

# Material Safety Data Sheet

Material Name: ALODINE® 600

ID: 234114

## \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

Product Trade Name ALODINE® 600

### Manufacturer Information

Henkel Surface Technologies  
Henkel Corporation  
32100 Stephenson Highway  
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

## \*\*\* Section 2 - Composition / Information on Ingredients \*\*\*

| CAS #      | Component               | Percent |
|------------|-------------------------|---------|
| 13755-29-8 | Sodium fluoborate       | 30-60   |
| 1333-82-0  | Chromic acid, dry       | 30-60   |
| 16923-95-8 | Potassium fluozirconate | 10-30   |

### Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Fluorides (16984-48-8), Chromium (VI) compounds- water soluble, ( RR-00026-0), ( 18540-29-9), Zirconium compounds, n.o.s..

## \*\*\* Section 3 - Hazards Identification \*\*\*

### Emergency Overview:

DANGER -- CORROSIVE! OXIDIZER! Contact with this material will cause burns to the skin, eyes and mucous membranes. May cause blindness. Contact with broken skin may result in ulcers. Prolonged or repeated breathing may cause ulceration of nasal membranes. Following skin exposure to this product, the sensation of irritation or pain may be delayed. Cancer Hazard. Contains material which can cause cancer.

### Eye Contact:

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

### 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. Following skin exposure to this product, the sensation of irritation or pain may be delayed.

### Skin Absorption:

A component in this product may be harmful or fatal if absorbed through the skin, especially if skin is damaged.

### 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.

### Inhalation:

Inhalation of dusts of this product may cause severe irritation and burns to the respiratory tract. Prolonged or repeated breathing may cause ulceration of nasal membranes.

### Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

## \*\*\* Section 4 - First Aid Measures \*\*\*

### Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

### Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention. If irritation persists, repeat flushing and get medical attention. Discard any shoes or clothing items that cannot be decontaminated.

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## Ingestion:

If the material is swallowed, get immediate medical attention or advice -- 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.

## Inhalation:

If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist.

### \*\*\* Section 5 - Fire Fighting Measures \*\*\*

**Flash Point:** Not applicable

**Method Used:** Not applicable

**Flammability Classification:** Non-flammable

**Upper Flammable Limit (UFL):** Not applicable

**Lower Flammable Limit (LFL):** Not applicable

## Fire & Explosion Hazards:

Oxidizing agent, may cause spontaneous ignition of combustible materials.

Under fire conditions, decomposing material may form a hot, viscous foam. Violent reactions may occur with organic materials or reducing agents. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous.

## Decomposition Products:

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

## Extinguishing Media:

Use any media suitable for the surrounding fires.

## Fire-Fighting Instructions:

Firefighters should wear full protective clothing including self contained breathing apparatus.

### \*\*\* Section 6 - Accidental Release Measures \*\*\*

## Containment Procedures:

Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up.

## Clean-Up Procedures:

Spills should be cleaned immediately to prevent dispersion of airborne dusts. Do not allow the spilled product to enter public drainage system or open water courses. Follow all Local, State, Federal and Provincial regulations for disposal.

### \*\*\* Section 7 - Handling and Storage \*\*\*

## Handling Procedures:

Do not get this material in your eyes, on your skin, or on your clothing. Do not breathe dust from this material. Wash thoroughly after handling. For industrial use only.

Oxidizing agent, may cause spontaneous ignition of combustible materials.

## Storage Procedures:

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

### \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

## Exposure Guidelines:

### A: General Product Information

Follow all applicable exposure limits.

### B: Component Exposure Limits

#### Sodium fluoborate (13755-29-8)

OSHA: 2.5 mg/m<sup>3</sup> TWA (as F) (related to Fluoride)

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## Chromic acid, dry (1333-82-0)

ACGIH: 0.05 mg/m3 TWA (as Cr) (related to Chromium (VI) compounds, water-soluble)  
NIOSH: 0.001 mg/m3 TWA (as Cr)

## Potassium fluozirconate (16923-95-8)

ACGIH: 5 mg/m3 TWA (as Zr) (related to Zirconium compounds, n.o.s.)  
10 mg/m3 STEL (as Zr) (related to Zirconium compounds)  
OSHA: 5 mg/m3 TWA (as Zr) (related to Zirconium compounds)  
10 mg/m3 STEL (as Zr) (related to Zirconium compounds, n.o.s.)  
NIOSH: 5 mg/m3 TWA (as Zr, except zirconium tetrachloride) (related to Zirconium compounds)  
10 mg/m3 STEL (as Zr, except zirconium tetrachloride) (related to Zirconium compounds)

## Engineering Controls:

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

## PERSONAL PROTECTIVE EQUIPMENT

As prescribed in the OSHA Standard for Personal Protective Equipment (29 CFR 1910.132), employers must perform a Hazard Assessment of all workplaces to determine the need for, and selection of, proper protective equipment for each task performed.

## Eyes/Face Protective Equipment:

Wear chemical goggles or a full face shield.

## Skin Protection:

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

## Respiratory Protection:

If ventilation is not sufficient to effectively prevent buildup of dust, appropriate NIOSH/MSHA respiratory protection must be provided.

## Work Practices:

Eyewash fountains and emergency showers are required.

## \* \* \* Section 9 - Physical & Chemical Properties \* \* \*

|                          |                   |                          |                |
|--------------------------|-------------------|--------------------------|----------------|
| <b>Physical State:</b>   | Powder / Crystals | <b>Appearance:</b>       | Tan            |
| <b>Odor:</b>             | Bland             | <b>Vapor Pressure:</b>   | Not applicable |
| <b>Vapor Density:</b>    | Not applicable    | <b>Boiling Point:</b>    | Not applicable |
| <b>Specific Gravity:</b> | Not applicable    | <b>pH:</b>               | 1.5            |
| <b>Viscosity:</b>        | Not applicable    | <b>VOC:</b>              | Not applicable |
| <b>Solubility Water:</b> | Moderate          | <b>Evaporation Rate:</b> | Not applicable |
| <b>Percent Volatile:</b> | Not applicable    | <b>Percent Solids:</b>   | 100            |

## \* \* \* Section 10 - Chemical Stability & Reactivity Information \* \* \*

### Chemical Stability:

Stable under normal conditions.

### Conditions to Avoid:

Oxidizing agent, may cause spontaneous ignition of combustible materials.

### Incompatibility:

Avoid contact with organic materials, oils, greases, and any oxidizable materials. This product may react with strong alkalis.

### Decomposition Products:

May liberate hydrogen fluoride.

### Hazardous Polymerization:

Will not occur.

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## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute Toxicity:

#### A: General Product Information

Industrial exposure to chromium may cause dermatitis, skin ulcers, perforation of the nasal septum, as well as cancers of the lungs, nasal cavity and paranasal sinuses.

#### B: Component Analysis - LD50/LC50

##### Chromic acid, dry (1333-82-0)

Oral LD50 Rat: 80 mg/kg; Oral LD50 Mouse: 127 mg/kg

##### Potassium fluozirconate (16923-95-8)

Oral LD50 Mouse: 98 mg/kg

### Carcinogenicity:

#### A: General Product Information

Industrial exposure to chromium may cause dermatitis, skin ulcers, perforation of the nasal septum, as well as cancers of the lungs, nasal cavity and paranasal sinuses.

#### B: Component Carcinogenicity

##### Sodium fluoborate (13755-29-8)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (as F) (related to Fluorides)

##### Chromic acid, dry (1333-82-0)

ACGIH: A1 - Confirmed Human Carcinogen (related to Chromium (VI) water soluble compounds)

NIOSH: potential occupational carcinogen

NTP: Known Carcinogen (Listed under 'Chromium hexavalent compounds') (Select Carcinogen)

##### Potassium fluozirconate (16923-95-8)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (as Zr) (related to Zirconium compounds)

### Chronic Toxicity

Contains fluorides. Exposure to fluorides over years may cause fluorosis. Excessive exposure to chromium VI can produce allergic skin sensitization reactions and severe nasal irritation, scarring and damage to the lungs, liver and kidney damage.

### Epidemiology:

No information available for the product.

### Neurotoxicity:

No information available for the product.

### Mutagenicity:

No information available for the product.

### Teratogenicity:

No information available for the product.

### Other Toxicological Information:

None available.

## \*\*\* Section 12 - Ecological Information \*\*\*

### Ecotoxicity:

#### A: General Product Information

No data available for this product.

#### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

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## Environmental Fate:

No data is available concerning the environmental fate, biodegradation or bioconcentration for this product.

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| <b>*** Section 13 - Disposal Considerations ***</b> |
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## US EPA Waste Numbers & Descriptions:

### A: General Product Information

This product contains chromium which is a hazardous waste (D007).

### B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

## Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Neutralize the spilled material before disposal.

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| <b>*** Section 14 - Transportation Information ***</b> |
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## US DOT Information

**Shipping Name:** Please refer to the container label for transportation information.

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14-TRN-01

## \*\*\* Section 15 - Regulatory Information \*\*\*

### US Federal Regulations

#### A: General Product Information

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

#### B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

##### Potassium fluozirconate (16923-95-8)

CERCLA: 1000 lb final RQ; 454 kg final RQ

SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No Reactive: No

### State Regulations

#### A: General Product Information

No additional information available.

#### B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

| Component  | CAS #      | CA               | FL | MA  | MN               | NJ  | PA               |
|--|------------|------------------|----|-----|------------------|-----|------------------|
| Sodium fluoborate ( <sup>1</sup> related to Fluoride) ( <sup>2</sup> related to Fluorides) | 13755-29-8 | Yes <sup>1</sup> | No | No  | Yes <sup>2</sup> | No  | Yes <sup>2</sup> |
| Chromic acid, dry ( <sup>1</sup> related to Chromium (VI))                                 | 1333-82-0  | No               | No | Yes | Yes <sup>1</sup> | Yes | Yes              |
| Potassium fluozirconate ( <sup>1</sup> related to Zirconium compounds, n.o.s.)             | 16923-95-8 | Yes              | No | Yes | Yes <sup>1</sup> | Yes | Yes              |

### Other Regulations

#### A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

#### B: Component Analysis - Inventory

| Component               | CAS #      | TSCA | DSL | EINECS |
|-------------------------|------------|------|-----|--------|
| Sodium fluoborate       | 13755-29-8 | Yes  | Yes | Yes    |
| Chromic acid, dry       | 1333-82-0  | Yes  | Yes | Yes    |
| Potassium fluozirconate | 16923-95-8 | Yes  | Yes | Yes    |

#### C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

| Component               | CAS #      | Minimum Concentration                      |
|-------------------------|------------|--|
| Chromic acid, dry       | 1333-82-0  | 0.1 % (English Item 401, French Item 1305) |
| Potassium fluozirconate | 16923-95-8 | 1 % (English Item 1734, French Item 900)   |

## \*\*\* Section 16 - Other Information \*\*\*

NFPA Ratings: Health: 3 Fire: 0 Reactivity: 1 Other: OX

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

HMIS Ratings: Health: 3\* Fire: 0 Reactivity: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

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## Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Henkel Surface Technologies bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

**Contact:** Regulatory Affairs and Product Acceptance

**Contact Phone:** (248) 583-9300

This is the end of MSDS # 234114