# SAFETY DATA SHEET

M41830 - ANSI - EN

Oxy Vinyls, LP
A subsidiary of Occidental Petroleum Corporation

# OXYVINYLS® CATOXID® 5

**SDS No.:** M41830 **SDS Revision Date:** 21-May-2015

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|---|---|
| **Company Identification:** | Oxy Vinyls, LP<br>5005 LBJ Freeway<br>Suite 2200<br>Dallas, Texas 75244-6119 |
| **24 Hour Emergency Telephone Number:** | 1-800-733-3665 or 1-972-404-3228 (USA); CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186 |
| **To Request an SDS:** | MSDS@oxy.com or 1-972-404-3245 |
| **Customer Service:** | 1-800-752-5151 or 1-972-404-3700 |
| **Product Identifier:** | **OXYVINYLS® CATOXID® 5** |
| **Synonyms:** | Catoxid® 5, OXYVINYLS(TM) CATOXID® 5 |
| **Product Use:** | Oxidation catalyst |
| **Uses Advised Against:** | None identified. |

## 2. HAZARDS IDENTIFICATION

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

# OXYVINYLS® CATOXID® 5

**SDS No.:** M41830 **SDS Revision Date:** 21-May-2015

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## EMERGENCY OVERVIEW:

**Color:** Orange to brown
**Physical State:** Solid
**Appearance:** Powder
**Odor:** Odorless

**Signal Word:** **DANGER**

**MAJOR HEALTH HAZARDS:** CAUSES SERIOUS EYE IRRITATION. CAUSES SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. CAUSES DAMAGE TO RESPIRATORY SYSTEM THROUGH PROLONGED, REPEATED EXPOSURE. MAY CAUSE CANCER. MAY CAUSE GENETIC DEFECTS. SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD. MAY BE HARMFUL IF SWALLOWED IN LARGE QUANTITIES. MAY CAUSE PAIN, NAUSEA, VOMITING, DIARRHEA.

**AQUATIC TOXICITY:** HARMFUL TO AQUATIC LIFE. HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

**PRECAUTIONARY STATEMENTS:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, fume, gas, mist, vapors, or spray. In case of inadequate ventilation wear respiratory protection. Avoid contact with skin, eyes and clothing. Wear eye protection, face protection, protective gloves. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Avoid release to the environment.

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## GHS CLASSIFICATION:

| | |
|---|---|
| GHS: CONTACT HAZARD - SKIN: | Category 2 - Causes skin irritation. |
| GHS: CONTACT HAZARD - EYE: | Category 2A - Causes serious eye irritation |
| GHS: SENSITIZATION HAZARD: | Respiratory Sensitizer Category 1 - May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin Sensitizer Category 1 - May cause an allergic skin reaction |
| GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE): | Category 1 - Causes damage to respiratory system through prolonged or repeated exposure |
| GHS: CARCINOGENICITY: | Category 1A - May cause cancer. |
| GHS: GERM CELL MUTAGENICITY: | Category 1B - May cause genetic defects |
| GHS: REPRODUCTION TOXIN: | Category 2 - Suspected of damaging fertility or the unborn child |
| GHS: HAZARDOUS TO AQUATIC ENVIRONMENT - ACUTE HAZARD: | Category 3 - Harmful to aquatic life |
| GHS: HAZARDOUS TO AQUATIC ENVIRONMENT - CHRONIC HAZARD: | Category 3 - Harmful to aquatic life with long lasting effects |

**GHS SYMBOL:** Health hazard

**GHS SIGNAL WORD:** **DANGER**

**GHS HAZARD STATEMENTS:**

**GHS - Health Hazard Statement(s)**
Causes serious eye irritation
Causes skin irritation
May cause an allergic skin reaction
May cause allergy or asthma symptoms or breathing difficulties if inhaled
Causes damage to organs through prolonged or repeated exposure (Respiratory System)
May cause cancer
May cause genetic defects
Suspected of damaging fertility or the unborn child

**GHS - Environmental Hazard Statement(s)**
Harmful to aquatic life
Harmful to aquatic life with long lasting effects

**GHS - Precautionary Statement(s) - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear eye protection, face protection, protective gloves, protective clothing
Do not breathe dust, fume, gas, mist, vapors, or spray
In case of inadequate ventilation, wear respiratory protection
Wash thoroughly after handling
Do not eat, drink or smoke when using this product
Contaminated work clothing must not be allowed out of the workplace
Avoid release to the environment

**GHS - Precautionary Statement(s) - Response**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing
If experiencing respiratory symptoms: call a POISON CENTER or doctor/physician
IF ON SKIN: Wash with plenty of water
If skin irritation or rash occurs: Get medical advice/attention
Specific treatment (see Section 4 of the safety data sheet and/or the First Aid information on the product label)
IF exposed or concerned: Get medical advice/attention
Wash contaminated clothing before reuse

**GHS - Precautionary Statement(s) - Storage**
Store locked up

**GHS - Precautionary Statement(s) - Disposal**
Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

**Hazards Not Otherwise Classified (HNOC)**
None Known

**See Section 11: TOXICOLOGICAL INFORMATION**

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms:** Catoxid® 5, OXYVINYLS(TM) CATOXID® 5

| Component | Percent [%] | CAS Number |
|---|---|---|
| Non-fibrous Alumina / Aluminum Oxide | 88 - 97 | 1344-28-1 |
| Chromium Compounds | 2 - 10 | Not Assigned |
| Chromium trioxide (CrO3) | 0.5 - 2.0 | 1333-82-0 |

# 4. FIRST AID MEASURES

**INHALATION:** If this material is inhaled and breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: call a POISON CENTER or doctor/physician.

**SKIN CONTACT:** If on skin, wash with plenty of water. If skin irritation or rash occurs, get medical advice/attention. The specific treatment is flushing affected area with plenty of water.

**EYE CONTACT:** If in eyes, immediately rinse eyes cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

**INGESTION:** If swallowed, immediately rinse mouth. If illness or adverse symptoms develop, seek medical attention. If large amounts are ingested, get medical advice/attention.

**Most Important Symptoms/Effects (Acute and Delayed)** :.

**Acute Symptoms/Effects:** Listed below.
**Inhalation (Breathing):** Respiratory System Effects: May irritate upper airways, cause coughing, difficulty breathing. Inhalation of this material may cause allergy or asthma symptoms.
**Skin:** When this material contacts skin it may cause redness, irritation, itching, burning sensation, rash, hives (acute or delayed contact urticaria), and/or allergic contact dermatitis.
**Eye:** Eye Irritation: Exposure to eyes may cause irritation, pain, tearing, redness, swelling, and possible corneal damage.

**Ingestion (Swallowing):** Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Ingesting large quantities may cause pain, nausea, vomiting, diarrhea.

**Delayed Symptoms/Effects:**
- Inhalation may cause an asthma-like allergy or other hypersensitivity reactions such as chest tightness, angioedema, bronchoconstriction, flushing, diaphoresis, urticarial, cause shortness of breath, wheezing, cough, and/or chest tightness
- Repeated and prolonged skin contact may cause allergic and non-allergic dermatitis
- May cause cancer
- May cause genetic defects
- Suspected of damaging fertility or the unborn child

**Interaction with Other Chemicals Which Enhance Toxicity:** None known.

**Medical Conditions Aggravated by Exposure:** May aggravate preexisting conditions such as: eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin; and respiratory conditions including asthma and other breathing disorders. Individuals with impaired liver/kidney function may have increased susceptibility to excessive exposures.

**Protection of First-Aiders:** Avoid contact with skin and eyes. Avoid breathing dust. Use personal protective equipment. Refer to Section 8 for specific personal protective equipment recommendations. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

**Notes to Physician:** There is no specific antidote. Treatment is based upon symptomatic and supportive care (decontamination, vital functions).

# 5. FIRE-FIGHTING MEASURES

**Fire Hazard:** Negligible fire hazard.

**Extinguishing Media:** Use dry chemical, carbon dioxide, foam, or water spray. Use water spray to keep containers cool. Do not get water inside container.

**Fire Fighting:** Wear complete fire service protective equipment, including full-face MSHA/NIOSH approved self-contained breathing apparatus. Keep unnecessary people away, isolate hazard area and deny entry. Move containers from the fire area if it is possible to do so without risk to personnel. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

| Component | Immediately Dangerous to Life/ Health (IDLH) |
|---|---|
| Chromium Compounds | 250 mg/m$^3$ IDLH |
| Chromium trioxide (CrO3)<br>1333-82-0 | 15 mg/m$^3$ IDLH Cr(VI) |

**Hazardous Combustion Products:** Oxides of chromium, Oxygen

| | |
|---|---|
| **Sensitivity to Mechanical Impact:** | May react with acetylene gas to form shock sensitive solid. |
| **Sensitivity to Static Discharge:** | Not sensitive. |
| **Lower Flammability Level (air):** | Not flammable |
| **Upper Flammability Level (air):** | Not flammable |
| **Flash point:** | Not flammable |
| **Auto-ignition Temperature:** | Not applicable |

# 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**
Breathing protection is mandatory. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing. Wear appropriate personal protective equipment recommended in Section 8, Exposure Controls / Personal Protection, of the SDS.

**Methods and Materials for Containment and Cleaning Up:**
Stop leak if possible without personal risk. Collect spilled material in appropriate container for disposal. Sweep up or vacuum small pieces and dusts, and place in appropriate container for disposal. Use methods to minimize generation of dust. Reclaim for processing if possible.

**Environmental Precautions:**
Keep out of water supplies and sewers. Contain runoff from fire control and dilution water. Should not be released into the environment. Releases should be reported, if required, to appropriate regulatory agencies.

# 7. HANDLING AND STORAGE

**Precautions for Safe Handling:**
Do not breathe dust. Minimize generation of dust. Use only with adequate ventilation. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS. This product does not contribute to the spreading of flames, nor is it combustible or explosive.

**Safe Storage Conditions:**
Store and handle in accordance with all current regulations and standards. Store in a cool, well-ventilated area. Keep container dry. Keep container tightly closed and properly labeled. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

**Incompatibilities/ Materials to Avoid:**
Strong oxidizing agents, Acids, Alkalis, Reducing agents

# 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Regulatory Exposure Limit(s):** Listed below for the product components that have regulatory occupational exposure limits (OEL's) established.

| Component | OSHA Final PEL TWA | OSHA Final PEL STEL | OSHA Final PELCeiling |
|---|---|---|---|
| Non-fibrous Alumina / Aluminum Oxide 1344-28-1 | 15 mg/m³ 5 mg/m³ | ----- | ----- |
| Chromium Compounds | 1 mg/m³ | ----- | ----- |
| Chromium trioxide (CrO3) 1333-82-0 | 5 µg/m³ | ----- | 0.1 mg/m³ |

*OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit*

**NON-REGULATORY EXPOSURE LIMIT(S):** Listed below for the product components that have advisory (non-regulatory) occupational exposure limits (OEL's) established.

| Component | CAS Number | ACGIH TWA | ACGIH STEL | ACGIH Ceiling | OSHA TWA (Vacated) | OSHA STEL (Vacated) | OSHA Ceiling (Vacated) |
|---|---|---|---|---|---|---|---|
| Non-fibrous Alumina / Aluminum Oxide | 1344-28-1 | 10 mg/m³ particulate matter containing no asbestos and < 1% crystalline silica | ----- | ----- | 10 mg/m³ 5 mg/m³ | ----- | ----- |
| Chromium Compounds | | 0.5 mg/m³ | ----- | ----- | 1 mg/m³ | ----- | ----- |
| Chromium trioxide (CrO3) | 1333-82-0 | 0.01 mg/m³ as Cr 0.05 mg/m³ as Cr 0.5 mg/m³ | ----- | ----- | ----- | ----- | 0.1 mg/m³ |

- *The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).*

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

**ENGINEERING CONTROLS:** Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT:**

**Eye Protection:** Wear safety glasses with side-shields. If eye contact is likely, wear chemical resistant safety goggles. Wear chemical safety goggles with a face-shield to protect against eye and skin contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**Skin and Body Protection:** Wear protective clothing to minimize skin contact such as standard industrial work clothes or coveralls, safety footwear. Thoroughly clean and dry contaminated clothing before reuse. Contaminated work clothing must not be allowed out of the workplace.

**Hand Protection:** Wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

**Protective Material Types:** Nitrile, Polyvinyl chloride (PVC), Tyvek®

**Respiratory Protection:** A NIOSH approved respirator with N95 (dust, mist, fume) filter cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. The added protection of a full face-piece respirator is required when visible dusty conditions are encountered and eye irritation may occur. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

| Component | Immediately Dangerous to Life/ Health (IDLH) |
|---|---|
| Chromium Compounds | 250 mg/m³ IDLH |
| Chromium trioxide (CrO3)<br>1333-82-0 | 15 mg/m³ IDLH Cr(VI) |

**HYGIENE MEASURES:** Handle in accordance with good industrial hygiene and safety practices. Good hygiene practices include but are not limited to: wearing suitable gloves and/or eye protection; washing hands and affected skin immediately after handling, before breaks, and at the end of the workday; regularly cleaning work area and clothing; etc.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical State:** | Solid |
| **Appearance:** | Powder |
| **Color:** | Orange to brown |
| **Odor:** | Odorless |
| **Decomposition Temperature:** | No data available |
| **Boiling Point/Range:** | Not applicable to solids |
| **Freezing Point/Range:** | Not applicable to solids. |
| **Melting Point/Range:** | No data available |
| **Vapor Pressure:** | Not applicable |
| **Vapor Density (air=1):** | Not applicable |

| | |
|---|---|
| **Relative Density/Specific Gravity (water=1):** | No data available |
| **Bulk Density:** | 800 - 950 kg/m$^3$ |
| **Water Solubility:** | Sparingly soluble |
| **pH:** | Not applicable |
| **Volatility:** | No data available |
| **Evaporation Rate (ether=1):** | Not applicable |
| **Partition Coefficient (n-octanol/water):** | Not applicable |
| **Flash point:** | Not flammable |
| **Flammability (solid, gas):** | Not flammable |
| **Lower Flammability Level (air):** | Not flammable |
| **Upper Flammability Level (air):** | Not flammable |
| **Auto-ignition Temperature:** | Not applicable |
| **Viscosity:** | Not applicable to solids |

# 10. STABILITY AND REACTIVITY

**Reactivity:** Not reactive at normal temperature and pressure.

**Chemical Stability:** Stable at normal temperature and pressure. The product is stable if stored and handled as prescribed/indicated.

**Possibility of Hazardous Reactions:**
The product is stable if stored and handled as prescribed/indicated. Reacts with water and basic components to generate heat.

**Conditions to Avoid:**
Avoid dust formation.

**Incompatibilities/ Materials to Avoid:**
Strong oxidizing agents. Acids. Alkalis. Reducing agents.

**Hazardous Decomposition Products:** Chlorine, Hydrogen chloride, Chlorine compounds, Metallic oxides

**Hazardous Polymerization:** Will not occur.

# 11. TOXICOLOGICAL INFORMATION

**TOXICITY DATA:**

**PRODUCT TOXICITY DATA:** OXYVINYLS® CATOXID® 5

| LD50 Oral: | LD50 Dermal: | LC50 Inhalation: |
|---|---|---|
| 3360 mg/kg mg/kg - Oral Acute Toxicity Estimate (ATE) | No data available | No data available |

**COMPONENT TOXICITY DATA:**

**Note:** The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given.

| Component | LD50 Oral: | LD50 Dermal: | LC50 Inhalation: |
|---|---|---|---|
| Non-fibrous Alumina / Aluminum Oxide<br>1344-28-1 | 5000 mg/kg (Rat) | ----- | ----- |
| Chromium trioxide (CrO3)<br>1333-82-0 | 52 mg/kg (Rat) | 55 mg/kg (Rabbit) | 0.217 mg/L (4 hr-Rat) |

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**POTENTIAL HEALTH EFFECTS:**

**Eye contact:** Eye contact may cause irritation, pain, tearing, redness, swelling, and possible corneal damage.

**Skin contact:** May cause allergic skin reaction. Skin contact with this material may cause redness, irritation, burning sensation, rash, hives (acute or delayed contact urticarial), and/or allergic contact dermatitis.

**Inhalation:** May irritate upper airways, cause coughing, difficulty breathing.

**Ingestion:** Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Ingesting large quantities may cause pain, nausea, vomiting, diarrhea.

**Chronic Effects:** Repeated exposure to high concentrations of dust may cause respiratory system effects such as fibrosis or emphysema. Inhalation may cause an asthma-like allergy or other hypersensitivity reactions such as chest tightness, angioedema, bronchoconstriction, flushing, diaphoresis, urticarial, cause shortness of breath, wheezing, cough, and/or chest tightness. Repeated and prolonged skin contact may cause allergic and non-allergic dermatitis. May cause genetic defects. May cause cancer. This material contains hexavalent chromium, known to cause lung cancer in humans. Suspected of damaging fertility or the unborn child.

**SIGNS AND SYMPTOMS OF EXPOSURE:**

**Inhalation (Breathing):** Respiratory System Effects: May irritate upper airways, cause coughing, difficulty breathing. Inhalation of this material may cause allergy or asthma symptoms.

**Skin:** When this material contacts skin it may cause redness, irritation, itching, burning sensation, rash, hives (acute or delayed contact urticaria), and/or allergic contact dermatitis.

**Eye:** Eye Irritation: Exposure to eyes may cause irritation, pain, tearing, redness, swelling, and possible corneal damage.

**Ingestion (Swallowing):** Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Ingesting large quantities may cause pain, nausea, vomiting, diarrhea.

**TOXICITY:**
Aluminum dust may cause eye irritation. Chronic inhalation may reduce lung function. The majority of chromium compounds in this material are bound in a chemical matrix. Chromium compounds cause irritant contact dermatitis, ulcerations, and allergic chromate dermatitis. Eczematous dermatitis due to trivalent chromium compounds has been reported. Allergic contact dermatitis may arise from exposure to either trivalent or hexavalent chromium, although hexavalent chromium is responsible for most of the reported cases. When hexavalent chromium compounds are deposited on the broken skin, a deeply penetrating round hole may develop, especially on the fingers, hands and forearm. Acute eye exposure may cause irritation and conjunctivitis. Chronic skin exposure may cause dermatitis, and eczema. If ingested, violent gastroenteritis, severe circulatory collapse and toxic nephritis may ensue. This material contains hexavalent chromium, known to cause lung cancer in humans.

**Interaction with Other Chemicals Which Enhance Toxicity:** None known.

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## GHS HEALTH HAZARDS:

**GHS: CONTACT HAZARD - EYE:** Category 2A - Causes serious eye irritation

**GHS: CONTACT HAZARD - SKIN:** Category 2 - Causes skin irritation

**Skin Absorbent / Dermal Route?** No.

**GHS: SENSITIZATION HAZARD:** Respiratory Sensitizer Category 1 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. Skin Sensitizer Category 1 - May cause an allergic skin reaction.

**GHS: CARCINOGENICITY:**
Category 1A - May cause cancer.

| Component | NTP: | IARC (GROUP 1): | IARC (GROUP 2): | OSHA: |
|---|---|---|---|---|
| Chromium trioxide (CrO3) | Known Human Carcinogen | Group 1 | Not listed | Listed |

**SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure):**
Category 1 - Respiratory System (Lungs)

**MUTAGENIC DATA:**
Category 1B - May cause genetic defects. The substance was not mutagenic in bacteria. The substance was mutagenic in a mammalian cell culture test system. The substance was not genotoxic in a test with mammals.

**REPRODUCTIVE TOXICITY:**
Category 2 - Suspected of damaging fertility or the unborn child. The results of animal studies suggest a fertility impairing effect. Sexually mature male and female mice at 50 days of age were exposed to trivalent (Chromium chloride) or hexavalent (potassium dichromate) chromium compounds in drinking water for 12 weeks. The effects of the direct chromium exposure on fertility was assessed at day 140 of age. Fertility was significantly reduced in males exposed to the trivalent chromium compound. The number of implantation sites and the number of viable fetuses was significantly reduced in females impregnated by males exposed to the hexavalent chromium compound. The number of resorptions and dead fetuses was increased in females impregnated by males exposed to trivalent and hexavalent chromium compounds. The exposure of female mice to trivalent and hexavalent chromium compounds significantly reduced the number of implantation sites and the number of viable fetuses. The number of females with resorptions was significantly increased in hexavalent chromium exposed females. The number of resorptions was increased in trivalent and hexavalent exposed females. Body, seminal vesicles and preputial gland weights were significantly reduced in males exposed to trivalent and hexavalent chromium, whereas testes weight was significantly increased in males exposed to these compounds. Furthermore, ovarian weight was significantly increased in females exposed to trivalent and hexavalent chromium, whereas uterine weight was significantly decreased in trivalent chromium exposed females. In conclusion, the ingestion of trivalent and hexavalent chromium compounds by adult male and female mice would cause adverse effects on fertility and reproduction.

# 12. ECOLOGICAL INFORMATION

**ECOTOXICITY DATA:**

**Fish Toxicity:**
Chromium trioxide: Colisa fasciatus - LC50 20.8 mg/l (96 hr.)
Chromium(VI) compounds: Goldfish - LC50 18 ppm (softwater) to 133 ppm (hardwater) / (96 hr.)
Chromium(VI) compounds: Fathead minnow - LC50 3 ppm (softwater) to 72 ppm (hardwater) / (96 hr.)

**Invertebrate Toxicity:**
Chromium trioxide: Ceriodaphnia dubia - LC50 0.03 mg/l (48 hr.)
Chromium(VI) compounds: Water flea - LC50 4 mg/l (48 hr.) - (as CR(VI))

**Algae Toxicity:**
Chromium(VI) compounds: Algae - inhibited growth 62 ug/l (as CR(VI))

**FATE AND TRANSPORT:**

**BIODEGRADATION:** This material is inorganic and not subject to biodegradation
The methods for determining the biological degradability are not applicable to inorganic substances

**PERSISTENCE:** This material is believed to persist in the environment

**BIOCONCENTRATION:** Under certain environmental conditions, chromium may be subject to low levels of bioaccumulation in aquatic and terrestrial plants and animals.

**MOBILITY IN SOIL:** Adsorption to solid soil phase is expected.

**ADDITIONAL ECOLOGICAL INFORMATION:** This material is harmful to aquatic life. This material is harmful to aquatic life with long lasting effects.

# 13. DISPOSAL CONSIDERATIONS

**Waste from material:**
Reuse or reprocess, if possible. May be subject to disposal regulations. Dispose in accordance with all applicable regulations.

**Container Management:**
Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

# 14. TRANSPORT INFORMATION

**IMPORTANT:** This material is not classified as a dangerous good under transport regulations
The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport

### LAND TRANSPORT

**U.S. DOT 49 CFR 172.101:**

**Status:** Not regulated.

**CANADIAN TRANSPORTATION OF DANGEROUS GOODS:**

**Status:** Not regulated.

### MARITIME TRANSPORT (IMO / IMDG) :

**Status - IMO / IMDG:** Not Regulated

### AIR TRANSPORT (ICAO / IATA) :

**Status - ICAO/IATA:** Not Regulated

# 15. REGULATORY INFORMATION

## U.S. REGULATIONS

**OSHA REGULATORY STATUS:**
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

**CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):**
If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

| Component | CERCLA Reportable Quantities: |
|---|---|
| Chromium Compounds | 10 lb (final RQ)<br>5000 lb (final RQ) |

**SARA EHS Chemical (40 CFR 355.30)**
Not regulated

**EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):**
Acute Health Hazard

**EPCRA SECTION 313 (40 CFR 372.65):**
The following chemicals are listed in 40 CFR 372.65 and may be subject to Community Right-to Know Reporting requirements.

| Component | Status: |
|---|---|
| Non-fibrous Alumina / Aluminum Oxide | 1.0 % |
| Chromium Compounds | 1.0 % |
| Chromium trioxide (CrO3) | 0.1 % |

**OSHA SPECIFICALLY REGULATED SUBSTANCES:**
OSHA 29 CFR 1910.1026 (Chromium VI); The U.S. Department of Labor, Occupational Safety and Health Administration specifically regulates manufacturing, handling and processing of materials containing Chromium VI. Such regulations have been published at 29 CFR 1910.1026.

**OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):**
Not regulated

## NATIONAL INVENTORY STATUS

**U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):** All components are listed or exempt.

**TSCA 12(b):** This product is subject to export notification.

**Canadian Chemical Inventory:** All components of this product are listed on either the DSL or the NDSL.

## STATE REGULATIONS

**California Proposition 65:**
This product contains a chemical known to the State of California to cause cancer, and/or birth defects, and/or other reproductive harm as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act. For additional information, contact OxyChem Technical Services.

| Component | California Proposition 65 Cancer WARNING: | California Proposition 65 CRT List - Male reproductive toxin: | California Proposition 65 CRT List - Female reproductive toxin: | Massachusetts Right to Know Hazardous Substance List | New Jersey Right to Know Hazardous Substance List | New Jersey Special Health Hazards Substance List |
|---|---|---|---|---|---|---|
| **Non-fibrous Alumina / Aluminum Oxide 1344-28-1** | Not Listed | Not Listed | Not Listed | Listed | 2891 | Not Listed |
| **Chromium Compounds** | Not Listed | Not Listed | Not Listed | Listed | 2245 | carcinogen; mutagen |
| **Chromium trioxide (CrO3) 1333-82-0** | Listed developmental toxicity | Not Listed | Not Listed | Listed | 3575 2245 | carcinogen |

| Component | New Jersey - Environmental Hazardous Substance List | Pennsylvania Right to Know Hazardous Substance List | Pennsylvania Right to Know Special Hazardous Substances | Pennsylvania Right to Know Environmental Hazard List | Rhode Island Right to Know Hazardous Substance List |
|---|---|---|---|---|---|
| **Non-fibrous Alumina / Aluminum Oxide 1344-28-1** | Listed | Listed | Not Listed | Present | Listed |
| **Chromium Compounds** | Listed | Listed | Present | Present | Listed |
| **Chromium trioxide (CrO3) 1333-82-0** | Listed | Listed | Present | Present | Listed |

**CANADIAN REGULATIONS**

• This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations

**WHMIS - Classifications of Substances:**

• D1B - Poisonous and Infectious Material; Materials causing immediate and serious toxic effects - Toxic material
• D2B - Poisonous and Infectious Material; Materials causing other toxic effects - Toxic material

# 16. OTHER INFORMATION

**Prepared by:** OxyChem Corporate HESS - Health Risk Management

**Rev. Date:** 21-May-2015

**HMIS: (SCALE 0-4)** (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

**Health Rating:** 2* **Flammability Rating:** 0 **Reactivity Rating:** 0

**NFPA 704 - Hazard Identification Ratings (SCALE 0-4)**

**Health Rating:** 2 **Flammability:** 0 **Reactivity Rating:** 0

**Reason for Revision:**
• Changed the SDS format to meet the GHS requirements of the revised 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200}
• Updated the (M)SDS header
• Updated 24 Hour Emergency Telephone Number: SEE SECTION 1
• Product Identifier has been added or updated: SEE SECTION 1
• Updated Uses Advised Against information: SEE SECTION 1
• Added OSHA Status: SEE SECTION 2
• Emergency Overview was revised: SEE SECTION 2
• Added GHS Information: SEE SECTION 2
• Modified Composition/Information on Ingredients: SEE SECTION 3
• Updated First Aid Measures: SEE SECTION 4
• Modified Fire Fighting Measure Recommendations: SEE SECTION 5
• Revised Accidental Release Measures: SEE SECTION 6
• Updated Handling and Storage Information: SEE SECTION 7
• Revised Exposure Controls/Personal Protection information: SEE SECTION 8
• Updated Physical and Chemical Properties. SEE SECTION 9
• Stability and Reactivity recommendations: SEE SECTION 10
• Toxicological Information has been revised: SEE SECTION 11
• Ecological Information has been modified: SEE SECTION 12
• Updated Disposal Considerations. SEE SECTION 13
• Updated Transportation Information: SEE SECTION 14
• Regulatory Information Changes: SEE SECTION 15
• Revised Preparer Information: SEE SECTION 16
• Added SDS Revision Date: SEE SECTION 16
• Added/Updated Revision Log: SEE SECTION 16
• Added "End of Safety Data Sheet" phrase

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

**End of Safety Data Sheet**