SAFETY DATA SHEET
Electrolyte Formula MSC2

Section 1. Identification

GHS product identifier : Electrolyte Formula MSC2
Other means of identification : Not available.
Product type : Liquid.

Material uses : Electrolyte solution.

Manufacturer : Marking Methods, Inc.
301 S. Raymond Avenue
Alhambra, CA 91803-1531
Tel: (626)282-8823

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 24/7

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
CARCINOGENICITY - Category 1B
TOXIC TO REPRODUCTION (Fertility) - Category 1B

GHS label elements
Hazard pictograms :

Signal word : Danger

Hazard statements : H314 - Causes severe skin burns and eye damage.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 - May cause an allergic skin reaction.
H350 - May cause cancer.
H360 - May damage fertility.
H341 - Suspected of causing genetic defects.

Precautionary statements
Section 2. Hazards identification

**Prevention**
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P281 - Use personal protective equipment as required.
- P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
- P285 - In case of inadequate ventilation wear respiratory protection.
- P261 - Avoid breathing vapor.
- P264 - Wash hands thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.

**Response**
- P308 + P313 - IF exposed or concerned: Get medical attention.
- P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.
- P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician.
- P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- P333 + P313 - If skin irritation or rash occurs: Get medical attention.
- P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

**Storage**
- P405 - Store locked up.

**Disposal**
- P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified (HNOC)**
- Physical hazards not otherwise classified (PHNOC): None known.
- Health hazards not otherwise classified (HHNOC): None known.

Section 3. Composition/information on ingredients

**Substance/mixture**
- Mixture

**Other means of identification**
- Not available.

**CAS number/other identifiers**
- CAS number: Not applicable.
- Product code: Not available.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>5 - 10</td>
<td>10043-52-4</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>1 - 5</td>
<td>10141-05-6</td>
</tr>
<tr>
<td>Malic acid</td>
<td>1 - 5</td>
<td>6915-15-7</td>
</tr>
<tr>
<td>Sodium etasulfate</td>
<td>1 - 5</td>
<td>126-92-1</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

Occupational exposure limits, if available, are listed in Section 8.
Section 4. First aid measures

Description of necessary first aid measures

Eye contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

Inhalation: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Skin contact: Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes serious eye damage.

Inhalation: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact: Causes severe burns. May cause an allergic skin reaction.

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

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:

- pain
- watering
- redness

Inhalation: Adverse symptoms may include the following:

- wheezing and breathing difficulties
- asthma
- reduced fetal weight
- increase in fetal deaths
- skeletal malformations
Section 4. First aid measures

**Skin contact**
- Adverse symptoms may include the following:
  - pain or irritation
  - redness
  - blistering may occur
  - reduced fetal weight
  - increase in fetal deaths
  - skeletal malformations

**Ingestion**
- Adverse symptoms may include the following:
  - stomach pains
  - reduced fetal weight
  - increase in fetal deaths
  - skeletal malformations

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician**
- In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments**
- No specific treatment.

**Protection of first-aiders**
- No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media**
- Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**
- None known.

**Specific hazards arising from the chemical**
- No specific fire or explosion hazard.

**Hazardous thermal decomposition products**
- Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - nitrogen oxides
  - Sulfur oxides
  - halogenated compounds
  - metal oxide/oxides

**Special protective actions for fire-fighters**
- No special measures are required.

**Special protective equipment for fire-fighters**
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene: 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. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities: 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 (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt nitrate</td>
<td>ACGIH TLV (United States, 4/2014). TWA: 0.02 mg/m³, (as Co) 8 hours. Form: Inorganic</td>
</tr>
</tbody>
</table>

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls

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

Appropriate engineering controls

Use only with adequate 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.

Individual protection measures

Hygiene measures

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Inorganic

[3] Skin sensitization

Form: [a] Inorganic

Mexico

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt nitrate</td>
<td>ACGIH TLV (United States, 4/2014). TWA: 0.02 mg/m³, (as Co) 8 hours. Form: Inorganic</td>
</tr>
</tbody>
</table>

[Cobalt nitrate, as Co]

ACGIH TLV (United States, 4/2014).

TWA: 0.02 mg/m³, (as Co) 8 hours. Form: Inorganic

Mexico

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<tr>
<th>Ingredient name</th>
<th>List name</th>
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<th>mg/m³</th>
<th>Other ppm</th>
<th>mg/m³</th>
<th>Other ppm</th>
<th>mg/m³</th>
<th>Other ppm</th>
<th>mg/m³</th>
<th>Other ppm</th>
<th>mg/m³</th>
<th>Notations</th>
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<td>5</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>[a]</td>
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<td>US ACGIH 4/2014</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>[a]</td>
</tr>
<tr>
<td>ON 1/2013</td>
<td>-</td>
<td>0.02</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>[a]</td>
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<tr>
<td>QC 1/2014</td>
<td>-</td>
<td>0.02</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>[3]</td>
</tr>
</tbody>
</table>

[3] Skin sensitization

Form: [a] Inorganic
Section 8. Exposure controls/personal protection

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state: Liquid.
Color: Pink. [Light]
Odor: Spearmint.
Odor threshold: Not available.
pH: 1.5 to 2.5
Melting point: 0°C (32°F)
Boiling point: 100°C (212°F)
Flash point: Not available.
Evaporation rate: Not available.
Flammability (solid, gas): Not available.
Lower and upper explosive (flammable) limits: Not available.
Vapor pressure: Not available.
Vapor density: >1 [Air = 1]
Relative density: 1.06
Solubility: Miscible in water.
Partition coefficient: n-octanol/water: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.
Volutility: Not available.
VOC (w/w): 1.3 % (w/w)

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: strong base, alkalis, reducing materials and oxidizing materials.
Section 10. Stability and reactivity

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>434 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Malic acid</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Sodium etasulfate</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>4 g/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malic acid</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 750 µg</td>
<td>-</td>
</tr>
<tr>
<td>Sodium etasulfate</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>250 µg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 mg</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitization

There is no data available.

Carcinogenicity

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>EPA</th>
<th>NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt nitrate</td>
<td>-</td>
<td>2A</td>
<td>-</td>
<td>A3</td>
<td>-</td>
<td>None.</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact: Causes serious eye damage.
Inhalation: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact: Causes severe burns. May cause an allergic skin reaction.
Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following: pain, watering, redness.
Section 11. Toxicological information

Inhalation: Adverse symptoms may include the following:
- wheezing and breathing difficulties
- asthma
- reduced fetal weight
- increase in fetal deaths
- skeletal malformations

Skin contact: Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur
- reduced fetal weight
- increase in fetal deaths
- skeletal malformations

Ingestion: Adverse symptoms may include the following:
- stomach pains
- reduced fetal weight
- increase in fetal deaths
- skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure
- Potential immediate effects: No known significant effects or critical hazards.
- Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
- Potential immediate effects: No known significant effects or critical hazards.
- Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects
- General: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity: May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity: Suspected of causing genetic defects.
- Teratogenicity: No known significant effects or critical hazards.
- Developmental effects: No known significant effects or critical hazards.
- Fertility effects: May damage fertility.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>47217.5 mg/kg</td>
</tr>
</tbody>
</table>
**Section 12. Ecological information**

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>Acute EC50 3130000 µg/L Fresh water</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>Acute EC50 52000 µg/L Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>Acute LC50 270 mg/L Marine water</td>
<td>Crustaceans - Americamysis bahia</td>
<td>48 hours</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>Acute LC50 2110 mg/L Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>Acute EC50 10233 µg/L Marine water</td>
<td>Crustaceans - Artemia salina - Egg</td>
<td>48 hours</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>Acute IC50 19.57 mg/L Marine water</td>
<td>Algae - Phaeodactylum tricornutum - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>Acute IC50 19.19 mg/L Marine water</td>
<td>Algae - Phaeodactylum tricornutum - Exponential growth phase</td>
<td>96 hours</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>Acute LC50 3400 µg/L Marine water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>Acute LC50 66800 µg/L Fresh water</td>
<td>Fish - Carassius auratus</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**

There is no data available.

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt nitrate</td>
<td>-1.26</td>
<td>15600</td>
<td>high</td>
</tr>
<tr>
<td>Malic acid</td>
<td>-1.26</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

**Mobility in soil**

- **Soil/water partition coefficient (K<sub>OC</sub>)**
  - There is no data available.

**Other adverse effects**

- No known significant effects or critical hazards.

**Section 13. Disposal considerations**

**Disposal methods**

- The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Section 14. Transport information**

<table>
<thead>
<tr>
<th>DOT</th>
<th>TDG / NOM-003-SCT</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN3264</td>
<td>UN3264</td>
<td>UN3264</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Cobalt nitrate)</td>
<td>CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Cobalt nitrate)</td>
<td>CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Cobalt nitrate)</td>
</tr>
</tbody>
</table>
Section 14. Transport information

<table>
<thead>
<tr>
<th>Transport hazard class(es)</th>
<th>8</th>
<th>8</th>
<th>8</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>II</td>
<td>II</td>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
<td>Emergency schedules (EmS)</td>
<td>-</td>
</tr>
</tbody>
</table>

AERG : 154

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : United States inventory (TSCA 8b): All components are listed or exempted.

- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed
- Clean Air Act Section 602 Class I Substances : Not listed
- Clean Air Act Section 602 Class II Substances : Not listed
- DEA List I Chemicals (Precursor Chemicals) : Not listed
- DEA List I Chemicals (Precursor Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients : No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
               : Delayed (chronic) health hazard

Composition/information on ingredients
### Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>5 - 10</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Cobalt nitrate</td>
<td>1 - 6</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Malic acid</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Sodium etasulfate</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

**SARA 313**

<table>
<thead>
<tr>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt nitrate</td>
<td>10141-05-6</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

- **Massachusetts**: The following components are listed: Cobalt nitrate
- **New York**: None of the components are listed.
- **New Jersey**: The following components are listed: Cobalt nitrate
- **Pennsylvania**: The following components are listed: Cobalt nitrate

**California Prop. 65**

**WARNING**: This product contains a chemical known to the State of California to cause cancer.

**Ingredient name**

- **Cobalt nitrate**: Yes.
- **Reproductive**: No.
- **No significant risk level**: No.
- **Maximum acceptable dosage level**: No.

**Canada**

**Canadian lists**

- **Canadian NPRI**: The following components are listed: Cobalt nitrate
- **CEPA Toxic substances**: None of the components are listed.
- **Canada inventory**: All components are listed or exempted.

**International lists**

**National inventory**

- **Australia**: All components are listed or exempted.
- **China**: All components are listed or exempted.
- **Europe**: All components are listed or exempted.
- **Japan**: All components are listed or exempted.
- **Malaysia**: Not determined.
- **New Zealand**: All components are listed or exempted.
- **Philippines**: All components are listed or exempted.
- **Republic of Korea**: All components are listed or exempted.
- **Taiwan**: Not determined.
Section 16. Other information

History

Date of issue mm/dd/yyyy : 06/01/2015
Date of previous issue : 05/15/2012
Version : 4
Prepared by : KMK Regulatory Services Inc.

Notice to reader
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