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**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product name:** BONDERITE M-CR 1200S AERO  
 known as ALODINE 1200S AERO  
 DIST'S ONLY

**IDH number:** 598427

**Product type/use:** Conversion coating

**Restriction of Use:** None identified

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

**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:** CONTAINS FLUORIDES. MAY CAUSE DELAYED BURNS (NOT IMMEDIATELY PAINFUL OR VISIBLE)! LONG TERM EXPOSURE TO FLUORIDES OVER YEARS MAY CAUSE FLUOROSIS! MAY INTENSIFY FIRE; OXIDIZER. TOXIC IF SWALLOWED. FATAL IN CONTACT WITH SKIN OR IF INHALED. 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 GENETIC DEFECTS. MAY CAUSE CANCER. MAY DAMAGE FERTILITY OR THE UNBORN CHILD. CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
OXIDIZING SOLID	2
ACUTE TOXICITY ORAL	3
ACUTE TOXICITY INHALATION	2
ACUTE TOXICITY DERMAL	2
SKIN CORROSION	1B
SERIOUS EYE DAMAGE	1
RESPIRATORY SENSITIZATION	1
SKIN SENSITIZATION	1
GERM CELL MUTAGENICITY	1B
CARCINOGENICITY	1A
REPRODUCTIVE TOXICITY	1B
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. Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe dust or fumes. Do not get in eyes, on skin, or on clothing. 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: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/ physician. 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. Take off contaminated clothing. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Storage:**

**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*
Chromium(VI) oxide	1333-82-0	50 - 60
Potassium tetrafluoroborate	14075-53-7	20 - 30
Tripotassium hexacyanoferrate	13746-66-2	10 - 20
sodium fluoride	7681-49-4	5 - 10
Dipotassium hexafluorozirconate	16923-95-8	5 - 10

\* 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 breathing is difficult, give oxygen. Delayed effects possible after inhalation. Trained personnel should administer 2.5% calcium gluconate through a nebulizer for 20 minutes. Do not use mouth-to-mouth method if victim ingested or inhaled the substance. If symptoms develop and persist, get medical attention.

**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. Topical 10 % EDTA ointment can be used to treat chromate scabs and skin ulcers. A 10 % ascorbic acid solution may speed healing if applied promptly. Larger exposures may need additional treatment.

Launder contaminated clothing before reuse. Discard any shoes or clothing items that cannot be decontaminated.

**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.

<b>Ingestion:</b>	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. Provide a glass of water to dilute the material in the stomach. Never give anything by mouth to an unconscious person.
<b>Symptoms:</b>	See Section 11.
<b>Notes to physician:</b>	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

<b>Extinguishing media:</b>	Water spray (fog), foam, dry chemical or carbon dioxide.
<b>Special firefighting procedures:</b>	Wear full protective clothing. Wear self-contained breathing apparatus.
<b>Unusual fire or explosion hazards:</b>	May liberate large quantities of dense, foul-smelling smoke which may contain unidentified toxic gasses.
<b>Hazardous combustion products:</b>	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Hydrogen fluoride Chromium oxide.

## 6. ACCIDENTAL RELEASE MEASURES

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

<b>Environmental precautions:</b>	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.
<b>Clean-up methods:</b>	Spills should be cleaned immediately to prevent dispersion of airborne dusts. Do not allow product to enter sewer or waterways. Dispose of according to Federal, State and local governmental regulations.

## 7. HANDLING AND STORAGE

<b>Handling:</b>	Avoid contact with eyes, skin and clothing. Avoid breathing dust. Wash thoroughly after handling. Launder work clothes frequently. Do not store or consume food, drink, or tobacco products in areas where they may become contaminated with this material. Do not take internally. For industrial use only.
<b>Storage:</b>	For safe storage, store between 5 °C (41°F) and 40 °C (104°F) Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials.

**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
Chromium(VI) oxide	0.0005 mg/m3 STEL (as Cr(VI)) Inhalable fraction. 0.0005 mg/m3 STEL (as Cr(VI)) Inhalable fraction. 0.0002 mg/m3 TWA (as Cr(VI)) Inhalable fraction. (SKIN) (as Cr(VI)) Inhalable fraction. 0.003 mg/m3 TWA (as Cr(III)) Inhalable fraction. (Respiratory sensitization) (Dermal sensitization) (Respiratory sensitization)	0.0025 mg/m3 OSHA_ACT 0.005 mg/m3 TWA 0.5 mg/m3 PEL (as Cr) 0.1 mg/m3 Ceiling	None	None
Potassium tetrafluoroborate	2.5 mg/m3 TWA (as F)	2.5 mg/m3 PEL (as F) 2.5 mg/m3 TWA Dust.	None	None
Tripotassium hexacyanoferrate	None	None	None	None
sodium fluoride	2.5 mg/m3 TWA (as F)	2.5 mg/m3 PEL (as F) 2.5 mg/m3 TWA Dust.	None	None
Dipotassium hexafluorozirconate	5 mg/m3 TWA (as Zr) 10 mg/m3 STEL (as Zr) 2.5 mg/m3 TWA (as F)	5 mg/m3 PEL (as Zr) 2.5 mg/m3 PEL (as F) 2.5 mg/m3 TWA Dust.	None	None

**Engineering controls:**

Ventilation should effectively remove and prevent buildup of any vapor/mist/fume/dust generated from the handling of this product.

**Respiratory protection:**

If ventilation is not sufficient to effectively prevent buildup of dust, 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 boots is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Solid
<b>Color:</b>	orange
<b>Odor:</b>	Bland
<b>Odor threshold:</b>	Not available.
<b>pH:</b>	1.30 - 1.60
<b>Vapor pressure:</b>	Not determined
<b>Boiling point/range:</b>	Not applicable
<b>Melting point/ range:</b>	Not available.
<b>Vapor density:</b>	Not applicable
<b>Flash point:</b>	Not applicable
<b>Flammable/Explosive limits - lower:</b>	Not applicable
<b>Flammable/Explosive limits - upper:</b>	Not applicable
<b>Autoignition temperature:</b>	Not applicable
<b>Flammability:</b>	Not applicable
<b>Evaporation rate:</b>	Not applicable
<b>Solubility in water:</b>	Appreciable
<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>VOC content:</b>	Not applicable
<b>Viscosity:</b>	Not available.

**Decomposition temperature:** Not available.

## 10. STABILITY AND REACTIVITY

**Stability:** Stable at normal conditions.

**Hazardous reactions:** None under normal processing.

**Hazardous decomposition products:** Chromium oxide. Hydrogen fluoride.

**Incompatible materials:** This product may react with strong reducing agents. This product may react with strong acids, bases and oxidizing agents. This material will react with glass, concrete, certain metals, silica containing materials, rubber, leather, and many organics.

**Reactivity:** Not available.

**Conditions to avoid:** Oxidizing agent, may cause spontaneous ignition of combustible materials. Keep away from heat, ignition sources and incompatible materials.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes, Ingestion

**Potential Health Effects/Symptoms**

**Inhalation:** May be harmful or fatal if inhaled. Inhalation of dusts of this product may cause severe irritation and burns to the respiratory tract. Nasal itch and soreness, perforation of the nasal septum, dental erosion, and chronic asthmatic bronchitis may result from repeated exposure. Contains fluorides. Exposure to fluorides over years may cause fluorosis.

**Skin contact:** This product is severely irritating to the skin and may cause burns. Following skin exposure to this product, the sensation of irritation or pain may be delayed. 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. A component in this product may be harmful or fatal if absorbed through the skin, especially if skin is damaged. Product contains chromium, which may cause an allergic skin sensitization reaction. Contact with broken skin may lead to formation of firmly marginated "chrome sores".

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

**Ingestion:** Harmful or fatal if swallowed. May cause burns of the mouth, throat and stomach. May also cause gastrointestinal disturbances such as nausea, vomiting, abdominal pain, and diarrhea. 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. Contains fluorides. Exposure to fluorides over years may cause fluorosis.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Chromium(VI) oxide	Oral LD50 (Rat) = 25 mg/kg Dermal LD50 (Rabbit) = 30 mg/kg Inhalation LC50 (Rat, 4 h) = 167 mg/m3 Inhalation LC50 (Rat, 4 h) = 217 mg/m3 Inhalation LC50 (Rat, 4 h) = 263 mg/m3	Allergen, Blood, Central nervous system, Corrosive, Carcinogen, Developmental, Eyes, Gastrointestinal, Irritant, Kidney, Liver, Mutagen, Reproductive, Respiratory
Potassium tetrafluoroborate	Inhalation LC50 (Rat, 4 h) = > 5,300 mg/m3	Cardiac, Central nervous system, Developmental, Gastrointestinal, Irritant, Kidney, Metabolic, Reproductive
Tripotassium hexacyanoferrate	None	Cellular
sodium fluoride	Oral LD50 (Mouse) = 44.3 mg/kg Oral LD50 (Mouse) = 46.0 mg/kg Oral LD50 (Rat) = 32.0 mg/kg Oral LD50 (Rat) = 51.6 mg/kg	Blood, Cardiac, Central nervous system, Corrosive, Gastrointestinal tract, Irritant, Kidney, Metabolic, Muscle, Teeth, Less weight gain and food intake.
Dipotassium hexafluorozirconate	Oral LD50 (Mouse) = 98 mg/kg	Allergen, Blood, Cardiac, Central nervous system, Corrosive, Gastrointestinal tract, Irritant, Kidney, Lung, Metabolic, Muscle, Teeth, Less weight gain and food intake.

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Chromium(VI) oxide	Known To Be Human Carcinogen.	Group 1	Yes
Potassium tetrafluoroborate	No	No	No
Tripotassium hexacyanoferrate	No	No	No
sodium fluoride	No	No	No
Dipotassium hexafluorozirconate	No	No	No

**12. ECOLOGICAL INFORMATION**

**Ecological information:** Do not empty into drains / surface water / ground water.

## 13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

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

## 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:** Chromium trioxide, anhydrous mixture  
**Hazard class or division:** 5.1 (6.1, 8)  
**Identification number:** UN 1463  
**Packing group:** II  
**DOT Hazardous Substance(s):** Chromic acid, Sodium fluoride

### International Air Transportation (ICAO/IATA)

**Proper shipping name:** Chromium trioxide, anhydrous mixture  
**Hazard class or division:** 5.1 (6.1, 8)  
**Identification number:** UN 1463  
**Packing group:** II

### Water Transportation (IMO/IMDG)

**Proper shipping name:** CHROMIUM TRIOXIDE, ANHYDROUS mixture  
**Hazard class or division:** 5.1 (6.1, 8)  
**Identification number:** UN 1463  
**Packing group:** II  
**Marine pollutant:** Chromium trioxide

## 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:** Chromium(VI) oxide (CAS# 1333-82-0).

**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). Chromium(VI) oxide (CAS# 1333-82-0).  
**CERCLA Reportable quantity:** Chromium(VI) oxide (CAS# 1333-82-0) 10 lbs. (4.54 kg)  
sodium fluoride (CAS# 7681-49-4) 1,000 lbs. (454 kg)  
Dipotassium hexafluorozirconate (CAS# 16923-95-8) 1,000 lbs. (454 kg)

**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.

## 16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

**Prepared by:** Regulatory Affairs

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