

SAFETY DATA SHEET

Preparation Date: 04/13/2015

Revision Date: 05/01/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: C-186
Product Name: COBALTOUS CHLORIDE, COLORIMETRIC SOLUTION (CS)

Other means of identification

Synonyms: Cobaltous Chloride, Colorimetric Solution (CS), 1ml = 59.5 mg
 COCl₂
CAS #: Mixture
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

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 2
Reproductive toxicity	Category 1A No effects on or via lactation
Corrosive to metals	Category 1

Label elements

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Danger

Hazard statements

Causes severe skin burns and eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of causing genetic defects
Suspected of causing cancer
May damage fertility or the unborn child
May be corrosive to metals



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear respiratory protection
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing must not be allowed out of the workplace
Wear protective gloves/protective clothing/eye protection/face protection
Keep only in original container

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

Absorb spillage to prevent material damage

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 doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Store in corrosive resistant/ .? container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Water	7732-18-5	93-93.5

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Cobalt Chloride, Hexahydrate	7791-13-1	5.95
Hydrogen chloride	7647-01-0	1.1

4. FIRST AID MEASURES

First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
- Skin Contact:** Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.
- Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Severe skin and eye irritation or burns
 - Irritating to respiratory system
 - May cause pulmonary edema
 - May cause chemical pneumonitis
 - Causes digestive (gastrointestinal) tract irritation
 - May cause abdominal pain, nausea, vomiting, diarrhea
 - May cause gastrointestinal (digestive) tract burns
 - May cause metallic taste
 - Thirst
 - May affect the liver
 - It may affect the kidneys
 - May affect the cardiovascular system
 - May cause allergic respiratory reaction
 - May cause an allergic skin reaction

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

- Suitable Extinguishing Media:** The product is not flammable. If it is involved in a fire,

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extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

No information available.

Specific hazards:

No information available.

Special Protective Actions for Firefighters

Specific Methods:

No information available.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk.

Methods for cleaning up

Neutralize with Sodium carbonate or Sodium bicarbonate. Dilute with water. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. May corrode metallic surfaces. Do not store in uncoated metallic containers. Store in a segregated and approved area. Store away from incompatible materials.

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Incompatible Materials:

Oxidizing agents
 Metals
 Alkalis
 Organic materials
 Amines
 Copper
 Brass
 Zinc
 hydroxides
 Alkali Metals
 Carbides
 borides
 metal oxides
 Vinyl acetate
 acetylides
 sulfides
 Phosphides
 Cyanides
 carbonates
 Formaldehyde

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**National occupational exposure limits****United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Water	7732-18-5	None	None	None	None
Cobalt Chloride, Hexahydrate	7791-13-1	None	None	0.02 mg/m ³ TWA (as Co)	None
Hydrogen chloride	7647-01-0	5 ppm Ceiling 7 mg/m ³ Ceiling	5 ppm Ceiling 7 mg/m ³ Ceiling	2 ppm Ceiling	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Water	7732-18-5	None	None	None	None
Cobalt Chloride, Hexahydrate	7791-13-1	0.02 mg/m ³ TWA (as Co)	0.02 mg/m ³ TWA (as Co)	0.02 mg/m ³ TWA (as Co)	0.02 mg/m ³ TWAEV (as Co)
Hydrogen chloride	7647-01-0	2 ppm Ceiling 3 mg/m ³ Ceiling	2 ppm Ceiling	2 ppm Ceiling	5 ppm Ceiling 7.5 mg/m ³ Ceiling

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Water	7732-18-5	None	None
Cobalt Chloride, Hexahydrate	7791-13-1	None	None
Hydrogen chloride	7647-01-0	None	5 ppm Ceiling 7 mg/m ³ Ceiling

Appropriate engineering controls**Engineering measures to reduce exposure:**

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne

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concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:	Face-shield
Skin and body protection:	Chemical resistant protective suit Gloves Boots
Respiratory protection:	Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
Hygiene measures:	Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	Appearance: Clear.	Color: Pink to Red.
Odor: Nearly odorless.	Taste No information available.	Formula: No information available
Molecular/Formula weight: No information available	Flammability: No information available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): No information available	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): No information available	Bulk density: No information available	Density (g/cm3): No information available
Specific gravity: 1.05	pH: No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Easily soluble in cold water Easily soluble in hot water Soluble in diethyl ether Soluble in Acetone	

10. STABILITY AND REACTIVITY

Reactivity

It reacts with oxidizers releasing chlorine gas.

Reactive with alkalis, amines, metals [Copper and alloys (brass), zinc (galvanized materials)], hydroxides, organic materials, alkali metals, carbides, borides, metal oxides, vinyl acetate, acetylides, sulphides, phosphides, cyanides, carbonates, formaldehyde
Reacts with most metals to produce flammable Hydrogen gas.

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials.

Incompatible Materials: Oxidizing agents
Metals
Alkalis
Organic materials
Amines
Copper
Brass
Zinc
hydroxides
Alkali Metals
Carbides
borides
metal oxides
Vinyl acetate
acetylides
sulfides
Phosphides
Cyanides
carbonates
Formaldehyde

Hazardous decomposition products: Hydrogen chloride gas. Hydrogen gas.

Other Information

Corrosivity: Corrodes on contact with metals

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Ingestion. Inhalation. Eyes.

Acute Toxicity

Component Information

Water	
CAS-No.	7732-18-5

LD50/oral/rat = > 90 mL/kg Oral LD50 Rat

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LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Cobalt Chloride, Hexahydrate	
CAS-No.	7791-13-1

LD50/oral/rat = = 766 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = >2000 mg/kg
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Hydrogen chloride	
CAS-No.	7647-01-0

LD50/oral/rat = 238 - 277 mg/kg Oral LD50 Rat
700 mg/kg (test substance: 31.5% hydrochloric acid solution)
LD50/oral/mouse = No information available
LD50/dermal/rabbit = >5010 mg/kg (Test substance: 31.5% hydrochloric acid solution - from European Chemicals Bureau IUCLID dataset)
LD50/dermal/rat = No information available
LC50/inhalation/rat = 3124 ppm Inhalation LC50 Rat 1 h
1562 ppm 4 h
1.68 mg/L Inhalation LC50 Rat 1h
LC50/inhalation/mouse = 1108 ppm 1 h
Other LD50 or LC50information = 900 mg/kg oral LD50 Rabbit (no information on test substance)

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Corrosive. Causes severe irritation and burns. It may affect the liver if absorbed

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through the skin.

Eye Contact: Corrosive. Causes severe irritation and burns. May affect vision (corneal opacity and degeneration of optic nerve).

Inhalation Material is destructive to the tissue of the mucous membrane and upper respiratory tract. Symptoms may include nose, throat, and laryngeal burning pain, upper respiratory tract edema and inflammation, coughing, sneezing, choking sensation, hoarseness, laryngeal spasms, chest pains, headaches, and palpitations. Inhalation of high concentrations can result in corrosive burns, necrosis of bronchial epithelium, construction of the larynx and bronchi, nasospetal perforation, glottal closure, dyspnea, bronchitis. Chemical pneumonitis and pulmonary edema can also occur, particularly if exposure is prolonged. May affect the liver.

Ingestion Ingestion of large doses causes irritation and burning, ulceration, abdominal pain, nausea, vomiting, hypermotility, diarrhea, and may cause metallic taste, thirst, difficulty swallowing, salivation, chills, fever, uneasiness, shallow respiration, shock, strictures and stenosis (esophageal, gastric, pyloric), and perforation of the gastrointestinal tract and resultant peritonitis, gastric hemorrhage and infection. May affect behavior (excitement), the cardiovascular system (weak rapid pulse, tachycardia), respiration (shallow respiration), and urinary system (kidneys-renal failure, nephritis). May affect behavior (somnia, convulsions, excitement, tremor), heart/cardiovascular system (hypotension, weak rapid pulse, tachycardia, cardiac failure), shallow respiration, thyroid gland (goiter), and metabolism (weight loss), blood (polycythemia, decreased red blood cell count, impair aggregation of platelets, changes in blood clotting time, changes in thromboplastic activity), liver, kidneys (nephritis, renal failure). Acute exposure via inhalation or ingestion can also cause erosion of tooth enamel.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated ingestion may affect the liver, kidneys, blood, behavior (muscle contraction or spasticity), lungs, thyroid gland (reduced thyroid activity, goiter), pancreas (hyperglycemia), liver, heart, and may cause oral mucosal ulceration. Repeated or prolonged skin contact may cause skin sensitization. Prolonged or repeated eye contact can cause conjunctivitis. Prolonged or repeated inhalation may cause respiratory hypersensitivity, chronic bronchitis, changes in pulmonary function, nasal bleeding. Prolonged or repeated inhalation and/or ingestion can cause yellowing of the teeth, and erosion of tooth enamel.

Sensitization: Causes sensitization.

Mutagenic Effects: Mutagenic effects in mammalian somatic cells
Suspected of causing genetic defects

Carcinogenic effects: Suspected of causing cancer. Possibly carcinogenic to humans.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Cobalt Chloride, Hexahydrate	7791-13-1	Group 2B - Monograph 52 [1991] Cobalt	A3 - Confirmed animal carcinogen with	Not listed	Present	Not listed	Not listed

		and Cobalt compounds	unknown relevance to humans (cobalt inorganic compounds)				
Hydrogen chloride	7647-01-0	Group 3 - Not classifiable - Monograph 54 [1992]	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity May damage fertility or the unborn child

Reproductive Effects: May cause adverse reproductive effects

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organs: Teeth. Skin. Liver. Kidneys. Respiratory system. Thyroid.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Cobalt Chloride, Hexahydrate - 7791-13-1

Freshwater Fish Species Data: LC50- Cyprinus Carpio (Carp) 96h: 0.33 mg/l

Water Flea Data: EC50- Daphnia Magna (Water Flea) 48h: 1.4 mg/l

Hydrogen chloride - 7647-01-0

Freshwater Fish Species Data: 282 mg/L LC50 Gambusia affinis 96 h

862 mg/L LC50 Leuciscus idus

Water Flea Data: <56 mg/L LC50 Daphnia magna 72h

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

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Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Water	7732-18-5	None	None	None	None
Cobalt Chloride, Hexahydrate	7791-13-1	None	None	None	None
Hydrogen chloride	7647-01-0	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Subsidiary Class: No information available
Packing group: II
Emergency Response Guide Number: 157
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): [DOT]: (R5) - Identifies a material that is a hazardous substance that has a reportable quantity (RQ) of 5000 pounds (2270 Kilograms).
Description: UN1789,Hydrochloric acid ,8,PG II

TDG (Canada)

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant: No Information available
Description: UN1789,HYDROCHLORIC ACID,8,PG II

ADR

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Packing Group: II
Subsidiary Risk: No information available
Description: UN1789 Hydrochloric acid,8,II

IMO / IMDG

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant: No information available
EMS: F-A

RID

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: UN1789 Hydrochloric acid,8,II

ICAO

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: UN1789,Hydrochloric acid,8,PG II

IATA

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 8L
Special Provisions No information available
Description: UN1789,Hydrochloric acid,8,PG II

15. REGULATORY INFORMATION**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Water	7732-18-5	Present(ACTIVE)	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
Cobalt Chloride, Hexahydrate	7791-13-1	Not Listed	Not present	Present	Present (1)-207	Present	Present	Not present
Hydrogen chloride	7647-01-0	PresentACTIVE	Present KE-20189	Present	Present (1)-215	Present	Present	Present 231-595-7

U.S. Regulations*Cobalt Chloride, Hexahydrate*

New Jersey RTK Hazardous Substance List: sn 2222 (cobalt compounds)
New Jersey (EHS) List: SN2222 500lb TPQ (cobalt compounds)
New Jersey - Discharge Prevention - List of Hazardous Substances: Present (cobalt compounds)
Pennsylvania RTK: Present (cobalt compounds)
Pennsylvania RTK - Environmental Hazard List Present (cobalt compounds)

Hydrogen chloride

Massachusetts RTK: Present
Massachusetts EHS: extraordinarily hazardous
New Jersey RTK Hazardous Substance List: 1012
New Jersey (EHS) List: 1012 500 lb TPQ
 2909 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
New Jersey TCPA - EHS: 15000lbTQ
 5000lbTQ
 5600lbTQ
 2000lbTQ
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Michigan PSM HHC: = 5000 lb TQ
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
 5000 lb RQ
 100 lb RQ
Louisiana Reportable Quantity List for Pollutants: 5000lbfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4
 2270kgfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4
 5000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period
 1000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions

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based on total mass emitted into the atmosphere

California Directors List of Hazardous Substances: Present

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 182.1057

FDA - 21 CFR - Total Food Additives 133.129, 155.191, 155.194, 160.105, 160.185, 172.560, 172.892, 182.1057

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Water	7732-18-5	Not Listed	Not Listed	Not Listed	Not Listed
Cobalt Chloride, Hexahydrate	7791-13-1	Not Listed	Not Listed	Not Listed	Not Listed
Hydrogen chloride	7647-01-0	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Water	7732-18-5	None	None	None	None	None
Cobalt Chloride, Hexahydrate	7791-13-1	None	None	None	Cobalt inorganic compounds	0.1% de minimis concentration
Hydrogen chloride	7647-01-0	5000 lb final RQ 2270 kg final RQ	5000 lb EPCRA RQ	None	None	1.0 % de minimis concentration

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Water	7732-18-5	Not Applicable	Not Applicable
Cobalt Chloride, Hexahydrate	7791-13-1	Not Applicable	Not Applicable
Hydrogen chloride	7647-01-0	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Water
7732-18-5 (93-93.5)
Hydrogen chloride
7647-01-0 (1.1)

WHMIS 2015 Hazard Classification
Not a dangerous product according to HPR classification criteria

Hydrogen Chloride: Gases under pressure - Liquefied gas: H280 Contains gas under pressure, may explode when heated.; Corrosive to Metals - Category 1: H290 May be corrosive to metals. (potentially corrosive to metals; the supplier should be contacted for more information); Acute toxicity - Inhalation - Category 3: H331 Toxic if inhaled.; Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract; Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.; Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.
Hydrochloric Acid: Corrosive to Metals - Category 1: H290 May be corrosive to metals. (potentially corrosive to metals; the supplier should be contacted for more information); Acute toxicity - Oral - Category 4: H302 Harmful if swallowed. (3.6% in aqueous

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solution); Acute toxicity - Inhalation - Category 2: H330 Fatal if inhaled.; Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract; Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.; Skin corrosion/irritation - Category 2: H315 Causes skin irritation. (3.6% in aqueous solution); Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation. (3.6% in aqueous solution)

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

E Corrosive material

Components

Water

Cobalt Chloride, Hexahydrate

Hydrogen chloride

WHMIS 1988

Uncontrolled product according to WHMIS classification criteria

D2A D2B

A,D1A,E

D1A,E

E 0.036% in aqueous solution, 0.36% in aqueous solution, 3.6% in aqueous solution

D1B,E 28% in aqueous solution

D1A,E 31.45% in aqueous solution, 35.2% in aqueous solution

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Hydrogen chloride	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Water	7732-18-5	Present	Not Listed
Cobalt Chloride, Hexahydrate	7791-13-1	Not Listed	Not Listed
Hydrogen chloride	7647-01-0	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Water	7732-18-5	Not listed
Cobalt Chloride, Hexahydrate	7791-13-1	Not listed
Hydrogen chloride	7647-01-0	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	7732-18-5	Not listed
Cobalt Chloride, Hexahydrate	7791-13-1	Not listed
Hydrogen chloride	7647-01-0	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Water	7732-18-5	
Cobalt Chloride, Hexahydrate	7791-13-1	No information
Hydrogen chloride	7647-01-0	Hydrogen Chloride: Gases under pressure: H280 Contains gas under pressure, may explode when heated.; Acute toxicity - Inhalation - Acute Tox. 3: H331 Toxic if inhaled. (Minimum

Product code: C-186

Product name: COBALTOUS CHLORIDE, COLORIMETRIC SOLUTION (CS)

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		classification); Skin corrosion/irritation - Skin Corr. 1A: H314 Causes severe skin burns and eye damage.017-002-00-2 Hydrochloric Acid: Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (C >= 25 %); Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation. (C >= 10 %)017-002-01-X Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (C >= 25 %); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation. (10 % <= C <25 %); Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation. (10 % <= C <25 %); Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation. (C >= 10 %)017-002-01-X
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EU - CLP (1272/2008)

R-phrase(s)

R42/43 - May cause sensitization by inhalation and skin contact.
R36/37/38 - Irritating to eyes, respiratory system and skin.

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 1/2 - Keep locked up and out of the reach of children.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Water	7732-18-5		No information	
Cobalt Chloride, Hexahydrate	7791-13-1		No information	
Hydrogen chloride	7647-01-0	Hydrogen Chloride T; R23 C; R35 Hydrochloric Acid: + hydrochloric acid ...% C; R34 - Xi; R37 Concentration Limit(s): C >= 25 % C; R34-37 10 % <= C < 25 % Xi; R36/37/38	Hydrogen Chloride: 0.02%<=C<0.2% Xi;R36/37/38 0.2%<=C<0.5% C;R34 0.5%<=C<1% C;R20-34 1%<=C<5% C;R20-35 5%<=C T;C;R23-35	For Hydrogen Chloride: S1/2 S9 S26 S36/37/39 S45 Hydrochloric Acid: S(1/2)-S26-S45

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xi - Irritant.

Xi



16. OTHER INFORMATION

Preparation Date: 04/13/2015
Revision Date: 05/01/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet