Material Name: ALODINE® 1201

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

Product Trade Name: ALODINE® 1201
Manufacturer Information:
Hankel Surface Technologies
Hankel Corporation
52100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 863-9300
Contact Fax: (248) 863-9300

Chamness Emergency # (800) 424-9300

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

Component Related Regulatory Information:
This product may be regulated, have exposure limits or other information identified as the following: Fluorides (16854-45-8), Chromium (VI) compounds- water soluble, Chromium (VI) (18540-29-9), Chromium, inorganic compounds, Chromium (VI) compounds, Chronic acid (7732-94-5).

Component Name: AC#: Component Percent
7738-94-5 Chromium acid <1
7794-38-5 Hydrofluoric acid <1
13745-66-2 Potassium iodide <1

Emergency Overview:
DANGER - CORROSIVE! 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.

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 tarry, discolored wounds. This product contains tannin, which may cause toxic skin sensitization reaction. Massive overexposure 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 absorbed through the skin, especially if skin is damaged.

Ingestion:
This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:
Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

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. Wash with large amounts of water. Soak the affected area for one hour in an ice solution (6% 13%) of Zephiran chloride (30 cc of 17% per gallon of ice cold distilled water) and GET MEDICAL ATTENTION IMMEDIATELY.

*** Section 5 - Fire Fighting Measures ***

Flash Point: Not applicable
Method Used: Not applicable
Flammability Classification: Non-flammable

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

Fire & Explosion Hazards:
If evaporated to dryness, solid residue is an oxidizing agent and may cause spontaneous ignition of combustible materials.

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

Extinguishing Media:
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 cleanup.

Clean-Up Procedures:
Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of collected material according to regulations.

*** Section 7 - Handling and Storage ***

Handling Procedures:
Do not handle this material in your eyes, on your skin, or on your clothing. Do not inhale 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 Procedures:
Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials.

Manufacturer recommends storing above 40 °F. Thaw and mix thoroughly if frozen.

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

Exposure Guidelines:
A: General Product Information
Follow all applicable exposure limits.
Material Safety Data Sheet

Material Name: ALODINE® 1201

ID: 235110

B: Component Exposure Limits
Hydrofluoric Acid (7644-39-3)
ACGIH: 2.5 ppm TWA (as F) (related to Fluorides)
OSHA: 3 ppm TWA
NIOSH: 3 ppm TWA, 2.5 ppm TMA
6 ppm Ceiling (15 minutes; 5 ppm for Ceiling (15 minutes)

Chronic acid (7738-94-6)
ACGIH: 0.05 mg/m³ TMA (as Cr) (related to Chromium (VI) compounds, water-soluble)
OSHA: 0.01 mg/m³ Ceiling (and chromates)
0.01 mg/m³ Ceiling (and chromates; 0.01 mg/m³ Ceiling (and chromates) (related to Chromium (VI)
acid)

Engineering Controls:
Ventilation should effectively remove and prevent buildup of any vapor or mist 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:
Eyewash fountains and emergency showers are required.

Skin Protection:
Use impervious gloves. Use of impervious apron and boots are recommended.

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

Work Practices:
Eye wash fountain and emergency showers are recommended.

Physical State: Liquid
Odor: None
Vapor Density: Not applicable
Specific Gravity: 1.0–1.1
Viscosity: Not applicable
Solubility Water: Complete
Evaporation Rate: Not determined
Percent Volatile: Not applicable

Appearance: Orange
Boiling Point: >212°F (100°C)

Chemical Stability:
Stable under normal conditions.

Conditions to Avoid:
None expected.

Incompatibility:
Avoid contact with organic materials, oils, greases, and any oxidizing materials. This product may react with strong alkalies.

Decomposition Products:
May liberate hydrogen fluoride. When heated to decomposition or on contact with strong acids potassium hexacyanide may emit fumes of cyanide.

Acute Toxicity:
No information available for the product.

B: Component Analysis
- LD50/LC50
Potassium ferricyanide (12746-66-2)
Oral LD50 Mouse: 2370 mg/kg
Hydrofluoric Acid (7644-39-3)
Inhalation LC50 Rat: 1278 ppm/1h
Inhalation LC50 Mouse: 342 ppm/1h

Carcinogenicity:
A: General Product Information
No information available for the product.

B: Component Carcinogenicity
Hydrofluoric Acid (7644-39-3)
ACGIH: A1 - Confirmed Human Carcinogen (related to Chromium (VI) water-soluble compounds)
NTP: Known Carcinogen (related to Chromium hexavalent compounds) (Stalled Carcinogen)
IARC: Monograph 49, 1990 (Evaluated as a group) (related to Chromium (VI))
Monograph 49, 1990 (Evaluated as a group) (related to Chromium (VI) compounds) (Group 1 (carcinogenic to humans))

Chronic Toxicity:
Chromium VI, the naturally occurring form, has low toxicity while chromium VI is highly toxic due to strong
osmotic characteristics and permeability through biological membranes. Excessive exposure to chromium VI
can produce allergic skin sensitization reactions and severe nasal irritation, scarring and damage to the lungs,
and kidney damage.

Contains fluorides. Exposure to fluorides over years may cause fluorosis.

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.

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Material Safety Data Sheet

**Section 12 - Ecological Information**

**Section 13 - Disposal Considerations**

**Section 14 - Transportation Information**

**Section 15 - Regulatory Information**

**Section 16 - Other Information**

**Material Name:** ALODINE 1201

**CAS #**

**TSCA**

**DRL**

**EINECS**

**Waste Numbers & Descriptions:**

**General Product Information**

This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002). This product contains chromium which is a hazardous waste (D007).

**Component Waste Numbers**

**Hydrofluoric Acid (7644-39-3)**

RCRA: waste number U134 (Corrosive waste, Toxic waste)

**Disposal Instructions:**

Dispose of waste material according to Local, State, Federal, and Proviend Environmental Regulations. Neutralize the spilled material before disposal.

**US DOT Information:**

**UN**

**DOT**

**LMG**

**LATA**

**US Federal Regulations**

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

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

Chromic acid (7734-94-5)

**Conditions**

- 96 hr LC50 fishhead minnow: 36.2 mg/L
- 96 hr LC50 rainbow trout: 7.6 mg/L
- 24 hr LC50 water flea: 435 ug/L

**Environmental Fate:**

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

**Material Name:** ALODINE® 1201

**B: Component Analysis - State**

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

- **Hydrofluoric Acid**: 7644-39-3
- **Chromic acid (related to Chromium)**: 7734-94-5

**Environmental Fate:**

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**US EPA Waste Numbers & Descriptions:**

**General Product Information**

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