



Revision Number: 005.4

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	BONDERITE C-IC 2310 AERO	IDH number:	594509
Product type:	Coating	Region:	United States
Restriction of Use:	None identified	Contact information:	
Company address:	Telephone: 248.583.9300 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		
Henkel Corporation 32100 Stephenson Highway Madison Heights, MI 48071			

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: HARMFUL IF SWALLOWED.
 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
 MAY CAUSE CANCER.
 SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD.
 CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
ACUTE TOXICITY ORAL	4
SKIN CORROSION	1B
SERIOUS EYE DAMAGE	1
CARCINOGENICITY	1A
REPRODUCTIVE TOXICITY	2
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	1

PICTOGRAM(S)



Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapors, mist, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, eye protection, and face protection. Use personal protective equipment as required.

Response: IF SWALLOWED: Immediately call poison control or physician if you feel unwell. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 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. Immediately call a poison control center or physician. Wash contaminated clothing before reuse.

Storage: Store locked up.

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*
Ferric sulfate	10028-22-5	10 - 30
Sulfuric acid	7664-93-9	10 - 30
Ammonium bifluoride	1341-49-7	1 - 5
Diammonium dimolybdate	27546-07-2	0.1 - 1

* Exact percentage is a 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. Rinse with large amounts of running water. GET MEDICAL ATTENTION IMMEDIATELY! If iced 0.13% benzalkonium chloride (Zephiran) solution or 2.5% calcium gluconate gel are available, the rinsing may be limited to 5 minutes, with the soaks or gel applied as soon as the rinsing is stopped. If benzalkonium chloride or calcium gluconate gel is not available, rinsing must continue until medical treatment is provided.
Eye contact:	In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.
Ingestion:	Get immediate medical attention. Do not induce vomiting. 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:	Ocular exposure to corrosive fluoride compounds has been treated with isotonic sodium chloride or magnesium chloride. Dermal exposure to corrosive fluoride compounds has been treated with calcium gluconate or calcium carbonate gel applied topically to the affected areas to relieve pain at the site of exposure. 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.
Special firefighting procedures:	Wear full protective clothing. Wear self-contained breathing apparatus.
Unusual fire or explosion hazards:	May react with metals to form flammable hydrogen gas.

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:

Prevent further leakage or spillage if safe to do so. Wear appropriate protective equipment and clothing during clean-up.

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. Do not breathe gas/fumes/vapor/spray. For industrial use only. Do not take internally. Use caution when combining with water; DO NOT add water to acid, ALWAYS add acid to water while stirring to prevent release of heat, steam and fumes.

Storage:

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Protect from freezing.

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
Ferric sulfate	1 mg/m ³ TWA (as Fe)	None	None	None
Sulfuric acid	0.2 mg/m ³ TWA Thoracic fraction.	1 mg/m ³ PEL	None	None
Ammonium bifluoride	2.5 mg/m ³ TWA (as F)	2.5 mg/m ³ PEL (as F) 2.5 mg/m ³ TWA Dust.	None	None
Diammonium dimolybdate	10 mg/m ³ TWA (as Mo) Inhalable fraction. 3 mg/m ³ TWA (as Mo) Respirable fraction. 0.5 mg/m ³ TWA (as Mo) Respirable fraction.	5 mg/m ³ PEL (as Mo) 15 mg/m ³ PEL (as Mo) Total 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.

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:	Dark brown
Odor:	Acidic
Odor threshold:	Not available.
pH:	< 1
Vapor pressure:	Not determined
Boiling point/range:	> 100 °C (> 212°F)
Melting point/ range:	Not available.
Specific gravity:	1.34 - 1.45
Vapor density:	Not determined
Flash point:	Not applicable
Flammable/Explosive limits - lower:	Not applicable
Flammable/Explosive limits - upper:	Not applicable
Autoignition temperature:	Not applicable
Evaporation rate:	Same as water.
Solubility in water:	Complete
Partition coefficient (n-octanol/water):	Not available.
VOC content:	0 %
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	May liberate hydrogen fluoride. Decomposition of this product may yield ammonia gas. Oxides of sulfur.
Incompatible materials:	This product may react with strong alkalis. This material will react with glass, concrete, certain metals, silica containing materials, rubber, leather, and many organics. Keep away from organic, alkaline, and oxidizing materials, metallic powders, chromates, chlorates, nitrates, and carbides. Adding water to this product may cause localized overheating and splattering.
Reactivity:	Not available.
Conditions to avoid:	Avoid excessive heat and ignition sources.

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. 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:	Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns. Following skin exposure to this product, the sensation of irritation or pain may be delayed.
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. 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.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Ferric sulfate	None	Eyes, Gastrointestinal, Irritant, Liver, Lung, Metabolic, Vascular
Sulfuric acid	Inhalation LC50 (RAT, 1 h) = 347 mg/l	Carcinogen, Corrosive, Irritant, Lung
Ammonium bifluoride	Oral LD50 (RAT) Approximate 130 mg/kg	Cardiac, Corrosive, Gastrointestinal tract, Irritant, Kidney, Lung, Metabolic, Nervous System, Respiratory, Teeth
Diammonium dimolybdate	None	Blood, Gastrointestinal, Immune system, Irritant, Kidney, Liver, Lung, Metabolic, Muscle, Skin, Less weight gain and food intake.

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Ferric sulfate	No	No	No
Sulfuric acid	Known To Be Human Carcinogen.	Group 1	No
Ammonium bifluoride	No	No	No
Diammonium dimolybdate	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

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:	Corrosive liquids, toxic, n.o.s. (Ammonium bifluoride, Sulfuric acid)
Hazard class or division:	8 (6.1)
Identification number:	UN 2922
Packing group:	II
DOT Hazardous Substance(s):	Ferric sulfate, Sulfuric acid

International Air Transportation (ICAO/IATA)

Proper shipping name: Corrosive liquid, toxic, n.o.s. (Ammonium bifluoride, Sulphuric acid)
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. (Ammonium bifluoride, Sulphuric acid)
Hazard class or division: 8 (6.1)
Identification number: UN 2922
Packing group: II
Additional information: IMDG-Code: Segregation group 1- Acids, Segregation group 2 - Ammonium compounds

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: Sulfuric acid (CAS# 7664-93-9).
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health, Reactive
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). Sulfuric acid (CAS# 7664-93-9). Ammonium bifluoride (CAS# 1341-49-7).

CERCLA Reportable quantity: Ferric sulfate (CAS# 10028-22-5) 1,000 lbs. (454 kg)
 Sulfuric acid (CAS# 7664-93-9) 1,000 lbs. (454 kg)
 Ammonium bifluoride (CAS# 1341-49-7) 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: Reviewed MSDS. Reissued with new date. 3

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