



Revision Number: 003.1

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BONDERITE M-CR 407 CHROMATE COATING known as ALODINE 407
Product type: Conversion coating
Company address: Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

IDH number: 594794
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
Color: Dark red
Odor: Bland

HMIS:
HEALTH: *3
FLAMMABILITY: 0
PHYSICAL HAZARD: 1
Personal Protection: See MSDS Section 8

DANGER-CORROSIVE!: CAUSES EYE, SKIN AND RESPIRATORY TRACT BURNS.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY BE HARMFUL OR FATAL IF SWALLOWED.
CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: Mists, vapors or liquid may cause severe irritation or burns.
Skin contact: 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: 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.

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	%
Phosphoric acid	7664-38-2	30 - 60
Chromic acid	7738-94-5	10 - 30

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. For skin contact, flush with large amounts of water. Seek immediate medical attention. Discard any shoes or clothing items that cannot be decontaminated.
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.

5. FIRE FIGHTING MEASURES

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.

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. Clothing or other material wet with this product and allowed to dry may become flammable. For industrial use only. NEVER ADD WATER TO PRODUCT. For dilutions, add product slowly to water while stirring. Use caution; heat may be generated.
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
Phosphoric acid	1 mg/m3 TWA 3 mg/m3 STEL	1 mg/m3 TWA	None	None
Chromic acid	0.05 mg/m3 TWA (as Cr)	0.1 mg/m3 Ceiling 0.005 mg/m3 TWA (SKIN) 0.0025 mg/m3 OSHA ACT 29 CFR 1910.1026	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 chemical goggles; face shield (if splashing is possible).

Skin protection:

Chemical resistant, impermeable gloves. 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:	Liquid
Color:	Dark red
Odor:	Bland
Odor threshold:	Not available.
pH:	< 1
Vapor pressure:	Not determined
Boiling point/range:	> 100 °C (> 212°F) calculated
Melting point/ range:	-40 °F (-40°C)
Specific gravity:	1.46 - 1.48
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:	Not applicable
Solubility in water:	Complete
Partition coefficient (n-octanol/water):	Not determined
VOC content:	Not applicable

10. STABILITY AND REACTIVITY

Stability:

Stable at normal conditions.

Hazardous reactions:

Will not occur.

Hazardous decomposition products:

Irritating and toxic gases or fumes may be released during a fire. Oxides of phosphorus.

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)
Phosphoric acid	No	No	No
Chromic acid	Known To Be Human Carcinogen.	Group 1	Yes

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

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.

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

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

Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid, Chromic acid)
Hazard class or division: 8
Identification number: UN 3264
Packing group: II
DOT Reportable quantity: Chromic acid, Phosphoric acid

International Air Transportation (ICAO/IATA)

Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid, Chromic acid)
Hazard class or division: 8
Identification number: UN 3264
Packing group: II

Water Transportation (IMO/IMDG)

Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid, Chromic acid)
Hazard class or division: 8
Identification number: UN 3264
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: Chromic acid (CAS# 7738-94-5).
CERCLA/SARA Section 302 EHS: None above reporting de minimus
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health, Reactive

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:	Phosphoric acid (CAS# 7664-38-2) 5,000 lbs. (2,270 kg) 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. 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.
WHMIS hazard class:	D.1.A, D.2.A, D.2.B, E

16. OTHER INFORMATION

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

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