1. Product and Company Identification

Product Code: 3007
Product Name: SIFCO Process Trivalent Chromium Conversion

Manufacturer Information

Company Name: SIFCO Applied Surface Concepts
Division of SIFCO Industries, Inc.
5708 E. Schaaf Road
Independence, OH  44131

Phone Number: (216)524-0099
Fax Number: (216)524-6331
Emergency Contact: CHEMTREC (United States)                (800)424-9300
Information: CHEMTREC ( International-Collect)       +1  (703)527-3887
Web site address: http://www.SIFCOASC.com
Email address: info@sifcoasc.com

2. Hazards Identification

Emergency Overview

Blue liquid with no characteristic odor.
Caution!  May cause eye and skin burns. May be harmful if swallowed.
Contains materials that can cause target organ damage. Contains materials which can cause cancer. Emergency Response Guide #171

Route(s) of Entry: Inhalation? Yes    Skin? Yes    Eyes? Yes    Ingestion? Yes

Health Hazards (Acute and Chronic)

INHALATION: May give off gas, vapor or dust that is irritating to the respiratory system. Exposure to decomposition products may cause a health hazard.
INGESTION: Harmful if swallowed. May cause burns to mouth, throat and stomach.
EYE: May be corrosive to eyes. May cause burns.
SKIN CONTACT: May be corrosive to the skin. May cause burns.
CHRONIC EFFECTS: Contains material that may cause target organ damage.

Signs and Symptoms Of Exposure

Dependant on route(s) of entry.  See section above for details.

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Concentration</th>
<th>Formula</th>
<th>RTECS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>1.0 -3.0 %</td>
<td>NaNO3</td>
<td>WC56000000</td>
</tr>
<tr>
<td>Chromium hydroxide sulphate (Cr(OH)(SO4))</td>
<td>12336-95-7</td>
<td>1.0 -3.0 %</td>
<td>CrHO5S</td>
<td>GB6240000</td>
</tr>
<tr>
<td>Cobalt sulfate heptahydrate</td>
<td>10026-24-1</td>
<td>0.3 -1.0 %</td>
<td>CoSO4.7H2O</td>
<td>GG3200000</td>
</tr>
<tr>
<td>Ammonium bifluoride</td>
<td>1341-49-7</td>
<td>0.3 -1.0 %</td>
<td>F2H5N</td>
<td>BQ9200000</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>92.0 -97.4 %</td>
<td>H2O</td>
<td>ZC0110000</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid providers must take proper precautions for their own safety before entering contaminated areas to assist chemical accident victims and handling their contaminated clothing and equipment. Another person should immediately call the Emergency Medical Service, 911-Operator, Hospital, Physician, Ophthalmologist or Poison Control Center, as applicable. Give the following information: Location of the accident, your phone number, description of the accident, name of chemical agent and product, number and condition of casualties, what is
being done for the victims.

Stay on the phone until the other party hangs up! Remove victim from contaminated area to a clean, quiet, ventilated area. Keep them calm and warm.

EYES: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes.
SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly decontaminate (or discard) clothing and shoes.
INHALATION: Remove to fresh air. Lay victim down, legs raised. Loosen tight clothing, cover with a blanket. If not breathing, give artificial respiration.
INGESTION: DO NOT induce vomiting, unless advised by EMS. Give large quantities of water. Never give anything by mouth to an unconscious person.

5. Fire Fighting Measures

<table>
<thead>
<tr>
<th>Flammability Classification:</th>
<th>Material will not burn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Pt:</td>
<td></td>
</tr>
<tr>
<td>Explosive Limits:</td>
<td>LEL:</td>
</tr>
<tr>
<td></td>
<td>UEL:</td>
</tr>
</tbody>
</table>

Special Fire Fighting Procedures

- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Unusual Fire and Explosion Hazards

Suitable Extinguishing Media

- Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media

- None known.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

- Do not touch or walk through spilled material. Isolate hazard area and keep people away. Notify your facility emergency coordinator. Eliminate all sources of ignition. Provide maximum ventilation. Do not release into soil, sewers, or natural bodies of water. Wear proper personal protective equipment (PPE). Carefully mop up or vacuum spill and triple rinse with water into suitable plastic container. Release of a reportable quantity (RQ) requires notification of proper authorities. Dispose of according to local, state, and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

- Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

- Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Precautions To Be Taken in Storing

- Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully rescaled and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
8. Exposure Controls/Personal Protection

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sodium nitrate</td>
<td>7631-99-4</td>
<td></td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>2. Chromium hydroxide sulphate (Cr(OH)(SO₄))</td>
<td>12336-95-7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Cobalt sulphate heptahydrate</td>
<td>10026-24-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Ammonium bifluoride</td>
<td>1341-49-7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Water</td>
<td>7732-18-5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Respiratory Equipment (Specify Type)

If engineering controls are not feasible, the respiratory protection program must comply with OSHA 29 CFR 1910.134

Eye Protection

Face shield and safety glasses w/ side shields or splash-proof chemical goggles. Do not wear contact lenses. Eye wash station, safety shower, washing facilities near work area.

Protective Gloves

Nitrile gloves.

Ventilation

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Work/Hygienic/Maintenance Practices

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

Physical States: [ ] Gas [ X ] Liquid [ ] Solid

Explosive Limits: LEL: UEL:

Specific Gravity (Water = 1): 1.045 - 1.050

Density: 1.03 - 1.07

pH: 2.0 - 2.5

Appearance and Odor

Blue liquid with no characteristic odor.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [ X ]

Conditions To Avoid - Instability

Incompatibility - Materials To Avoid

Hazardous Decomposition Or Byproducts

Possibility of Hazardous Reactions: Will occur [ ] Will not occur [ X ]

Conditions To Avoid - Hazardous Reactions

Avoid exposure - obtain special instructions before use.

11. Toxicological Information

Inhalation: May give off gas, vapor or dust that is irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard.

Ingestion: Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin: May be corrosive to the skin. May cause burns.

Eyes: May be corrosive to eyes. May cause burns.
Carcinogenicity/Other Information

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium hydroxide sulphate (Cr(OH)(SO4))</td>
<td>12336-95-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobalt sulfate heptahydrate</td>
<td>10026-24-1</td>
<td>2B</td>
<td>A3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonium bifluoride</td>
<td>1341-49-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


12. Ecological Information

No known significant effects or critical hazards.

13. Disposal Considerations

Waste Disposal Method

Ship to approved treatment/disposal facility. Dispose of according to local, state, and federal regulations. Follow the applicable regulations for disposal of empty containers and rinsate. The disposal information applies to the material as manufactured. Contamination may affect the disposal requirements. The responsibility for proper waste disposal is with the generator of the waste.

14. Transport Information

LAND TRANSPORT (US DOT)
- DOT Proper Shipping Name: UN3082, Environmentally hazardous substances, liquid, n.o.s. (Chromium Sulphate) PG III - ERG 171
- DOT Hazard Class: 9
- DOT Hazard Label: CLASS 9
- UN/NA Number: UN3082
- Packing Group: III

LAND TRANSPORT (Canadian TDG)
- UN Number: 3082
- Packing Group: III

LAND TRANSPORT (European ADR/RID)
- UN Number: 3082
- Packing Group: III

AIR TRANSPORT (ICAO/IATA)
- UN Number: 3082
- Packing Group: III
- IATA Classification: 9

MARINE TRANSPORT (IMDG/IMO)
- UN Number: 3082
- Packing Group: III
- Marine Pollutant: No

15. Regulatory Information

US EPA SARA Title III

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Sec.302 (EHS)</th>
<th>Sec.304 RQ</th>
<th>Sec.313 (TRI)</th>
<th>Sec.110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>No</td>
<td>No</td>
<td>Yes-Cat. N511</td>
<td>No</td>
</tr>
<tr>
<td>Chromium hydroxide sulphate (Cr(OH)(SO4))</td>
<td>12336-95-7</td>
<td>No</td>
<td>No</td>
<td>Yes-Cat. N090</td>
<td>No</td>
</tr>
<tr>
<td>Cobalt sulfate heptahydrate</td>
<td>10026-24-1</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Ammonium bifluoride</td>
<td>1341-49-7</td>
<td>Yes 100 LB</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Hazardous Components (Chemical Name)  | CAS #   | Sec.302 (EHS) | Sec.304 RQ | Sec.313 (TRI) | Sec.110
--- | --- | --- | --- | --- | ---
Water | 7732-18-5 | No | No | No

**US EPA CAA, CWA, TSCA**

Hazardous Components (Chemical Name)  | CAS #   | EPA CAA | EPA CWA NPDES | EPA TSCA | CA PROP 65
--- | --- | --- | --- | --- | ---
1. Sodium nitrate  | 7631-99-4 | HAP, ODC () | No | Inventory, 8A CAIR | No
2. Chromium hydroxide sulphate (Cr(OH)(SO4))  | 12336-95-7 | HAP, ODC () | No | Inventory | No
3. Cobalt sulfate heptahydrate  | 10026-24-1 | HAP, ODC () | No | Yes | No
4. Ammonium bifluoride  | 1341-49-7 | HAP, ODC () | No | Inventory | No
5. Water  | 7732-18-5 | HAP, ODC () | No | Inventory | No

**SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:**

- **Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- **Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- **Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- **Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

**TSCA (Toxic Substances Control Act) Lists:**

- **Inventory:** Chemical Listed in the TSCA Inventory.
- **5A(2):** Chemical Subject to Significant New Rules (SNURS)
- **6A:** Commercial Chemical Control Rules
- **8A:** Toxic Substances Subject To Information Rules on Production
- **8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- **8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- **8C:** Records of Allegations of Significant Adverse Reactions
- **8D:** Health and Safety Data Reporting Rules
- **8D TERM:** Health and Safety Data Reporting Rule Terminations
- **12(b):** Notice of Export

**Other Important Lists:**

- **CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- **CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- **CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- **CA PROP 65:** California Proposition 65

**International Regulatory Lists:**

**EPA Hazard Categories:**

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- [X] Yes [ ] No Acute (immediate) Health Hazard
- [X] Yes [ ] No Chronic (delayed) Health Hazard
- [ ] Yes [X] No Fire Hazard
- [ ] Yes [X] No Sudden Release of Pressure Hazard
- [ ] Yes [X] No Reactive Hazard

**Regulatory Information**

1. Supplier Notification about toxic Chemicals.

SIFCO Applied Surface Concepts is required to inform you, that this product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372, if specified annual thresholds are met or exceeded.

 Toxic Chemical  | CAS #  | Wt.% (Maximum)  
--- | --- | ---
 Chromium Sulphate  | - 12336-95-7 | - 3%
Your other suppliers of trade name products or mixtures containing section 313 chemicals must also notify you. If you repackage or otherwise redistribute this product to industrial customers you are required to furnish similar notification to them.

2. CERCLA and EPCRA:
Threshold Planning Quantity: N/A
(Release) Reportable Quantity: N/A
Extremely Hazardous Substance: None

3. EPCRA Hazard Categories:
Immediate (Acute) Health: Yes
Delayed (Chronic) Health: Yes
Fire: No
Sudden release of Pressure: No
Reactivity: No

4. TSCA Statement.
All ingredients of this product are listed under the Toxic Substances Control Act (TSCA).

5. ODS Certification.
This product does not contain and is not manufactured with Ozone Depleting Substances (ODS).

6. VOC Certification.
This product does not contain any Volatile Organic Compounds (VOC).

7. PCB Certification.
This product does not contain any polychlorinated biphenyls (PCB).

STATE REGULATIONS:
California Prop. 65:
WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

INTERNATIONAL REGULATIONS:
WHMIS Classification.
Class D-2B

16. Other Information

Company Policy or Disclaimer
DISCLAIMER:
This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.