



Revision Number: 004.4

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BONDERITE M-CR 1201 AERO known as ALODINE 1201
Product type: Conversion coating
Company address: Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

IDH number: 594418
Region: United States
Contact information:
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

2. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

| | | | |
|------------------------|--------|-----------------------------|--------------------|
| Physical state: | Liquid | HEALTH: | *2 |
| Color: | Orange | FLAMMABILITY: | 0 |
| Odor: | None | PHYSICAL HAZARD: | 0 |
| | | Personal Protection: | See MSDS Section 8 |

WARNING: CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
POSSIBLE CANCER HAZARD.

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: This product is irritating to the respiratory system. May cause severe irritation.
Skin contact: This product is severely irritating to the skin. Contact with broken skin may lead to formation of firmly marginated "chrome sores". Product contains chromium, which may cause an allergic skin sensitization reaction. Massive overexposures may lead to kidney failure and death. A component in this product may be absorbed through the skin, especially if skin is damaged.
Eye contact: Contact can cause moderate to severe irritation and possible injury to the eyes.
Ingestion: Ingestion of this product may cause nausea, vomiting and diarrhea.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous components | CAS NUMBER | % |
|-----------------------|-------------|---------|
| Chromic acid | 7738-94-5 | 1 - 5 |
| Ferrocyanide compound | Proprietary | 0.1 - 1 |

4. FIRST AID MEASURES

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| 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 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. |
| Notes to physician: | 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

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| Flash point: | Not applicable |
| Autoignition temperature: | Not applicable |
| Flammable/Explosive limits - lower: | Not applicable |
| Flammable/Explosive limits - upper: | Not applicable |
| 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.

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| 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

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|------------------|---|
| Handling: | Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Wash thoroughly after handling. For industrial use only. Clothing or other material wet with this product and allowed to dry may become flammable. |
|------------------|---|

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. Thaw and mix thoroughly if frozen.

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 components | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|-----------------------|---------------------------|--|-----------|-------|
| Chromic acid | 0.05 mg/m3 TWA (as Cr) | 0.005 mg/m3 TWA 0.0025 mg/m3 OSHA ACT 0.1 mg/m3 Ceiling | None | None |
| Ferrocyanide compound | None | None | 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:

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 safety glasses; chemical goggles (if splashing is possible).

Skin protection:

Chemical resistant, impermeable gloves. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

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|--|---------------------------------|
| Physical state: | Liquid |
| Color: | Orange |
| Odor: | None |
| Odor threshold: | Not available. |
| pH: | < 2 |
| Vapor pressure: | Not applicable |
| Boiling point/range: | > 100 °C (> 212°F) |
| Melting point/ range: | 0 °C (32°F) calculated |
| Specific gravity: | 1.00 - 1.02 at 60 °F (15.56 °C) |
| Vapor density: | Not applicable |
| Flash point: | Not applicable |
| Flammable/Explosive limits - lower: | Not applicable |
| Flammable/Explosive limits - upper: | Not applicable |
| Autoignition temperature: | Not applicable |
| Evaporation rate: | Not applicable |
| Solubility in water: | Complete |
| Partition coefficient (n-octanol/water): | Not determined |
| VOC content: | Not applicable |

10. STABILITY AND REACTIVITY

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| Stability: | Stable at normal conditions. |
| Hazardous reactions: | None under normal processing. |
| Hazardous decomposition products: | May liberate hydrogen fluoride. When heated to decomposition or on contact with strong acids potassium ferric cyanide may emit fumes of cyanide. |
| Incompatible materials: | Avoid contact with organic materials, oils, greases, and any oxidizable materials. This product may react with strong alkalies. |
| Conditions to avoid: | Store away from incompatible materials. |

11. TOXICOLOGICAL INFORMATION

| Hazardous components | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|-----------------------|-------------------------------|-----------------|---|
| Chromic acid | Known To Be Human Carcinogen. | Group 1 | No |
| Ferrocyanide compound | No | No | No |

| Hazardous components | Health Effects/Target Organs |
|-----------------------|--|
| Chromic acid | Allergen, Blood, Carcinogen, Central nervous system, Corrosive, Developmental, Eyes, Gastrointestinal, Irritant, Kidney, Liver, Mutagen, Reproductive, Respiratory |
| Ferrocyanide compound | Cellular |

12. ECOLOGICAL INFORMATION

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| Ecological information: | Not available. |
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13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

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| Recommended method of disposal: | Follow all local, state, federal and provincial regulations for disposal. |
| Hazardous waste number: | This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002). This product contains chromium which is a hazardous waste (D007). |

14. TRANSPORT INFORMATION

The shipping classification in this section are for bulk packaging only. Shipping classification may be different for non-bulk packaging as exceptions may apply. Refer to shipping documents for package specific transportation classification.

U.S. Department of Transportation Ground (49 CFR)

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|----------------------------------|--|
| Proper shipping name: | Environmentally hazardous substances, liquid, n.o.s. |
| Hazard class or division: | 9 |
| Identification number: | UN 3082 |
| Packing group: | III |
| DOT Reportable quantity: | Chromic acid |

International Air Transportation (ICAO/IATA)

| | |
|----------------------------------|---|
| Proper shipping name: | Environmentally hazardous substance, liquid, n.o.s. |
| Hazard class or division: | 9 |
| Identification number: | UN 3082 |
| Packing group: | III |

Water Transportation (IMO/IMDG)

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|---------------------------|---|
| Proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| Hazard class or division: | 9 |
| Identification number: | UN 3082 |
| Packing group: | III |
| Additional information: | IMDG-Code: Segregation group 1- Acids |

15. REGULATORY INFORMATION**United States Regulatory Information**

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| 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: | Chromic acid (CAS# 7738-94-5). |
| CERCLA/SARA Section 302 EHS: | None above reporting de minimis |
| CERCLA/SARA Section 311/312: | Immediate Health, Delayed Health |
| CERCLA/SARA 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). Chromic acid (CAS# 7738-94-5). |
| CERCLA Reportable quantity: | Chromic acid (CAS# 7738-94-5) 10 lbs. (4.54 kg) |
| California Proposition 65: | This product contains a chemical known in the State of California to cause cancer. |

Canada Regulatory Information

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|-----------------------------|---|
| CEPA DSL/NDL Status: | All components are listed on or are exempt from listing on the Canadian Domestic Substances List. |
| WHMIS hazard class: | D.2.A, D.2.B, E |

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New information added in Section(s): 1,2, 4, 5 and 9.

Prepared by: John DiCerbo, Sr. Regulatory Affairs Specialist

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