MATERIAL SAFETY DATA SHEET
Cobalt(II) nitrate hexahydrate

Section 1 - Chemical Product and Company Identification

MSDS Name: Cobalt(II) nitrate hexahydrate
Catalog Numbers: 21309-0000, 21309-0010, 21309-1000, 21309-5000, 21921-0000, 21921-1000, 21921-5000, 42358-0000, 42358-1000, 42358-5000
Synonyms: Cobaltous nitrate hexahydrate
Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaan 3a
2440 Geel, Belgium
Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>%</th>
<th>EINECS#</th>
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</thead>
<tbody>
<tr>
<td>10026-22-9</td>
<td>Cobalt(II) nitrate hexahydrate</td>
<td>&gt;98%</td>
<td>unlisted</td>
</tr>
</tbody>
</table>

Hazard Symbols: XN O
Risk Phrases: 22 36/37/38 40 42/43 43 8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful if swallowed. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact. Contact with combustible material may cause fire.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation. May be harmful if absorbed through the skin. May cause sensitization by skin contact.
Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation: Causes respiratory tract irritation. May be harmful if inhaled. May cause respiratory
sensitization.

**Chronic:**

### Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid. Wash mouth out with water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:**

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container.

### Section 7 - Handling and Storage

**Handling:** Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes.

**Storage:** Do not store near combustible materials. Store in a cool, dry place. Store in a tightly closed container.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

CAS# 10026-22-9: United Kingdom, WEL - TWA: (cobalt compounds): 0.1 mg/m³ TWA (as Co) United Kingdom, WEL - STEL: (cobalt compounds): 0.3 mg/m³ STEL (as Co) Japan: (cobalt compounds): 0.05 mg/m³ OEL (as Co) Malaysia: (cobalt, inorganic compounds): 0.02 mg/m³ TWA (as Co) Russia: (cobalt, inorganic compounds): 0.01 mg/m³ TWA (aerosol) Spain: (cobalt, inorganic compounds): 0.02 mg/m³ VLA-ED (as Co)

**Personal Protective Equipment**

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** 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.
Section 9 - Physical and Chemical Properties

**Physical State:** Solid
**Color:** red - pink - brown
**Odor:** odorless
**pH:** Not available
**Vapor Pressure:** Not available
**Viscosity:** Not available
**Boiling Point:** Not available
**Freezing/Melting Point:** 55 deg C (131.00°F)
**Autoignition Temperature:** Not available
**Flash Point:** Not available
**Explosion Limits: Lower:** Not available
**Explosion Limits: Upper:** Not available
**Decomposition Temperature:**
  **Solubility in water:** 134 g/100ml
  **Specific Gravity/Density:** 1.880
**Molecular Formula:** CoN2O6.6H2O
**Molecular Weight:** 291.02

Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. Hygroscopic: absorbs moisture or water from the air.

**Conditions to Avoid:** Incompatible materials, moisture, excess heat, combustible materials.

**Incompatibilities with Other Materials**
Reducing agents.

**Hazardous Decomposition Products**
Nitrogen oxides.

**Hazardous Polymerization**
Has not been reported.

Section 11 - Toxicological Information

**RTECS#:** CAS# 10026-22-9: QU7355500

**LD50/LC50:**
**CAS# 10026-22-9:** Oral, rat: LD50 = 691 mg/kg;

**Carcinogenicity:** Cobalt(II) nitrate hexahydrate - IARC: Group 2B carcinogen

**Other:** The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

Section 12 - Ecological Information

**Ecotoxicity:** Fish: Fathead Minnow: LC50: 0,110 mg/Lt; 96H; flow-through

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>IATA</th>
<th>IMO</th>
<th>RID/ADR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Name</td>
<td>NITRATES, INORGANIC, N.O.S.</td>
<td>NITRATES, INORGANIC, N.O.S.</td>
</tr>
</tbody>
</table>
**Section 15 - Regulatory Information**

**European/International Regulations**

European Labeling in Accordance with EC Directives

Hazard Symbols: XN O

Risk Phrases:
- R 22 Harmful if swallowed.
- R 36/37/38 Irritating to eyes, respiratory system and skin.
- R 40 Limited evidence of a carcinogenic effect.
- R 42/43 May cause sensitization by inhalation and skin contact.
- R 43 May cause sensitzation by skin contact.
- R 8 Contact with combustible material may cause fire.

Safety Phrases:
- S 17 Keep away from combustible material.
- S 22 Do not breathe dust.
- S 24 Avoid contact with skin.
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 37/39 Wear suitable gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 10026-22-9: 2

Canada

**US Federal**

TSCA

CAS# 10026-22-9 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form in on the Inventory (40CFR720.3(u)(2)).

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**Section 16 - Other Information**

**MSDS Creation Date:** 7/16/1996  
**Revision #1 Date:** 3/09/2004  

Revisions were made in Sections: General revision.

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