Revision Number: 006.10

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1. IDENTIFICATION

Product name: BONDERITE M-AD KF PRETREATMENT ADDITIVE known as ADDITIVE KF

IDH number: 772133

Product type/ Recommended use: Additive

Restriction of Use: None identified

Region: Canada

Company address:
Henkel Canada Corporation
Meadowpine Boulevard 2515
Mississauga, Ontario L5N 6C3

Contact information:
Telephone: +1 (905) 814-6511
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
MEDICAL EMERGENCY Phone: Poison Control Center
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1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: CONTAINS FLUORIDES. MAY CAUSE DELAYED BURNS (NOT IMMEDIATELY PAINFUL OR VISIBLE)! LONG TERM EXPOSURE TO FLUORIDES OVER YEARS MAY CAUSE FLUOROSIS!
H302 HARMFUL IF SWALLOWED.
H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

HAZARD CLASS	HAZARD CATEGORY
ACUTE TOXICITY ORAL	4
SKIN CORROSION	1B
SERIOUS EYE DAMAGE	1

PICTOGRAM(S)

Precautionary Statements

Prevention:
P264 - Wash affected area thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves, clothing, eye and face protection.

Response:
P301+P312+P330 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing.
P304+P340+P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P363 - Wash contaminated clothing before reuse.

Storage: P405 - Store locked up.

Disposal: P501 - Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Other hazards Not available.

Classification complies with Canadian Hazardous Products Regulations and is consistent with the provision 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	Weight %*
potassium bifluoride	7789-29-9	10 - 30
potassium fluoride	7789-23-3	1 - 5

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

4. FIRST AID MEASURES

First Aid Measures by likely routes of exposure

Inhalation: If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist. If breathing is difficult, give oxygen. Trained personnel should administer 2.5% calcium gluconate through a nebulizer for 20 minutes.

Skin contact: Remove contaminated clothing and footwear while rinsing the affected area with large amounts of running water for at least 15 minutes. GET IMMEDIATE MEDICAL ATTENTION. If iced solution of 0.13% aqueous Benzalkonium Chloride (Zephiran) or 2.5% calcium gluconate gel is available, rinsing may be limited to 5 minutes, with the soak solution or gel applied as soon as the rinsing is stopped. Gloves should be worn when applying the gel to prevent transfer of HF and secondary burns. If using calcium gluconate gel, it should be continuously re-applied and massaged into the affected area until pain has been relieved for at least 30 minutes. If Benzalkonium Chloride (Zephiran) or calcium gluconate gel is not available, rinsing must continue until medical treatment is provided.

Eye contact: Immediately flush affected eye with large amounts of gently flowing water or 0.9% sterile saline solution for at least 15 minutes. Hold eyelid wide open. Get immediate medical attention. Eye flushing should continue during transportation to a doctor.

Ingestion: Get immediate medical attention. Do not induce vomiting. Attempt immediate administration of a fluoride binding substance: milk, chewable calcium carbonate tablets or 4-8 ounces (120-240 ml) of milk of magnesia or a liquid antacid. Avoid large amounts of liquid as it may induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Most important symptoms and effects (acute and delayed): The most important known symptoms and effects, both acute and delayed, are described in Section 11: Toxicological Information.

Indication of any immediate medical attention / special treatment needed: Treatment of hypocalcemia associated with corrosive fluoride compounds exposure may be corrected by intravenous calcium gluconate or calcium chloride. Treatment of hypomagnesemia may be corrected by intravenous magnesium sulfate.

5. FIRE FIGHTING MEASURES

Extinguishing media: Use media appropriate for surrounding material.

Improper extinguishing agents: Not available.

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: May liberate hydrogen fluoride.

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 protective equipment and clothing during clean-up. 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. Wash thoroughly after handling. Avoid breathing vapors or mists of this product. Do not take internally. For industrial use only.

Storage: For safe storage, store at or above 40 °F (4.4 °C)
Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. If stored outside of this range, mix well before using.

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
potassium bifluoride	2.5 mg/m3 TWA (as F)	2.5 mg/m3 PEL (as F) 2.5 mg/m3 TWA Dust.	None	None
potassium fluoride	2.5 mg/m3 TWA (as F)	2.5 mg/m3 PEL (as F) 2.5 mg/m3 TWA Dust.	None	None

Engineering controls: Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

Respiratory protection:	If ventilation is not sufficient to effectively prevent buildup of aerosols, mists or vapors, appropriate NIOSH/MSHA respiratory protection must be provided. 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; face shield (if splashing is possible).
Skin protection:	Chemical resistant, impermeable gloves. The breakthrough time of the selected glove must be greater than the intended use period. Gloves should be tested to determine suitability for prolonged contact. Suitable glove materials may include: Butyl rubber gloves. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Colourless / Colorless
Odor:	Sharp
Odor threshold:	Not available.
pH:	4 - 5.5 (6% solution)
Vapor pressure:	Not determined
Boiling point/range:	> 100 °C (> 212°F)calculated
Melting point/ range:	Not determined
Density/Relative density:	1.12 - 1.14
Relative 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 determined
Solubility:	Complete Water
Partition coefficient n-octanol/water (logarithmic value):	Not determined
VOC content:	0 %
Dynamic viscosity:	Not available.
Kinematic viscosity:	Not available.
Particle characteristics:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Hazardous reactions: Will not occur.

Hazardous decomposition products: Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. May liberate hydrogen fluoride.

Incompatible materials: This product may react with strong alkalies. This material will react with glass, concrete, certain metals, silica containing materials, rubber, leather, and many organics.

Reactivity: Not available.

Conditions to avoid: Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: Mists, vapors or liquid may cause severe irritation or burns. Inhalation of mists or vapors may produce upper airway edema, wheezing, pulmonary edema, pneumonitis and respiratory failure. Contains fluorides. Exposure to fluorides over years may cause fluorosis.

Skin contact: This product is severely irritating to the skin. This product may be harmful if it is absorbed through the skin. Liquid or vapor can cause fluoride-type irritation or burns which may not be immediately painful or visible. Hydrofluoric acid will penetrate the skin and attack underlying tissue and bone. Large burns (over 25 square inches) may also cause hypocalcemia and other systemic effects which may be fatal.

Eye contact: This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Ingestion: Ingestion of small amounts of this product may result in potentially fatal hypocalcemia and systemic toxicity. Ingestion of large amounts of this product may result in fluoride poisoning including symptoms of calcification of the ligaments and severe bone changes making normal movements painful, mottling of the teeth, pulmonary fibrosis, anemia, anorexia, dental effects, and possibly death. Ingestion causes burns of the upper digestive and respiratory tracts. Contains fluorides. Exposure to fluorides over years may cause fluorosis.

Hazardous Component(s)	LD50s and LC50s
potassium bifluoride	None
potassium fluoride	Oral LD50 (Rat) = 245 mg/kg Inhalation LC50 (Rat, 4 h) = 1 mg/l

Hazardous Component(s)	Immediate Health Effects	Delayed Health Effects	Chronic Health Effects
potassium bifluoride			
potassium fluoride	Corrosive Irritant		Blood Cardiac Central nervous system Gastrointestinal Kidney Metabolic Muscle Mutagen Teeth

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
potassium bifluoride	No	No	No
potassium fluoride	No	No	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 packaging.

Canada Transportation of Dangerous Goods - Ground

Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (Potassium bifluoride, Potassium fluoride)
Hazard class or division:	8 (6.1)
Identification number:	UN 2922
Packing group:	II

International Air Transportation (ICAO/IATA)

Proper shipping name:	Corrosive liquid, toxic, n.o.s. (Potassium bifluoride, Potassium fluoride)
Hazard class or division:	8 (6.1)
Identification number:	UN 2922
Packing group:	II

Water Transportation (IMO/IMDG)

Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (Potassium bifluoride, Potassium fluoride)
Hazard class or division:	8 (6.1)
Identification number:	UN 2922
Packing group:	II
Additional information:	IMDG-Code: Segregation group 1- Acids

15. REGULATORY INFORMATION

Canada Regulatory Information

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

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.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format. 2, 3, 8, 11, 15

Prepared by: Regulatory Affairs

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