



# SAFETY DATA SHEET

## Electrolyte Formula F10

### Section 1. Identification

<b>GHS product identifier</b>	: Electrolyte Formula F10
<b>Other means of identification</b>	: Not available.
<b>Product type</b>	: Liquid.
<b>Material uses</b>	: Electrolyte solution.
<b>Manufacturer</b>	: Marking Methods, Inc. 301 S. Raymond Avenue Alhambra, CA 91803-1531 Tel: (626)282-8823
<b>Emergency telephone number (with hours of operation)</b>	: CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 24/7

### Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	: ACUTE TOXICITY (oral) - Category 4 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

: H302 - Harmful if swallowed.  
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.  
P285 - In case of inadequate ventilation wear respiratory protection.  
P261 - Avoid breathing vapor.  
P270 - Do not eat, drink or smoke when using this product.  
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 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician.  
P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.  
P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.  
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
- 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.

Ingredient name	%	CAS number
Cobalt nitrate	5 - 10	10141-05-6
Cobalt dichloride	5 - 10	7646-79-9
Ammonium chloride	1 - 5	12125-02-9

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** : 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. Get medical attention.
- Inhalation** : 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. Get medical attention. If necessary, call a poison center or physician. 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** : 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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : 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. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : 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** : May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- 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:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 4. First aid measures

### 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:  
nitrogen 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. Avoid breathing 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

## Section 6. Accidental release measures

- 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). 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 ingest. Avoid breathing vapor or mist. 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. 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. 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

Ingredient name	Exposure limits
Cobalt nitrate	<b>ACGIH TLV (United States, 4/2014).</b> TWA: 0.02 mg/m <sup>3</sup> , (as Co) 8 hours. Form: Inorganic
Cobalt dichloride	<b>ACGIH TLV (United States, 4/2014).</b> TWA: 0.02 mg/m <sup>3</sup> , (as Co) 8 hours. Form: Inorganic
Ammonium chloride	<b>ACGIH TLV (United States, 6/2013).</b> STEL: 20 mg/m <sup>3</sup> 15 minutes. Form: Fume TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Fume <b>NIOSH REL (United States, 4/2013).</b> STEL: 20 mg/m <sup>3</sup> 15 minutes. Form: Fume TWA: 10 mg/m <sup>3</sup> 10 hours. Form: Fume <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. STEL: 20 mg/m <sup>3</sup> 15 minutes.

#### Canada

## Section 8. Exposure controls/personal protection

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
Cobalt nitrate, as Co	US ACGIH 4/2014	-	0.02	-	-	-	-	-	-	-	[a]
	BC 7/2013	-	0.02	-	-	-	-	-	-	-	
	ON 1/2013	-	0.02	-	-	-	-	-	-	-	[a]
Cobalt dichloride, as Co	QC 1/2014	-	0.02	-	-	-	-	-	-	-	[3]
	US ACGIH 4/2014	-	0.02	-	-	-	-	-	-	-	[a]
	BC 7/2013	-	0.02	-	-	-	-	-	-	-	
Ammonium chloride	ON 1/2013	-	0.02	-	-	-	-	-	-	-	[a]
	QC 1/2014	-	0.02	-	-	-	-	-	-	-	[3]
	US ACGIH 6/2013	-	10	-	-	20	-	-	-	-	[b]
	AB 4/2009	-	10	-	-	20	-	-	-	-	[3] [b]
	BC 7/2013	-	10	-	-	20	-	-	-	-	[b]
	ON 1/2013	-	10	-	-	20	-	-	-	-	[b]
	QC 12/2012	-	10	-	-	20	-	-	-	-	[c]

[3]Skin sensitization

Form: [a]Inorganic [b]Fume [c]fume

### Mexico

Ingredient name	Exposure limits
Cobalt nitrate	<b>ACGIH TLV (United States, 4/2014).</b> TWA: 0.02 mg/m <sup>3</sup> , (as Co) 8 hours. Form: Inorganic
Cobalt dichloride	<b>ACGIH TLV (United States, 4/2014).</b> TWA: 0.02 mg/m <sup>3</sup> , (as Co) 8 hours. Form: Inorganic
Ammonium chloride	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-CT: 20 mg/m <sup>3</sup> 15 minutes. Form: smoke LMPE-PPT: 10 mg/m <sup>3</sup> 8 hours. Form: smoke

- 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.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
- 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: safety glasses with side-shields.
- 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

## Section 8. Exposure controls/personal protection

- 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.
- 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** : Red. [Light]
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : 2 to 3.5
- 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** : 1.08
- Solubility** : Miscible in water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Volatility** : Not available.
- VOC (w/w)** : 1.1 % (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.



## Section 10. Stability and reactivity

**Incompatible materials** : Reactive or incompatible with the following materials: strong base, alkalis, reducing agents and oxidizing materials.

**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

Product/ingredient name	Result	Species	Dose	Exposure
Cobalt nitrate	LD50 Oral	Rat	434 mg/kg	-
Cobalt dichloride	LD50 Oral	Rat	80 mg/kg	-
Ammonium chloride	LD50 Oral	Rat	1650 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ammonium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-

#### Sensitization

There is no data available.

#### Carcinogenicity

##### Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Cobalt nitrate	-	2A	-	A3	-	None.
Cobalt dichloride	-	2B	-	A3	-	-

#### 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** : Dermal contact. Eye contact. Inhalation. Ingestion.

#### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : 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** : May cause an allergic skin reaction.

**Ingestion** : Harmful if swallowed.

#### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No known significant effects or critical hazards.



## 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:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
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

Route	ATE value
Oral	1301.8 mg/kg

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Cobalt nitrate	Acute EC50 10233 µg/L Marine water	Crustaceans - Artemia salina - Egg	48 hours
	Acute IC50 19.57 mg/L Marine water	Algae - Phaeodactylum tricornutum - Exponential growth phase	72 hours
	Acute IC50 19.19 mg/L Marine water	Algae - Phaeodactylum tricornutum - Exponential growth phase	96 hours
Cobalt dichloride	Acute LC50 3400 µg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 66800 µg/L Fresh water	Fish - Carassius auratus	96 hours
	Acute EC50 522 µg/L Fresh water	Algae - Chlorella vulgaris - Exponential growth phase	96 hours
	Acute EC50 1110 µg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 1.19 mg/L Marine water	Algae - Phaeodactylum tricornutum - Exponential growth phase	72 hours
Ammonium chloride	Acute LC50 1.67 mg/L Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 8 mg/L Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 0.07 mg/L Marine water	Algae - Hormosira banksii - Gamete	72 hours
	Acute LC50 20 µg/L Fresh water	Crustaceans - Macrobrachium rosenbergii - Post-larvae	48 hours
	Acute LC50 390 µg/L Fresh water	Daphnia - Daphnia magna - Young	48 hours
	Acute LC50 80 µg/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.6 mg/L Marine water	Algae - Entomoneis punctulata - Exponential growth phase	72 hours
	Chronic NOEC 330 µg/L Fresh water	Crustaceans - Crangonyx sp. - Juvenile (Fledgling, Hatchling, Weanling)	21 days
	Chronic NOEC 19.66 mg/L Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.006 mg/L Fresh water	Fish - Ictalurus punctatus - Fry	30 days

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Cobalt nitrate	-	15600	high
Cobalt dichloride	0.85	15600	high
Ammonium chloride	-3.2	-	low

### 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

	DOT	TDG / NOM-003-SCT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

**AERG** : Not applicable.

**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 Water Act (CWA) 311:** Ammonium chloride

**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

## Section 15. Regulatory information

### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Cobalt nitrate	5 - 10	No.	No.	No.	Yes.	Yes.
Cobalt dichloride	5 - 10	No.	No.	No.	Yes.	Yes.
Ammonium chloride	1 - 5	No.	No.	No.	Yes.	No.

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	Cobalt nitrate	10141-05-6	5 - 10
	Cobalt dichloride	7646-79-9	5 - 10
	Ammonium chloride	12125-02-9	1 - 5
<b>Supplier notification</b>	Cobalt nitrate	10141-05-6	5 - 10
	Cobalt dichloride	7646-79-9	5 - 10
	Ammonium chloride	12125-02-9	1 - 5

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; Ammonium chloride
- New York** : The following components are listed: Ammonium chloride
- New Jersey** : The following components are listed: Cobalt nitrate; Cobalt dichloride; Ammonium chloride
- Pennsylvania** : The following components are listed: Cobalt nitrate; Cobalt dichloride; Ammonium chloride

### California Prop. 65

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

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Cobalt nitrate	Yes.	No.	No.	No.

### Canada

#### Canadian lists

- Canadian NPRI** : The following components are listed: Cobalt nitrate; Cobalt dichloride; Ammonium chloride
- 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.

## Section 15. Regulatory information

**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

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.