

Australian statement of hazardous nature : Classified as hazardous according to criteria of Safe Work Australia

## Section 1 - Identification

**Product Name** Cobalt(II) chloride hexahydrate

<b>Product Code</b>	<b>ACR19209, ACR19286, ACR42357, AJA1335, AJA163, AJA986, BSPCB163, FSBC/6500, FSBC/6520, FSBC/6560</b>
<b>Address</b>	ThermoFisher Scientific Australia Pty Ltd 5 Caribbean Drive, Scoresby VICTORIA 3179, Australia
<b>Emergency Tel.</b>	<b>CHEMTREC®</b> <b>03 9757 4559 or +613 9757 4559</b>
<b>Telephone / Fax Numbers</b>	Tel: 1300 735 292 Fax: 1800 067 639
<b>E-mail address</b>	<a href="mailto:auinfo@thermofisher.com">auinfo@thermofisher.com</a>

**Recommended Use** Laboratory chemicals.

## Section 2 - Hazard(s) Identification

### Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

#### Physical hazards

No hazards identified

#### Health hazards

Acute Oral Toxicity	Category 4
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 1B

#### Environmental hazards

Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

#### Label Elements



Exclamation Mark



Health Hazard



Environment

**Signal Word****Danger****Hazard Statements**

H302 - Harmful if swallowed  
 H317 - May cause an allergic skin reaction  
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 H341 - Suspected of causing genetic defects if inhaled  
 H350 - May cause cancer  
 H360 - May damage fertility or the unborn child  
 H400 - Very toxic to aquatic life  
 H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements**

P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P272 - Contaminated work clothing should not be allowed out of the workplace  
 P280 - Wear protective gloves  
 P285 - In case of inadequate ventilation wear respiratory protection  
 P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P308 + P313 - IF exposed or concerned: Get medical advice/attention  
 P330 - Rinse mouth  
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician  
 P363 - Wash contaminated clothing before reuse  
 P403 - Store in a well-ventilated place  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

**Section 3 - Composition and Information on Ingredients**

Component	CAS-No	Weight %
Cobalt (II) chloride, hexahydrate	7791-13-1	>95

**Section 4 - First Aid Measures**

<b>Inhalation</b>	Remove to fresh air.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
<b>First Aid Facilities</b>	Eyewash, safety shower and washroom.

**Most important symptoms and effects**

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. . Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Notes to Physician**

Treat symptomatically.

## Section 5 - Fire Fighting Measures

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Do not allow run-off from fire-fighting to enter drains or water courses.

**Special protective equipment and precautions for fire fighters**

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

## Section 6 - Accidental Release Measures

**Emergency procedures**

Ensure adequate ventilation.

**Environmental Precautions**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.

**Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

**Precautions for Safe Handling**

Ensure adequate ventilation.

**Conditions for Safe Storage, Including any Incompatibilities**

Keep container tightly closed in a dry and well-ventilated place.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

## Section 8 - Exposure Controls and Personal Protection

**Exposure limits**

**ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace. **UK** - EH40/2005 Work Exposure Limits, Third edition. Published 2018. **DE** - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Cobalt (II) chloride, hexahydrate			TWA: 0.02 mg/m <sup>3</sup>	STEL: 0.3 mg/m <sup>3</sup> 15 min TWA: 0.1 mg/m <sup>3</sup> 8 hr Resp. Sens.	Haut

**Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

**Exposure Controls  
Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment****Eye Protection**

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

**Hand Protection**

Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Natural rubber	See manufacturers recommendations	-	AS/NZS 2161.1	(minimum requirement)
Nitrile rubber				
Neoprene				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection**

Long sleeved clothing

**Respiratory Protection**

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

**Recommended Filter type:**

Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

**Recommended half mask:-**

Particle filtering: EN149:2001 (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls**

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties****Appearance**

Reddish violet

**Physical State**

Solid

**Odor**

No information available

**Odor Threshold**

No data available

**pH**

4.9

**Melting Point/Range**

86 °C / 186.8 °F

**Softening Point**

No data available

**Boiling Point/Range**

Not applicable

**Flash Point**

Not applicable

**Method -** No information available

**Evaporation Rate**

Not applicable

Solid

**Flammability (solid,gas)**

No information available

**Explosion Limits**

No data available

Vapor Pressure	No data available	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	

**Other information**

Molecular Formula	Cl <sub>2</sub> Co . 6 H <sub>2</sub> O
Molecular Weight	237.93

## Section 10 - Stability and Reactivity

**Reactivity** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Heat, flames and sparks.

**Hazardous Decomposition Products** None under normal use conditions.

**Hazardous Polymerization** No information available.

## Section 11 - Toxicological Information

**Information on Toxicological Effects****Product Information****(a) acute toxicity;**

<b>Oral</b>	Category 4
<b>Dermal</b>	Based on available data, the classification criteria are not met
<b>Inhalation</b>	Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cobalt (II) chloride, hexahydrate	LD50 = 766 mg/kg ( Rat )	LD50 > 2 g/kg ( Rat )	

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** No data available

**(d) respiratory or skin sensitization;**

<b>Respiratory</b>	Category 1
<b>Skin</b>	Category 1

No information available

**(e) germ cell mutagenicity;** Category 2

**(f) carcinogenicity;** Category 1B

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	Australia	New Zealand	New South Wales	Western Australia	IARC	EU	UK	Germany
Cobalt (II) chloride, hexahydrate					Group 2B			

(g) reproductive toxicity;	Category 1B
(h) STOT-single exposure;	No data available
(i) STOT-repeated exposure;	No data available
Target Organs	No information available.
(j) aspiration hazard;	Not applicable Solid

**Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

## Section 12 - Ecological Information

**Ecotoxicity effects** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Cobalt (II) chloride, hexahydrate	IC50: 0.33 mg/l/96h (Carp), EC50: 1.1-1.6 mg/l/48h (Daphnia magna)			= 16 mg/L EC50 Photobacterium phosphoreum 15 min as Co++ = 160 mg/L EC50 Photobacterium phosphoreum 5 min as Co++ = 2.8 mg/L EC50 Photobacterium phosphoreum 30 min as Co++

<b>Persistence and Degradability</b>	
<b>Persistence</b>	Soluble in water, Persistence is unlikely, based on information available.
<b>Degradability</b>	Not relevant for inorganic substances.
<b>Degradation in sewage treatment plant</b>	Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.
<b>Bioaccumulative Potential</b>	Bioaccumulation is unlikely
<b>Mobility</b>	The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility Highly mobile in soils
<b>Endocrine Disruptor Information</b>	This product does not contain any known or suspected endocrine disruptors
<b>Persistent Organic Pollutant</b>	This product does not contain any known or suspected substance
<b>Ozone Depletion Potential</b>	This product does not contain any known or suspected substance

## Section 13 - Disposal Considerations

<b>Waste from Residues/Unused Products</b>	Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point.
<b>Other Information</b>	Chemical wastes should be disposed through a licensed commercial waste collection service. Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

## Section 14 - Transport Information

**IMDG/IMO**

**UN-No** UN3077  
**Proper Shipping Name** Environmentally hazardous substances, solid, n.o.s.  
**Technical Shipping Name** Cobalt (II) Chloride  
**Hazard Class** 9  
**Packing Group** III

**ADG**

**UN-No** UN3077  
**Proper Shipping Name** Environmentally hazardous substances, solid, n.o.s.  
**Technical Shipping Name** Cobalt (II) Chloride  
**Hazard Class** 9  
**Packing Group** III

**IATA**

**UN-No** UN3077  
**Proper Shipping Name** Environmentally hazardous substances, solid, n.o.s.  
**Technical Shipping Name** Cobalt (II) Chloride  
**Hazard Class** 9  
**Packing Group** III

**Environmental hazards** Dangerous for the environment  
 Product is a marine pollutant according to the criteria set by IMDG/IMO

**Special Precautions** No special precautions required

**Additional information** None known

## Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	KECL
Cobalt (II) chloride, hexahydrate	X	X	-	-	-	-	-	X	-	X	-

**Standard for the Uniform** S7 - Poison

**Scheduling of Medicines and Poisons**

**Prohibition or notification/licensing requirements** Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

## Section 16 - Other Information

**Legend**

**AICS** - Australian Inventory of Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**IECSC** - Chinese Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**TWA** - Time Weighted Average  
**IARC** - International Agency for Research on Cancer  
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association  
**MARPOL** - International Convention for the Prevention of Pollution from

**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**ENCS** - Japanese Existing and New Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**CAS** - Chemical Abstracts Service  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**Predicted No Effect Concentration (PNEC)**  
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

Ships

**NZS 5433:2012** - Transport of Dangerous Goods on Land

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**WEL** - Workplace Exposure Limit

**DNEL** - Derived No Effect Level

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

VOC (volatile organic compound)

**ADG** Australian Code for the Transport of Dangerous Goods by Road and Rail

**OECD** - Organisation for Economic Co-operation and Development

**LC50** - Lethal Concentration 50%

**ATE** - Acute Toxicity Estimate

**RPE** - Respiratory Protective Equipment

**NOEC** - No Observed Effect Concentration

**BCF** - Bioconcentration factor

**PBT** - Persistent, Bioaccumulative, Toxic

#### Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

#### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

#### Revision Date

04-Jul-2020

#### Revision Summary

Not applicable.

**This safety data sheet complies with the requirements of Safe Work Australia WHS Regulation**

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**