



Revision Number: 004.8

Issue date: 04/12/2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BONDERITE M-AC ZL LIQUID
CONDITIONING AGENT known as
FIXODINE ZL

IDH number: 593918

Product type/use: Phosphating Products for Metals

Restriction of Use: None identified

Region: United States

Company address: Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

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.henkeln.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
EYE IRRITATION	2A



Precautionary Statements

Prevention: Wash affected area thoroughly after handling. Wear eye and face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage: Not prescribed

Disposal: Not prescribed

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*
Tetrapotassium pyrophosphate	7320-34-5	5 - 10
Pentasodium triphosphate	7758-29-4	1 - 5
Trisodium orthophosphate	7601-54-9	1 - 5
Titanium dioxide	13463-67-7	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 inhaled, immediately remove the affected person to fresh air. If symptoms develop and persist, get medical attention.
Skin contact:	Immediately wash skin thoroughly with soap and water. If symptoms develop and persist, get medical attention.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. If symptoms develop and persist, get medical attention.
Ingestion:	Get immediate medical attention. DO NOT induce vomiting unless directed to do so by medical personnel.
Symptoms:	See Section 11.
Notes to physician:	Treat symptomatically and supportively.

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:	Irritating and toxic gases or fumes may be released during a fire.

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:	Wear appropriate protective equipment and clothing during clean-up. Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
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 vapors or mists of this product. Do not take internally. For industrial use only.
Storage:	For safe storage, store between 5 °C (41°F) and 50 °C (122°F) Keep the container tightly closed and in a cool, well-ventilated place.

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
Tetrapotassium pyrophosphate	None	None	None	None
Pentasodium triphosphate	None	None	None	None
Trisodium orthophosphate	None	None	5 mg/m3 STEL	None
Titanium dioxide	10 mg/m3 TWA	15 mg/m3 PEL Total dust. 15 MPPCF TWA Respirable fraction. 15 mg/m3 TWA Total dust. 50 MPPCF TWA Total dust. 5 mg/m3 TWA Respirable fraction.	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:	Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage must be implemented. If concentrations are below the TLV and/or PEL, a NIOSH approved disposable dust/mist respirator may be used for personal comfort. For concentrations above the TLV and/or PEL but less than 10 times these limits, a NIOSH approved half-facepiece respirator equipped with dust-mist cartridges may be used. For concentrations greater than 10 times these limits, consult the NIOSH respirator decision logic found in Publication No. 87-116 or ANSI Z88.2-1992.
Eye/face protection:	Wear chemical goggles.
Skin protection:	Chemical resistant, impermeable gloves. Suitable glove materials may include: Nitrile gloves. PVC Coated Gloves. The breakthrough time of the selected glove must be greater than the intended use period. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	White
Odor:	None
Odor threshold:	Not available.
pH:	8.0 - 9.9
Vapor pressure:	Not determined
Boiling point/range:	> 100 °C (> 212°F)
Melting point/ range:	Not available.
Specific gravity:	1.15 - 1.25
Vapor density:	Not determined
Flash point:	Not applicable
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not applicable
Flammability:	Not applicable
Evaporation rate:	Not available.
Solubility in water:	Complete
Partition coefficient (n-octanol/water):	Not determined
VOC content:	0 % Estimated
Viscosity:	766 cp
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Incompatible materials:	This product reacts with acids.
Reactivity:	Not available.
Conditions to avoid:	Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation:	This product is irritating to the respiratory system.
Skin contact:	Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis.
Eye contact:	Liquid is mildly irritating to eyes.
Ingestion:	Ingestion of this product may cause nausea, vomiting and diarrhea.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Tetrapotassium pyrophosphate	Inhalation LC50 (Rat, 4 h) = > 0.58 mg/l Inhalation LC50 (Rat, 4 h) = > 1.1 mg/l	No Target Organs
Pentasodium triphosphate	Inhalation LC50 (Rat, 4 h) = > 0.39 mg/l	Corrosive, Irritant, Metabolic
Trisodium orthophosphate	Oral LD50 (Rat) = 4.8 mg/kg Oral LD50 (Rat) = > 2,000 mg/kg Dermal LD50 (Rabbit) = >= 2 mg/kg Inhalation LC50 (Rat, 4 h) = > 0.83 mg/l	Corrosive, Eyes, Irritant, Metabolic, Muscle, Vascular
Titanium dioxide	Inhalation LC50 (Rat, 4 h) = > 6.82 mg/l Inhalation LC50 (Rat, 4 h) = > 2.28 mg/l Inhalation LC50 (Rat, 4 h) = > 3.56 mg/l	Irritant, Respiratory, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Tetrapotassium pyrophosphate	No	No	No
Pentasodium triphosphate	No	No	No
Trisodium orthophosphate	No	No	No
Titanium dioxide	No	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not 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.

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:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed as active or are exempt from listing on the Toxic Substances Control Act (TSCA) 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
CERCLA/SARA Section 313:	None above reporting de minimis.
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
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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 & 3

Prepared by: Regulatory Affairs

Issue date: 04/12/2022

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