

## SAFETY DATA SHEET

Preparation Date: No data available

Revision Date: 04/02/2015

Revision Number: G1

**Product identifier**

**Product code:** C1621  
**Product Name:** COBALT (II) CHLORIDE

**Other means of identification**

**Synonyms:** Cobaltous chloride  
 Cobalt chloride (CoCl<sub>2</sub>)  
 Cobalt muriate  
 Cobaltous dichloride  
 Dichlorocobalt  
 Kobalt chlorid [German]  
 Cobalt dichloride

**CAS #:** 7646-79-9  
**RTECS #** GF9800000  
**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 by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1A

**Label elements**

**Danger**

**Hazard statements**

Harmful if swallowed  
Causes serious eye irritation  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction  
Suspected of causing genetic defects  
May cause cancer  
May damage fertility or the unborn child



**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  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
In case of inadequate ventilation wear respiratory protection  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
Specific treatment (see .? on this label)  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse  
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %	Trade Secret
Cobalt (II) Chloride 7646-79-9	7646-79-9	100	*

## 4. FIRST AID MEASURES

### First aid measures

#### **General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126).

#### **Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. Consult a physician if necessary.

#### **Eye Contact:**

Flush eye with water for 15 minutes. Get medical attention. Call a physician immediately.

#### **Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

#### **Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

### **Most important symptoms and effects, both acute and delayed**

#### **Symptoms**

Causes serious eye irritation. May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### **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:**

If it is involved in a fire, 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:**

Nonflammable  
Ambient fire may liberate hazardous vapors

### **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. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Avoid breathing dust.

**Environmental precautions** Do not let product enter drains. Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Cover with plastic sheet to prevent spreading. Keep in suitable, closed containers for disposal.

**Methods for cleaning up** Use appropriate tools to put the spilled solid in a suitable waste disposal container. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials. Remove all sources of ignition.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Use only in well-ventilated areas. Do not breathe vapours/dust. Do not ingest. Do not smoke. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### **Technical Measures/Storage Conditions:**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials. Store at room temperature in the original container. Keep away from heat and sources of ignition.

#### **Incompatible Materials:**

Oxidizing agents. Alkali Metals. Potassium. Sodium dispersions. Tert-butyl hydroperoxide.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Cobalt (II) Chloride 7646-79-9	None	None	0.02 mg/m <sup>3</sup> TWA (as Cobalt)	None

##### **Canada**

Components	Alberta	British Columbia	Ontario	Quebec
Cobalt (II) Chloride 7646-79-9	0.02 mg/m <sup>3</sup> TWA (as Cobalt)	0.02 mg/m <sup>3</sup> TWA (as Cobalt)	0.02 mg/m <sup>3</sup> TWA (as Cobalt)	0.02 mg/m <sup>3</sup> TWAEV (as Cobalt)

##### **Australia and Mexico**

Components	Australia	Mexico
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Cobalt (II) Chloride 7646-79-9	None	None
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### Appropriate engineering controls

**Engineering measures to reduce exposure:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Safety glasses with side-shields or Goggles
- Skin and body protection:** Long sleeved clothing. Gloves.
- Respiratory protection:** Effective dust mask or Wear respirator with dust filter.
- 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

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<b>Physical state:</b> Solid.	<b>Appearance:</b> No information available	<b>Color:</b> Blue.
<b>Odor:</b> Sharp.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 129.84 g/mol
<b>Formula:</b> CoCl <sub>2</sub>	<b>Flammability:</b> No information available	<b>Flash point (°C):</b> No data available
<b>Flashpoint (°C/°F):</b> No information available.	<b>Flash Point Tested according to:</b> Not available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available
<b>Melting point/range(°C/°F):</b> 735°C/ 1355°F	<b>Boiling point/range(°C/°F):</b> 1049°C/ 1920.2°F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Bulk density:</b> No information available	<b>Specific gravity:</b> 3.36	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Density (g/cm<sup>3</sup>):</b> 3.370	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> 0.85
<b>Viscosity:</b> No information available	<b>Miscibility:</b> No information available	<b>Solubility:</b> Soluble in cold water, methanol, diethyl ether. Partially soluble in acetone. Soluble in Glycerol, Pyridine Solubility in Water: 45 g/100 ml water at 7 deg. C; 53 parts/100 parts water at 20 deg. C.; 105 g/100 ml wate at 96 deg C.; 53.42 lb/100 lb water at 70 deg .F Solubility in Methanol: 38.5 g/100 ml Methanol; Solubility in Acetone: 8.6 g/100 ml Acetone

## 10. STABILITY AND REACTIVITY

### **Reactivity**

Reactive with oxidizing agents

May react with Potassium causing explosion. May react with Sodium dispersions at high temperatures resulting in explosion. May react with T-butyl hydroperoxide

### **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. Alkali Metals. Potassium. Sodium dispersions. Tert-butyl hydroperoxide.

**Hazardous decomposition products:** Hydrogen chloride gas. Cobalt oxides.

**Other Information**

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Principal Routes of Exposure:**

Ingestion. Inhalation.

**Acute Toxicity**

**Component Information**

*Cobalt (II) Chloride - 7646-79-9*

**LD50/oral/rat** = 80 mg/kg Oral LD50 Rat (LOLI)  
418 mg/kg (RTECS)

**LD50/oral/mouse** = 80 mg/kg Oral LD50 Mouse

**LD50/dermal/rat** = No information available

**LD50/dermal/rabbit** = No information available

**LC50/inhalation/rat** = No information available

**LC50/inhalation/mouse** = No information available

**Other LD50 or LC50 information** = No information available

**Product Information**

**LD50/oral/rat =**

**VALUE- Acute Tox Oral** = 418mg/kg

**LD50/oral/mouse =**

**Value - Acute Tox Oral** = 80mg/kg

**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:** Causes skin irritation. May cause sensitization by skin contact. May cause allergic skin reaction.

**Eye Contact:** Causes eye irritation.

**Inhalation**  
**Ingestion** May cause respiratory tract irritation.  
Harmful if swallowed. May cause nausea, vomiting, anorexia, hypermotility, diarrhea, malaise. It may induce goiter/enlargement of thyroid by interfering with the uptake of iodine. It may affect the urinary system (kidneys), cardiovascular system (blood pressure lowering, cardiomyopathy), vision (optic nerve neuropathy, visual field changes), blood (changes in red blood cell count), liver, behavior/central nervous system (convulsions, somnolence, weakness, fatigue), respiration (difficulty breathing, shortness of breath, hearing (tinnitus, nerve deafness).

**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 inhalation may cause emphysema. Prolonged or repeated ingestion may cause weight loss, hyperglycemia. It may affect blood, behavior/central nervous system, liver, brain, heart, kidneys. Skin: Sensitizer. May cause allergic skin reaction (allergic contact dermatitis). Prolonged or repeated inhalation may cause allergic reaction.

**Sensitization:** May cause sensitization by inhalation and skin contact

**Mutagenic Effects:** May affect genetic material  
Mutations in microorganisms  
Experiments with bacteria and/or yeast have shown mutagenic effects  
Mutagenic effects in mammalian somatic cells

**Carcinogenic effects:** Possibly carcinogenic to humans. May cause cancer by inhalation.

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Cobalt (II) Chloride	Group 2B - Monograph 52 [1991] Cobalt and Cobalt compounds	Group 3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (cobalt inorganic compounds)	Not listed	Present	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)  
IARC (International Agency for Research on Cancer)  
Group 2B - Possibly Carcinogenic to Humans*

**Reproductive toxicity** May damage fertility or the unborn child

**Reproductive Effects:** May impair fertility  
**Developmental Effects:** May cause harm to the unborn child  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**



STOT - single exposure No information available  
STOT - repeated exposure No information available  
Target Organs: No information available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity effects:** Toxic to aquatic organisms.  
**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

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Cobalt (II) Chloride	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s. (Cobalt Chloride)  
**Hazard Class:** 9  
**Subsidiary Risk:**  
**Packing Group:** III  
**ERG No:** 171  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available  
**Symbol(s):** G

### TDG (Canada)

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s. (Cobalt Chloride)  
**Hazard Class:** 9  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

### ADR

Product code: C1621

Product name: COBALT (II)  
CHLORIDE

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## 14. TRANSPORT INFORMATION

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class:** 9  
**Packing Group:** III  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / IMDG

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class:** 9  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-A  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class:** 9  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class:** 9  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

### IATA

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class:** 9  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**ERG Code:** 9L  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Cobalt (II) Chloride</i>	Present	Present KE-06095	Present	Present (1)-207	Present	Present	Present 231-589-4

## U.S. Regulations

### Cobalt (II) Chloride

**New Jersey RTK Hazardous Substance List:** Present (cobalt compounds)

**New Jersey (EHS) List:** Present (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)

**Minnesota - Hazardous Substance List:** Present (as cobalt inorganic compounds)

**FDA - 21 CFR - Total Food Additives** 189.120

### 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	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Cobalt (II) Chloride	Not Listed	Not Listed	Not Listed	Not Listed

## CERCLA/SARA

Components	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 <i>de minimis</i>
Cobalt (II) Chloride	None	None	None	Cobalt compounds	0.1% reporting de minimus

## U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Cobalt (II) Chloride	Not Applicable	Not Applicable

## Canada

### WHMIS hazard class:

D1B Toxic materials

D2A Very toxic materials

D2B Toxic materials

### Cobalt (II) Chloride

D1B D2A D2B

### 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 -
Cobalt (II) Chloride	0.1 %

## Inventory

Components	Canada (DSL)	Canada (NDSL)
Cobalt (II) Chloride	Present	Not Listed

<b>Components</b>	<b>CEPA Schedule I - Toxic Substances</b>	<b>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</b>
Cobalt (II) Chloride	Not listed	Not listed

### EU Classification

#### **R-phrase(s)**

R22 - Harmful if swallowed.  
R49 - May cause cancer by inhalation.  
R60 - May impair fertility.  
R68 - Possible risk of irreversible effects.  
R42/43 - May cause sensitization by inhalation and skin contact.  
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### **S -phrase(s)**

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S53 - Avoid exposure - obtain special instructions before use.  
S60 - This material and its container must be disposed of as hazardous waste.  
S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

<b>Components</b>	<b>Classification</b>	<b>Concentration Limits:</b>	<b>Safety Phrases</b>
Cobalt (II) Chloride	Xn; R22 R42/43 Carc.Cat.2; R49 N; R50-53 Repr.Cat.2; R60 Muta.Cat.3; R68	25%≤C: T,N; R49-22-42/43-50/53 2.5%≤C<25%: T,N; R49-22-42/43-51/53 1%≤C<2.5%: T; R49-42/43-52/53 0.25%≤C<1%: T; R49-52/53 0.01%≤C<0.25%: T; R49	S53 S45 S60 S61

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

#### Indication of danger:

Xn - Harmful.  
N - Dangerous for the environment.



### 16. OTHER INFORMATION

## 16. OTHER INFORMATION

**Revision Date:** 04/02/2015  
**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**