational Exposure Limits** Not established.

| SUBSTANCE | CAS No. | ACGIH® TLV® (mg/m³) | | OSHA PEL (mg/m³) | | Note |
|---|---|---|---|---|---|---|
| | | TWA | STEL | TWA | STEL | |
| Phosphoric Acid | 7664-38-2 | 1 | 3 | 1 | - | - |

Source: ACGIH: American Conference of Governmental Industrial Hygiene. TLV: Threshold Limit Value (ACGIH) PEL (OSHA)

**Alberta: Occupational Health And Safety Code, 2009; Quebec: Health and Safety Work Act, 2016**

| SUBSTANCE | CAS No. | 8-hour Occupational Exposure Limits | | | 15-minute or ceiling (c) Occupational Exposure Limits | | Note |
|---|---|---|---|---|---|---|---|
| | | ppm | mg/m³ | f/cc | STEL (ppm) | STEL (mg/m³) | |
| Phosphoric Acid | 7664-38-2 | - | 1 | - | - | 3 | Alberta* |
| | | - | 1 | - | - | 3 | OEL |

Source: Alberta: Occupational Health And Safety Code, 2009
OEL: Quebec Work Health and Safety Regulations, Health and Safety Work Act, (Chapter S – 2.1, a. 223)
* Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.

**British Columbia: Occupational Health and Safety Guidelines, 2015; Northwest Territories: Occupational Health and Safety Regulations, 2012**

| SUBSTANCE | CAS No. | LTEL (8 hr TWA ppm) | LTEL (8 hr TWA mg/m³) | STEL (ppm) | STEL (mg/m³) | Note |
|---|---|---|---|---|---|---|
| Phosphoric Acid | 7664-38-2 | - | 1 | - | 3 | WEL |
| | | - | 1 | - | 3 | NW |

Source: WEL: Occupational Health and Safety Guidelines Part 5: Chemical Agents and Biological Agents (British Columbia)
NW: WSCC, Occupational Health and Safety Regulations, Northwest Territories Volume 3

**Saskatchewan: Occupational Health and Safety Regulations, 1996.**

| SUBSTANCE | CAS No. | Time Weighted Average (TWA) | STEL (ppm) | Note |
|---|---|---|---|---|
| Phosphoric Acid | 7664-38-2 | 1 mg/m³ | 3 mg/m³ | SK |

Source: Saskatchewan (SK): Occupational Health and Safety Act, 1993. O-1.1 REG 1 Occupational Health and Safety Regulations, 1996.

| | |
|---|---|
| **Biological limit value** | Not established. |

**Exposure controls**

| | |
|---|---|
| **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:**<br>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.<br><br>**Body protection:**<br>Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact. |
| Respiratory protection  | In case of inadequate ventilation wear respiratory protection. A suitable mask with filter type A may be appropriate. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | |
|---|---|
| Appearance | Clear |
| Odour | Odourless. |
| Odour threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | ~100℃ |
| Flash point | Not applicable. |
| Evaporation rate (Water = 1) | Not applicable. |
| Flammability (solid, gas) | Non-flammable. |
| Upper/lower flammability or explosive limits | Not applicable. |
| Vapour pressure | Not available. |
| Vapour density | Not available. |
| Relative density | ~1-1.1 ($H_2O$ = 1) (Mixture) |
| Solubility(ies) | Soluble in water. |
| Partition coefficient: n-octanol/water | Not available. |
| Auto-ignition temperature | Not applicable. |
| Decomposition Temperature | Not available. |
| Viscosity | Not available. |
| Explosive properties | Not available. |
| Oxidising properties | Not oxidising. |

| | |
|---|---|
| **Other information** | None |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Stable under normal conditions. |
| **Chemical stability** | Stable under normal conditions. |
| **Possibility of hazardous reactions** | May react with some metals including aluminum, magnesium, and zinc, resulting in evolution of phosphorus oxides. |
| **Conditions to avoid** | None known. |
| **Incompatible materials** | Alkaline materials and materials containing chlorine. |
| **Hazardous decomposition product(s)** | Oxides of phosphorus.Combustion or thermal decomposition will evolve toxic and irritant vapours. |

## SECTION 11: TOXICOLOGICAL INFORMATION

**Information on toxicological effects**

| | |
|---|---|
| **Acute toxicity - Ingestion** | Based upon the available data, the classification criteria are not met.<br>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.<br>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.<br>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. |
| Phosphoric Acid: | Skin Corrosion/Irritation, Category 1<br>Corrosive (1500.41 - U.S. Federal Register Vol. 38, No. 187, S. 26019 from 1973-09-27) |
| **Serious eye damage/irritation** | Based upon the available data, the classification criteria are not met. |
| **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. |
| **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. |
| **Other information** | None known. |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Toxicity** | Based upon the available data, the classification criteria are not met.<br>Estimated Mixture LC50 >100 mg/l (Fish) |
| **Persistence and degradability** | Readily biodegradable. |
| **Bioaccumulative potential** | The product has low potential for bioaccumulation. |
| **Mobility in soil** | The product has high mobility in soil. Phosphoric Acid: Very soluble |
| **Other adverse effects** | None known. |

## SECTION 13: DISPOSAL CONSIDERATIONS

| | |
|---|---|
| **Waste treatment methods** | Dispose of this material and its container as hazardous waste. Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation. Dispose of contents in accordance with local, state or national legislation. |

## SECTION 14: TRANSPORT INFORMATION

| | | **ADR/RID** | **IMDG** | **IATA/ICAO** |
|---|---|---|---|---|
| **14.1** | **UN number** | UN 1760 | UN 1760 | UN 1760 |
| **14.2** | **UN proper shipping name** | CORROSIVE LIQUID, N.O.S (Phosphoric Acid) | CORROSIVE LIQUID, N.O.S (Phosphoric Acid) | CORROSIVE LIQUID, N.O.S (Phosphoric Acid) |

| | | | | |
|---|---|---|---|---|
| **14.3** | **Transport hazard class(es)** | 8 | 8 | 8 |
| **14.4** | **Packing group** | III | | |
| **14.5** | **Environmental hazards** | Not classified | Not classified as a Marine Pollutant. | Not classified |
| **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

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**National regulations**

| | |
|---|---|
| CEPA, Domestic Substances List | Phosphoric acid: Yes |
| CEPA, Priority Substances List | All chemicals are not listed |
| CEPA, List of Toxic Substances (Schedule 1) | All chemicals are not listed |
| CEPA, National Pollutant Release Inventory | All chemicals are not listed |
| CEPA, Environmental Emergency Regulations | All chemicals are not listed |

**Non-Regional**

| | |
|---|---|
| IARC Monographs**,** List of Classifications | All chemicals are not listed |

## SECTION 16: OTHER INFORMATION

**The following sections contain revisions or new statements:** Not applicable – V1.0

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**References:**
Existing Safety Data Sheet (SDS).
EU: Harmonised Classification(s) for Phosphoric Acid (CAS No. 7664-38-2). the Classification and Labelling Inventory for Phosphoric Acid (CAS No. 7664-38-2).

**LEGEND**

LTEL: Long Term Exposure Limit
STEL: Short Term Exposure Limit
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
PBT: PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
IARC: International Agency for Research on Cancer
NTP: National Toxicology Program
OSHA = Occupational Safety and Health Administration
NIOSHTIC: National Institute for Occupational Safety and Health Technical Information Center

ACGIH: American conference of Governmental Industrial Hygiene
BEI: Biological Exposure Indices (ACGIH)
TLV: Threshold Limit Value (ACGIH)
TWA: Time Weighted Average
VOC: Volatile Organic Compound
EU: European Union
CEPA (Canadian Environmental Protection Act)

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