



Revision Number: 003.4

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BONDERITE M-ZN 198X ZINC PHOSPHATE known as BONDERITE 198 X
Product type/use: Conversion coating
Restriction of Use: None identified
Company address: Henkel Corporation
 One Henkel Way
 Rocky Hill, Connecticut 06067

IDH number: 595721

Region: United States

Contact information:
 Telephone: +1 (860) 571-5100
 MEDICAL EMERGENCY Phone: Poison Control Center
 1-877-671-4608 (toll free) or 1-303-592-1711
 TRANSPORT EMERGENCY Phone: CHEMTREC
 1-800-424-9300 (toll free) or 1-703-527-3887
 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: MAY BE CORROSIVE TO METALS.
 HARMFUL IF SWALLOWED.
 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
 MAY CAUSE AN ALLERGIC SKIN REACTION.
 MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED.
 MAY CAUSE RESPIRATORY IRRITATION.
 MAY CAUSE DROWSINESS OR DIZZINESS.
 MAY CAUSE CANCER.
 MAY DAMAGE FERTILITY OR THE UNBORN CHILD.

HAZARD CLASS	HAZARD CATEGORY
CORROSIVE TO METALS	1
ACUTE TOXICITY ORAL	4
SKIN CORROSION	1C - Corrosive
SERIOUS EYE DAMAGE	1
RESPIRATORY SENSITIZATION	1
SKIN SENSITIZATION	1
CARCINOGENICITY	1A
REPRODUCTIVE TOXICITY	1B
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3

PICTOGRAM(S)



Precautionary Statements

Prevention:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original packaging. Avoid breathing vapors, mist, or spray. Wash affected area thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, clothing, eye and face protection. In case of inadequate ventilation wear respiratory protection.
Response:	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical attention. If skin irritation or rash occurs: Get medical attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.
Storage:	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal:	Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Zinc dihydrogen phosphate	13598-37-3	10 - 30
Zinc nitrate	7779-88-6	10 - 30
Phosphoric acid	7664-38-2	10 - 30
Nickel nitrate	13138-45-9	0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation:	If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.
Skin contact:	Remove contaminated clothing and footwear. For skin contact, flush with large amounts of water. Seek immediate medical attention.
Eye contact:	In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.
Ingestion:	Seek medical advice. DO NOT induce vomiting unless directed to do so by medical personnel. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Symptoms:	See Section 11.
Notes to physician:	If cyanosis is severe, intravenous injection of methylene blue, 1 mg/kg body weight, may be of value.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Use media appropriate for surrounding material.
Special firefighting procedures:	Wear full protective clothing. Wear self-contained breathing apparatus.

Unusual fire or explosion hazards: This product is an aqueous mixture which will not burn.

Hazardous combustion products: Oxides of phosphorus. Oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Wear appropriate personal protective equipment. Do not allow product to enter sewer or waterways.

Clean-up methods: Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of according to Federal, State and local governmental regulations.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing mists or aerosols of this product. Provide adequate ventilation. Do not take internally. Wash thoroughly after handling. For industrial use only.

Storage: For safe storage, store between 40 °F (4.4 °C) and 100 °F (37.8 °C) Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Thaw and mix thoroughly if frozen.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Zinc dihydrogen phosphate	None	None	None	None
Zinc nitrate	None	None	None	None
Phosphoric acid	3 mg/m3 STEL 1 mg/m3 TWA	1 mg/m3 PEL	None	None
Nickel nitrate	0.1 mg/m3 TWA (as Ni) Inhalable fraction.	1 mg/m3 PEL (as Ni)	None	None

Engineering controls: Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

Respiratory protection: If ventilation is not sufficient to effectively prevent buildup of aerosols, mists or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Eye/face protection: Wear chemical goggles; face shield (if splashing is possible).

Skin protection: Chemical resistant, impermeable gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Green
Odor: Acidic
Odor threshold: Not available.
pH: < 1
Vapor pressure: Not determined
Boiling point/range: > 100 °C (> 212°F)calculated

Melting point/ range:	Not determined
Specific gravity:	1.61 - 1.62
Vapor density:	Not determined
Flash point:	Not applicable
Flammable/Explosive limits - lower:	Not applicable
Flammable/Explosive limits - upper:	Not applicable
Autoignition temperature:	Not applicable
Flammability:	Not applicable
Evaporation rate:	Not available.
Solubility in water:	Complete
Partition coefficient (n-octanol/water):	Not determined
VOC content:	Not applicable
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Decomposes with heat to produce oxides of nitrogen. Oxides of phosphorus.
Incompatible materials:	This product may react with strong alkalis.
Reactivity:	Not available.
Conditions to avoid:	None identified.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure:	Skin, Inhalation, Eyes
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Potential Health Effects/Symptoms

Inhalation:	Mists, vapors or liquid may cause severe irritation or burns.
Skin contact:	Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns. This product contains a component that may cause allergic skin reactions.
Eye contact:	This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.
Ingestion:	This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Zinc dihydrogen phosphate	None	Blood, Central nervous system, Corrosive, Endocrine, Gastrointestinal, Immune system, Irritant, Kidney, Metabolic, Pancreas, Respiratory
Zinc nitrate	Oral LD50 (Rat) = 1,400 mg/kg Oral LD50 (Mouse) = 241.3 mg/kg Oral LD50 (Rat) = 1,558.7 mg/kg	Blood, Cardiac, Central nervous system, Corrosive, Endocrine, Gastrointestinal tract, Immune system, Irritant, Kidney, Metabolic, Pancreas, Respiratory, Vascular
Phosphoric acid	Oral LD50 (Rat) = 1,530 mg/kg Dermal LD50 (Rabbit) = 2,740 mg/kg	Irritant, Corrosive
Nickel nitrate	None	Allergen, Blood, Cardiac, Central nervous system, Corrosive, Developmental, Immune system, Irritant, Kidney, Liver, Lung, Mutagen, Reproductive, Respiratory, Sensory, Some evidence of carcinogenicity, Vascular

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Zinc dihydrogen phosphate	No	No	No
Zinc nitrate	No	No	No
Phosphoric acid	No	No	No
Nickel nitrate	Known To Be Human Carcinogen.	Group 1	No

12. ECOLOGICAL INFORMATION

Ecological information: No data available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal. This chemical contains phosphates. This chemical contains heavy metals.

Hazardous waste number: This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002).

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Phosphoric acid solution
Hazard class or division:	8
Identification number:	UN 1805
Packing group:	III
DOT Hazardous Substance(s):	Zinc nitrate, Nickel nitrate

International Air Transportation (ICAO/IATA)

Proper shipping name: Phosphoric acid, solution
Hazard class or division: 8
Identification number: UN 1805
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name: PHOSPHORIC ACID SOLUTION
Hazard class or division: 8
Identification number: UN 1805
Packing group: III

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis.
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Zinc dihydrogen phosphate (CAS# 13598-37-3). Zinc nitrate (CAS# 7779-88-6). Nickel nitrate (CAS# 13138-45-9).

CERCLA Reportable quantity: Zinc nitrate (CAS# 7779-88-6) 1,000 lbs. (454 kg)
 Phosphoric acid (CAS# 7664-38-2) 5,000 lbs. (2,270 kg)
 Nickel nitrate (CAS# 13138-45-9) 100 lbs. (45.4 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: This Safety Data Sheet contains changes from the previous version in Section(s): 2

Prepared by: Product Safety and Regulatory Affairs

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