



Revision Number: 004.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BONDERITE M-CR 600 AERO known as ALODINE 600
Product type: Conversion coating
Restriction of Use: None identified
Company address: Henkel Corporation
 One Henkel Way
 Rocky Hill, Connecticut 06067

IDH number: 594038

Region: United States

Contact information:
 Telephone: (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 INTENSIFY FIRE; OXIDIZER.
 HARMFUL 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 RESPIRATORY IRRITATION.
 MAY CAUSE DROWSINESS OR DIZZINESS.
 MAY CAUSE CANCER.

HAZARD CLASS	HAZARD CATEGORY
OXIDIZING SOLID	2
ACUTE TOXICITY ORAL	4
ACUTE TOXICITY INHALATION	2
ACUTE TOXICITY DERMAL	2
SKIN CORROSION	1B
SERIOUS EYE DAMAGE	1
SKIN SENSITIZATION	1
CARCINOGENICITY	1A
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 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 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, eye protection, and face protection. Use personal protective equipment as required. [In case of inadequate ventilation] wear respiratory protection.

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. If skin irritation or rash occurs: Get medical attention. Wash contaminated clothing before reuse. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed. 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*
Sodium borofluoride	13755-29-8	30 - 60
Chromium(VI) oxide	1333-82-0	30 - 60
Dipotassium hexafluorozirconate	16923-95-8	10 - 30

* Exact percentage is a 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: 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: 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.

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: Oxidizing agent, may cause spontaneous ignition of combustible materials. Violent reactions may occur with organic materials or reducing agents.

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 personal protective equipment. Do not allow product to enter sewer or waterways.

Clean-up methods: Spills should be cleaned immediately to prevent dispersion of airborne dusts. Follow all local, state, federal and provincial regulations for disposal.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing dust. Wash thoroughly after handling. For industrial use only.

Storage: Store in a cool, dry, well-ventilated area.

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
Sodium borofluoride	2 mg/m ³ TWA Inhalable fraction. 6 mg/m ³ STEL Inhalable fraction.	None	None	None
Chromium(VI) oxide	0.05 mg/m ³ TWA (as Cr)	0.005 mg/m ³ TWA 0.0025 mg/m ³ OSHA_ACT 0.1 mg/m ³ Ceiling	None	None
Dipotassium hexafluorozirconate	5 mg/m ³ TWA (as Zr) 10 mg/m ³ STEL (as Zr) 2.5 mg/m ³ TWA (as F)	5 mg/m ³ PEL (as Zr) 2.5 mg/m ³ PEL (as F) 2.5 mg/m ³ TWA Dust.	None	None

Engineering controls: Ventilation should effectively remove and prevent buildup of any 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 and face shield.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid
Color: Red-brown
Odor: Bland
Odor threshold: Not available.
pH: 1.3 - 1.7 (2% solution)
Vapor pressure: Not applicable
Boiling point/range: Not applicable
Melting point/ range: Not determined

Specific gravity:	Not applicable
Vapor density:	Not applicable
Flash point:	Not applicable
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not applicable
Evaporation rate:	Not applicable
Solubility in water:	Moderate
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:	May liberate hydrogen fluoride.
Incompatible materials:	Avoid contact with organic materials, oils, greases, and any oxidizable materials. This product may react with strong alkalis.
Reactivity:	Not available.
Conditions to avoid:	This product is an OXIDIZING AGENT - avoid contact with organic material.

11. TOXICOLOGICAL INFORMATION

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

Inhalation:	Mists, vapors or liquid may cause severe irritation or burns. Prolonged or repeated breathing may cause ulceration of nasal membranes.
Skin contact:	Contact with broken skin may lead to formation of firmly margined "chrome sores". Product contains chromium, which may cause an allergic skin sensitization reaction. Massive overexposures may lead to kidney failure and death. 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.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Sodium borofluoride	None	Cardiac, Central nervous system, Developmental, Gastrointestinal, Irritant, Kidney, Metabolic, Reproductive
Chromium(VI) oxide	Oral LD50 (RAT) = 25 mg/kg Oral LD50 (RAT) = 29 mg/kg Oral LD50 (RAT) = 135 mg/kg Oral LD50 (RAT) = 80 mg/kg Dermal LD50 (RABBIT) = 30 mg/kg Inhalation LC50 (RAT, 4 h) = 0.087 mg/l Inhalation LC50 (RAT, 4 h) = 0.137 mg/l	Allergen, Blood, Central nervous system, Corrosive, Carcinogen, Developmental, Eyes, Gastrointestinal, Irritant, Kidney, Liver, Mutagen, Reproductive, Respiratory
Dipotassium hexafluorozirconate	None	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)
Sodium borofluoride	No	No	No
Chromium(VI) oxide	Known To Be Human Carcinogen.	Group 1	Yes
Dipotassium hexafluorozirconate	No	No	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.

Hazardous waste number: If discarded, this product is considered a RCRA ignitable waste, D001. This product contains chromium which is a hazardous waste (D007).

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
Hazard class or division:	5.1 (6.1, 8)
Identification number:	UN 1463
Packing group:	II
DOT Hazardous Substance(s):	Chromic acid, Zirconium potassium fluoride

International Air Transportation (ICAO/IATA)

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

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: Chromium(VI) oxide (CAS# 1333-82-0).
 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, 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). Chromium(VI) oxide (CAS# 1333-82-0).
CERCLA Reportable quantity: Dipotassium hexafluorozirconate (CAS# 16923-95-8) 1,000 lbs. (454 kg)
 Chromium(VI) oxide (CAS# 1333-82-0) 10 lbs. (4.54 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/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, 4, 7, 13

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