

## Chromex Coatings

SDS Number:

Revision Date: 9/30/2015

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### 1 PRODUCT AND COMPANY IDENTIFICATION

#### Manufacturer

NIC Industries, Inc  
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White City, OR 97503

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**Product Name:** Chromex Coatings  
**Revision Date:** 9/30/2015  
**Version:** 1.0  
**Common Name:** Reflective Ceramic/Metal Composite Coatings

Emergency Contact: Call PERS: 1-800-633-8253 (USA & Canada) or 001-1-801-629-0667 (International).

The information contained in this Safety Data Sheet (SDS) is, to the best of our knowledge, true and accurate and presented in good faith. NIC Industries, Inc. makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. Because many factors may affect processing or application/use of this product, this data is offered solely for the user's consideration, investigation and verification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or process. Regulatory requirements are subject to change and may differ from one location to another. It is the responsibility of the buyer/user to ensure its activities comply with all local, state and federal regulations.

### 2 HAZARDS IDENTIFICATION

**Route of Entry:** Inhalation, Ingestion, Skin Absorption, Eye Contact.

**Target Organs:** None known.

**Inhalation:** May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. May cause shortness of breath and breathing difficulties. May cause severe irritation to the nose, throat and lungs.

**Skin Contact:** Contact with liquid or mists will cause severe irritation and burns. May cause pain, irritation, redness and blistering.

**Eye Contact:** Severe irritation. Causes serious eye damage. Prolonged or repeated exposure to low level concentrations may cause moderate irritation, conjunctivitis, pain, watering and/or redness. May cause tissue destruction, permanent damage to the cornea, and blindness.

**Ingestion:** Toxic if swallowed. Corrosive to the digestive tract. Causes burns. Causes burns to mouth, throat and stomach and may cause stomach pains. Ingestion may cause extreme tissue destruction, kidney failure and death.

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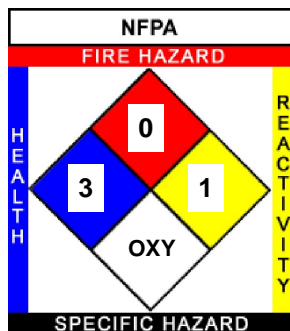
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NFPA:  
HMIS III:

Health = 3, Fire = 0, Reactivity = 1  
H\*3/F0/PH1



HMIS III	
HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARDS	1
PERSONAL PROTECTION H   Splash Goggles, Gloves, Apron, Vapor Respirator	

GHS Signal Word:  
DANGER

GHS Hazard Pictograms:



GHS Classifications:

- Health, Skin corrosion/irritation, 1 A
- Health, Carcinogenicity, 1
- Health, Specific target organ toxicity - Single exposure, 3
- Health, Reproductive toxicity, 1
- Health, Germ cell mutagenicity, 1
- Health, Acute toxicity, 3 Inhalation
- Health, Acute toxicity, 3 Oral
- Environmental, Hazards to the aquatic environment - Chronic, 2

GHS Phrases:

- H314 - Causes severe skin burns and eye damage
- H350 - May cause cancer
- H335 - May cause respiratory irritation
- H360 - May damage fertility or the unborn child
- H340 - May cause genetic defects
- H331 - Toxic if inhaled
- H301 - Toxic if swallowed
- H411 - Toxic to aquatic life with long lasting effects

GHS Precautionary Statements:

- P101 - If medical advice is needed, have product container or label at hand.
- P102 - Keep out of reach of children.
- P103 - Read label before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- Do not allow product to freeze.
- P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P220 - Keep/Store away from clothing/combustible materials.
- P221 - Take any precaution to avoid mixing with combustibles.
- P233 - Keep container tightly closed.
- P234 - Keep only in original container.

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- P235 - Keep cool.
- P240 - Ground/bond container and receiving equipment.
- P242 - Use only non-sparking tools.
- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
- P262 - Do not get in eyes, on skin, or on clothing.
- P264 - Wash \_ thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P281 - Use personal protective equipment as required.
- P284 - Wear respiratory protection.
- P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P314 - Get Medical advice/attention if you feel unwell.
- P333+313 - If skin irritation or a rash occurs: Get medical advice/attention.
- P338 - Remove contact lenses if present and easy to do. Continue rinsing.
- P405 - Store locked up.
- P410+403 - Protect from sunlight. Store in a well ventilated place.

May cause carcinoma or malignant neoplasm.

3	COMPOSITION/INFORMATION ON INGREDIENTS
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**Ingredients:**

Cas #	Percentage	Chemical Name
	10-35%	Aluminum Phosphate/Chromate-Phosphoric Acid Solution (Less than 2.5% total weight as CrO3)
7732-18-5	30-50%	Water
7429-90-5	30-50%	Aluminum (fume or dust)
14808-60-7	0-10.0%	Silica, crystalline
	0-5.0%	Ceramic Pigments

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as significantly hazardous to health or the environment and hence require reporting in this section.

4	FIRST AID MEASURES
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- Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical attention - call a poison center or a physician. If it is suspected fumes are still present, the rescuer should wear a self contained breathing apparatus. If breathing is difficult, have trained person administer oxygen. If breathing stops, have trained person administer artificial respiration. Maintain an open airway. Loosen tight clothing. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in the recovery position.
- Skin Contact:** Seek immediate medical attention - call a poison center or a physician. Rinse all contaminated clothing and skin immediately with plenty of water. Remove all contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Wash skin with soap and water, then continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash all clothing and shoes thoroughly before re-use.
- Eye Contact:** Seek immediate medical attention - call a poison center or a physician. Remove contact lenses. Immediately flush with water, forcibly holding eyelids apart. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Ingestion:** Seek immediate medical attention - call a poison center or a physician. Rinse mouth out. Remove dentures if any. Remove to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the victim is conscious, give small quantities of water to drink. Stop if victim feels sick, as vomiting may be dangerous. Only induce vomiting at the instruction of medical personnel. If vomiting occurs, keep head low so vomit does not enter the lungs. Never induce vomiting or give anything by mouth to an unconscious or convulsing person. Maintain an open airway. Loosen tight clothing. If unconscious, place in the recovery position. Chemical burns must be treated promptly by a physician.

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### 5 FIRE FIGHTING MEASURES

**Flash Point:** N/A (Product does not sustain combustion).

**Extinguishing Media:**

This product contains finely divided aluminum, therefore, the use of an approved Class B or Class D fire extinguisher is recommended.

Use an extinguishing agent suitable for the surrounding fire. NEVER USE WATER. DO NOT USE A WATER STREAM. Do not use a halogenated extinguishing agent like halon or carbon tetrachloride. Aluminum particles suspended in air may form an explosive mixture; avoid any disturbance which could cause a dust cloud such as directing a water stream or gas-propelled extinguishing agent into the burning material.

**Fire Fighting Procedures:**

Evacuate all unnecessary personnel. No action shall be taken involving any personal risk or without suitable training. Shut down motors, pumps, electrical service, and eliminate sources of ignition. Move containers from fire area if it can be done without risk. Use water spray to cool containers and avoid pressure build-up. If fire occurs, isolate area, contain and eliminate fire, then dispose of debris in accordance with official regulations. Stay upwind of material at all times. Wear self-contained breathing apparatus and full protective clothing.

**Fire and Explosion Hazard:**

Oxidizing material. May intensify fire. In a fire or if heated, a pressure increase will occur and the container may burst.

### 6 ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas, and keep all unnecessary personnel from entering. Eliminate all sources of ignition. Wear proper personal protective equipment (see section 8), especially a self-contained breathing apparatus. Do not touch or walk through spilled material. Provide adequate ventilation and avoid breathing vapors. Ground all equipment used.

**Environmental Precautions:**

Contain liquids and prevent discharge into streams, soil, waterways, drains and sewers. Control or stop the loss of volatile material to the atmosphere. Spills should be reported to the appropriate local, state, or federal agencies.

Remove all sparking devices or ignition sources. Product is flammable. Stop leak if without risk. Move containers from spill area. Approach spill from upwind. Cover with an inert, noncombustible absorbent, such as vermiculite, perlite, ground clay, or sand; sweep up, and dispose according to local, state and federal regulations. Contaminated absorbent may pose the same hazard as spilled material does. Use spark proof tools and explosion proof equipment. Dispose of via a licensed waste disposal contractor.

Reduce Chromium(VI) to Chromium(III) using sodium sulphite or sodium bisulphite and ferrous sulphite or ferrous chloride. Precipitate Chromium(III) by neutralizing to pH 9.5 with sodium bicarbonate, soda ash or lime. Filter and neutralize the remaining liquid to pH 7.0. Do not allow to dry out.

### 7 HANDLING AND STORAGE

**Handling Precautions:**

Avoid vapor formations and use with adequate ventilation.  
Avoid breathing fumes.  
Vapors are heavier than air and will tend to collect in low areas. Avoid use in confined spaces.  
Avoid bodily contact with material.  
Wear appropriate personal protective equipment.  
Wash thoroughly after handling, avoid contact with eyes.  
No eating, drinking or smoking near areas where substance is handled, processed or stored.  
Ground coating equipment and containers at all times.  
Use non sparking tools.  
Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair.  
Clean spills immediately.

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**Storage Requirements:**

Keep away from heat, static electricity discharges and all sources of ignition.  
 Avoid moisture and extreme temperatures.  
 Avoid shock and friction.  
 Store in a cool, dry well ventilated area away from direct sunlight.  
 Do not allow cross-contamination, and keep away from incompatible materials (such as alkalis, reducing agents and combustible materials).  
 Keep tightly closed when not being used, but vent carefully before using.  
 Store locked up.  
 Label all containers appropriately.  
 Do not reuse containers.  
 Do not store near food or drinks.  
 Avoid excessive aging.  
 Store in accordance with local regulations.  
 Do not store below 50F or above 77F. Do not allow product to freeze.

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**EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering Controls:**

Adequate room ventilation plus local exhaust at points of emission to maintain levels of airborne contaminants below exposure limits. Assure ACGIH TWA and OSHA PEL limits of Chromium(VI) Trioxide (0.05 mg/m<sup>3</sup>, 0.1 mg/m<sup>3</sup>) are maintained. Use of fume hoods or closed booths recommended when product is used in a manner that may generate mist or aerosol.

**Personal Protective Equip:**

HMIS PP, H | Splash Goggles, Gloves, Apron, Vapor Respirator

**Respiratory:** Wear an appropriate, properly fitted air respirator (NIOSH/MSHA approved) during and after application of product. Follow respirator manufacturer's directions for respirator use. Full face respirator may be required.

**Hands:** Butyl Rubber protective gloves (1-4 hours breakthrough time) or other chemical-resistant, impervious gloves should be worn at all times.

**Eyes:** Chemical splash goggles and/or face shield to avoid exposure to liquid splashes, mists or dusts.

**Skin:** Protective clothing - Chemical Resistant Protective Suit recommended. Remove all used or contaminated clothing before entering eating areas.

Appropriate footwear is recommended before handling of this product.

Emergency shower and eyewash facility should be in close proximity. Employ proper hygienic measures (such as washing hands, forearms and face) after working with material and before eating, smoking or using the lavatory. Appropriate techniques should be used to remove contaminated clothing. Fully wash any contaminated clothing.

Emissions from ventilation or work process equipment should be checked to ensure they comply with the regulations of environmental protection legislation.

**9**

**PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:**

Dark Grey Liquid

**Physical State:**

Viscous Liquid (solid ceramic after cure pro

**Odor:**

Mild, earthy.

**Boiling Point:**

41F

**Solubility:**

Easily soluble in cold water.

**Flammability:**

Do not store below 41F or above 95F

**Evap. Rate:**

<1

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**STABILITY AND REACTIVITY**

**Stability:**

Stable.

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**Conditions to Avoid:** High temperatures, interaction with incompatible materials. Contact with combustible materials and drying on clothing.

**Materials to Avoid:** Alkalis, combustible materials and reducing materials. Attacks many metals producing extremely flammable hydrogen gas which can form explosive materials with air.

**Hazardous Decomposition:** May contain phosphorus oxides and metal oxide(s).

**Hazardous Polymerization:** Will not occur.

### 11 TOXICOLOGICAL INFORMATION

NTP: Human Carcinogen  
 IARC: Human Carcinogen (Group 1)  
 ACGIH: A-1 Confirmed Human Carcinogen

OSHA's Chromium VI Standard, effective November 27, 2006, sets the action level for airborne Cr VI at 2.5 micrograms/m<sup>3</sup> calculated as an 8-hour, time-weighted average (TWA). The permissible exposure limit (PEL) is 5 micrograms/m<sup>3</sup>.

The occupational exposure limit for the hazardous components of this product are listed below:

Component:	OSHA PEL:	ACGIH TLV:
Phosphate/Chromate 7644-38-2	TWA=1mg/m <sup>3</sup>	TWA= mg/m <sup>3</sup> STEL= 3 mg/m <sup>3</sup>

Aluminum Metal 7429-90-5	TWA= mg/m <sup>3</sup>	TW = 10 mg/m <sup>3</sup>
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Chromium(VI) Trioxide (Rat, LD50 Oral): 80 mg/kg

Oral ATE value: 92.26 mg/kg

### 12 ECOLOGICAL INFORMATION

Water hazard Category 1: Extremely hazardous for water and toxic to aquatic organisms. Avoid disposal in landfills and sewage systems and release into water sources.

Result	Species	Exposure
Acute IC50 1.54 mg/l Fresh water	Algae - Dictyosphaeriumchlorelloides – Exponential growth phase	72 hours
Acute LC50 145 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
Acute LC50 162 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
Acute LC50 21000 µg/l Fresh water	Fish - Colisa fasciata - Adult	96 hours

### 13 DISPOSAL CONSIDERATIONS

It is the waste generator's responsibility to determine how disposal must occur. Disposal should be made in accordance to federal, state, and local regulations. Minimize or avoid the generation of waste whenever possible. Dispose of waste, unused material and empty containers in a licensed facility. Do not discharge into drains, surface waters or groundwater. Care should be taken when handling emptied containers that have not been rinsed out.

### 14 TRANSPORT INFORMATION

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DOT Class: Corrosive (8) #8  
UN #: UN 3066, Class: 8, Proper Shipping Name: Paint or Paint Related materials

US DOT:  
Proper Shipping Name: Paint or Paint Related Materials  
Hazard Class: 8  
UN Number: 3066  
Packing Group: III

IATA:  
Proper Shipping Name: Paint or Paint Related Materials  
Hazard Class: 8  
UN Number: 3066  
Packing Group: III

### 15 REGULATORY INFORMATION

U.S. Federal Regulations: TSCA 6 Final Risk Management/TSCA 12(b) One Time Export - Chromium(VI) Trioxide.  
U.S. Federal Regulations: TSCA 8b - All components listed or exempted.  
SARA 302/304/311/312: Acute, Chronic.

Product contains chemicals subject to the reporting requirements of SARA 313: Aluminum powder (stabilized), Chromium(VI) Trioxide.

California Proposition 65:  
This product contains the following chemical(s) known to the state of California to cause cancer and birth defects, or other reproductive harm: Chromium(VI) Trioxide.

Product contains a substance of very high concern (SVHC): Chromium(VI) Trioxide.

Canadian DSL Inventory Status: All components of this product are listed on the Canadian DSL Inventory List.

\*Chromium trioxide

\*Water (7732185 >40%) TSCA

\*Aluminum powder, coated (7429905 >25%) EPCRAWPC, MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

\*Phosphoric acid, reaction products with aluminum hydroxide and chromium oxide (CrO3) (92203026 <11%) TSCA

\*Chromium oxide (CrO3) (1333820 <2.5%) MASS, PA, TSCA

\*Chromic acid and chromates (1333820 n/a%) MASS, PA, TSCA

\*Silica, crystalline (14808607 0-10.0%) MASS, NRC, OSHAWAC, PA, TSCA, TXAIR

#### REGULATORY KEY DESCRIPTIONS

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MASS = MA Massachusetts Hazardous Substances List  
PA = PA Right-To-Know List of Hazardous Substances  
TSCA = Toxic Substances Control Act

EPCRAWPC = EPCRA Water Priority Chemicals  
NJHS = NJ Right-to-Know Hazardous Substances  
OSHAWAC = OSHA Workplace Air Contaminants  
SARA313 = SARA 313 Title III Toxic Chemicals  
TXAIR = TX Air Contaminants with Health Effects Screening Level  
NRC = Nationally Recognized Carcinogens

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**16****OTHER INFORMATION**

## U.S. Federal Regulations:

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you (as it is your legal duty to) make all information in this Safety Data Sheet available to all your employees.

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