1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium dichromate dihydrate
Cat No.: AC219240000; AC219240010; AC219240025; AC219240050
Synonyms: Sodium bichromate
Recommended Use: Laboratory chemicals

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Entity / Business Name
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100
CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

2. HAZARDS IDENTIFICATION

DANGER!***

Emergency Overview
Oxidizer: Contact with combustible/organic material may cause fire. Cancer hazard. Causes burns by all exposure routes. Very toxic by inhalation. Toxic if swallowed. Harmful in contact with skin. May cause sensitization by inhalation and skin contact. May cause heritable genetic damage. Contains a known or suspected mutagen. May cause harm to the unborn child. May impair fertility. Toxic: danger of serious damage to health by prolonged exposure through inhalation. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment***

Appearance: Orange
Physical State: Solid
Odor: odorless

Target Organs: Eyes, Skin, Respiratory system, Liver, Kidney***

Potential Health Effects

Acute Effects

Principle Routes of Exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Causes burns. May cause irreversible eye damage***</td>
</tr>
<tr>
<td>Skin</td>
<td>Causes burns. May be absorbed through the skin in harmful amounts. May produce an allergic reaction***</td>
</tr>
</tbody>
</table>
Inhalation
Causes burns. Very toxic by inhalation. Exposure through inhalation may result in delayed pulmonary edema, which may be fatal. May cause allergic respiratory reaction. Liver and kidney injuries may occur***

Ingestion
Causes burns. Toxic if swallowed. Liver and kidney injuries may occur***

Chronic Effects
Repeated or prolonged contact causes sensitization, asthma and eczemas. Cancer hazard. May cause heritable genetic damage. Mutagenic effects have occurred in humans. Liver and kidney injuries may occur. Experiments have shown reproductive toxicity effects on laboratory animals. Possible risk of harm to the unborn child***

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sodium dichromate dihydrate</td>
<td>7789-12-0</td>
<td>&gt;95</td>
</tr>
<tr>
<td></td>
<td>Sodium dichromate</td>
<td>10588-01-9</td>
<td>-</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact
Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Inhalation
Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

Ingestion
Do not induce vomiting. Call a physician or Poison Control Centre immediately***

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point
Method -
No information available.

Autoignition Temperature
No information available.

Explosion Limits
Upper
No data available

Lower
No data available

Suitable Extinguishing Media
Cool containers with flooding quantities of water until well after fire is out. Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..

Unsuitable Extinguishing Media
No information available.

Hazardous Combustion Products
No information available.

Sensitivity to mechanical impact
No information available.

Sensitivity to static discharge
No information available.
Specific Hazards Arising from the Chemical
Oxidizer: Contact with combustible/organic material may cause fire.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors***

### NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3***</td>
<td>0***</td>
<td>1***</td>
<td>OX***</td>
</tr>
</tbody>
</table>

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions**
Ensure adequate ventilation

**Environmental Precautions**
Should not be released into the environment

**Methods for Containment and Clean Up**
Avoid dust formation. Prevent product from entering drains. Sweep up and shovel into suitable containers for disposal. Do not flush into surface water or sanitary sewer system***

### 7. HANDLING AND STORAGE

**Handling**
Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or mists. Do not ingest. Use only in area provided with appropriate exhaust ventilation. Keep away from clothing and other combustible materials. Use only in well-ventilated areas***

**Storage**
Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Do not store near combustible materials. Corrosives area.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures**
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location***

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate dihydrate</td>
<td>TWA: 0.05 mg/m³</td>
<td>(Vacated) Ceiling: 0.1 mg/m³</td>
<td>IDLH: 15 mg/m³ TWA: 0.001 mg/m³</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>TWA: 0.05 mg/m³</td>
<td>(Vacated) Ceiling: 0.1 mg/m³</td>
<td>IDLH: 15 mg/m³ TWA: 0.001 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate dihydrate</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 0.5 mg/m³ TWA: 0.05 mg/m³</td>
<td>TWA: 0.05 mg/m³</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 0.5 mg/m³ TWA: 0.05 mg/m³</td>
<td>TWA: 0.05 mg/m³</td>
</tr>
</tbody>
</table>

**NIOSH IDLH:** Immediately Dangerous to Life or Health

**Personal Protective Equipment**

- **Eye/face Protection**
  Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

- **Skin and body protection**
  Wear appropriate protective gloves and clothing to prevent skin exposure.

- **Respiratory Protection**
  Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State
Solid
Appearance
Orange
Odor
odorless
Odor Threshold
No information available.
pH
3.5-3.9 5% aq.sol.
Vapor Pressure
No information available.
Vapor Density
No information available.
Viscosity
No information available.
Boiling Point/Range
400°C / 752°F @ 760 mmHg
Melting Point/Range
357°C / 674.6°F
Decomposition temperature
400 °C
Flash Point
No information available.
Evaporation Rate
No information available.
Specific Gravity
No information available.
Solubility
No information available.
log Pow
No data available
Molecular Weight
298
Molecular Formula
Cr2 Na2 O7 .2 H2 O

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions. Oxidizer: Contact with combustible/organic material may cause fire***

Conditions to Avoid
Incompatible products. Combustible material.

Incompatible Materials
Organic materials, Acids, Water, Strong bases, Acid anhydrides, Metals, Reducing agents, Powdered metals***

Hazardous Decomposition Products
Highly toxic fumes, Sodium oxides, oxygen, Chromium oxide***

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information
No acute toxicity information is available for this product

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation (Rat) 4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate</td>
<td>50 mg/kg</td>
<td>1000 mg/kg</td>
<td>0.124 mg/L</td>
</tr>
</tbody>
</table>

Irritation
Causes burns by all exposure routes***

Toxicologically Synergistic Products
No information available.

Chronic Toxicity

Carcinogenicity
There are no known carcinogenic chemicals in this product
<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate dihydrate</td>
<td>A1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>A1</td>
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<tr>
<td>Sodium dichromate</td>
<td>A1</td>
<td>Group 1</td>
<td>Not listed</td>
<td>X</td>
<td>A1</td>
</tr>
</tbody>
</table>

**Sensitization**

May cause sensitization by inhalation and skin contact

**Mutagenic Effects**

Mutagenic

**Reproductive Effects**

Possible risk of impaired fertility***

**Developmental Effects**

No information available.

**Teratogenicity**

Teratogenic effects have occurred in experimental animals.

**Other Adverse Effects**

See actual entry in RTECS for complete information.

**Endocrine Disruptor Information**

No information available

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate</td>
<td>Not listed</td>
<td>69 mg/L LC50 96 h</td>
<td>Not listed</td>
<td>1.4 mg/L EC50 = 24 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33.2 mg/L LC50 96 h</td>
<td></td>
<td>0.098 - 0.129 mg/L EC50 48 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>213 mg/L LC50 96 h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Persistence and Degradability**

No information available

**Bioaccumulation/ Accumulation**

No information available

**Mobility**

No information available

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

### 14. TRANSPORT INFORMATION

**DOT**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN3087***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>OXIDIZING SOLID, TOXIC, N.O.S. ***</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>5.1***</td>
</tr>
<tr>
<td>Subsidiary Hazard Class</td>
<td>6.1***</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II***</td>
</tr>
</tbody>
</table>

**TDG**

| UN-No                          | UN3087***          |
14. TRANSPORT INFORMATION

Proper Shipping Name: OXIDIZING SOLID, TOXIC, N.O.S. ***
Hazard Class: 5.1***
Subsidiary Hazard Class: 6.1***
Packing Group: II***

IATA

UN-No: UN3087***
Proper Shipping Name: OXIDIZING SOLID, TOXIC, N.O.S.*
Hazard Class: 5.1
Subsidiary Hazard Class: 6.1
Packing Group: II

IMDG/IMO

UN-No: UN3087***
Proper Shipping Name: OXIDIZING SOLID, TOXIC, N.O.S.
Hazard Class: 5.1
Subsidiary Hazard Class: 6.1
Packing Group: II

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>CHINA</th>
<th>KECL</th>
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</thead>
<tbody>
<tr>
<td>Sodium dichromate dihydrate</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>R</td>
<td>X</td>
<td>-</td>
<td>234-190-3</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA 12(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate</td>
<td>Section 6</td>
</tr>
</tbody>
</table>

SARA 313
Not applicable
<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate</td>
<td>10588-01-9</td>
<td>-</td>
<td>0.1</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazardous Categorization**

- **Acute Health Hazard**: Yes***
- **Chronic Health Hazard**: Yes***
- **Fire Hazard**: Yes***
- **Sudden Release of Pressure Hazard**: No
- **Reactive Hazard**: No

**Clean Water Act**

Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate dihydrate</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>X</td>
<td>10 lb</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

**Clean Air Act**

Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depleters</th>
<th>Class 2 Ozone Depleters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate dihydrate</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**OSHA**

Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>Specifically Regulated Chemicals</th>
<th>Highly Hazardous Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate</td>
<td>5 µg/m³ TWA</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>2.5 µg/m³ Action Level</td>
<td></td>
</tr>
</tbody>
</table>

**CERCLA**

Not Applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate</td>
<td>10 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate</td>
<td>10588-01-9</td>
<td>Carcinogen</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Developmental</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female Reproductive</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Male Reproductive</td>
<td></td>
</tr>
</tbody>
</table>

**State Right-to-Know**

Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichromate dihydrate</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**U.S. Department of Transportation**
Reportable Quantity (RQ): N  
DOT Marine Pollutant: N  
DOT Severe Marine Pollutant: N  

**U.S. Department of Homeland Security**  
This product does not contain any DHS chemicals.

**Other International Regulations**  

**Mexico - Grade**  
No information available

**Canada**  
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**  
C Oxidizing materials  
D2A Very toxic materials  
D1A Very toxic materials ***

---

### 16. OTHER INFORMATION

**Prepared By**  
Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Creation Date**  
16-Nov-2010

**Print Date**  
16-Apr-2013***

**Revision Summary**  
"***" and red text indicates revision
Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. 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 in any process, unless specified in the text.

End of MSDS