



# SAFETY DATA SHEET

## COBALT SULFATE, HEPTAHYDRATE

### REVISION 3, DATE 01 OCT 2020

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Cobalt sulfate, heptahydrate</b>
<b>Other Names</b>	No Data Available
<b>Uses</b>	Ceramics, pigments, glazes, in plating baths for cobalt, additive to soils, catalyst, paint and ink drier, storage batteries. May not be used in food products.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	CoSO <sub>4</sub> ·7H <sub>2</sub> O
<b>Chemical Name</b>	Sulfuric acid, cobalt(2+) salt (1:1), heptahydrate
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
Poisons Information Centre	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

## 2. HAZARD IDENTIFICATION

**Poisons Schedule (Aust)**

Not Scheduled

Redox Ltd  
Corporate Office Sydney  
Locked Bag 15 Minto NSW 2566 Australia  
2 Swettenham Road Minto NSW 2566 Australia  
All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

Phone +61 2 9733 3000  
Fax +61 2 9733 3111  
E-mail [sydney@redox.com](mailto:sydney@redox.com)  
Web [www.redox.com](http://www.redox.com)  
ABN 92 000 762 345

Australia  
Adelaide  
Brisbane  
Melbourne  
Perth  
Sydney

New Zealand  
Auckland  
Christchurch  
Hawke's Bay  
UK  
London

Malaysia  
Kuala Lumpur  
USA  
Los Angeles  
Oakland  
Mexico  
Salttilo



## Globally Harmonised System

**Hazard Classification** Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories**

Acute Toxicity (Oral) - Category 4  
 Sensitisation (Respiratory) - Category 1  
 Sensitisation (Skin) - Category 1  
 Carcinogenicity - Category 1B  
 Toxic To Reproduction - Category 1B  
 Specific Target Organ Toxicity (Repeated Exposure) - Category 1  
 Acute Hazard To The Aquatic Environment - Category 1  
 Long-term Hazard To The Aquatic Environment - Category 1

**Pictograms**

**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.  
**H350** May cause cancer.  
**H360F** May damage fertility.  
**H372** Causes damage to organs through prolonged or repeated exposure.  
**H410** Very toxic to aquatic life with long lasting effects.

<b>Precautionary Statements</b>	Prevention	<b>P260</b>	Do not breathe dusts or mists.	
		<b>P285</b>	In case of inadequate ventilation wear respiratory protection.	
		<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.	
		<b>P201</b>	Obtain special instructions before use.	
		<b>P273</b>	Avoid release to the environment.	
		<b>P270</b>	Do not eat, drink or smoke when using this product.	
	Response	<b>P272</b>	Contaminated work clothing should not be allowed out of the workplace.	
		<b>P304 + P341</b>	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.	
		<b>P342 + P311</b>	If experiencing respiratory symptoms: Call a POISON CENTER/doctor for emergency medical advice.	
		<b>P308 + P313</b>	IF exposed or concerned: Get medical attention.	
		<b>P302 + P352</b>	IF ON SKIN: Wash with plenty of soap and water.	
		<b>P333 + P313</b>	If skin irritation or rash occurs: Get medical attention.	
		<b>P391</b>	Collect spillage.	
		<b>P301 + P312</b>	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.	
		<b>P330</b>	Rinse mouth.	
		<b>P362 + P364</b>	Take off contaminated clothing and wash it before reuse.	
		Storage	<b>P405</b>	Store locked up.
		Disposal	<b>P501</b>	Dispose of contents/container in accordance with local / regional / national / international regulations.

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road &amp; Rail (ADG Code)

**Dangerous Goods Classification**

NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road &amp; Rail (ADG Code)

**Safe Work Australia**

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

**Hazard Classification**

Hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

**3. COMPOSITION/INFORMATION ON INGREDIENTS***Ingredients*

Chemical Entity	Formula	CAS Number	Proportion
Cobalt sulfate, heptahydrate	CoSO <sub>4</sub> .7H <sub>2</sub> O	10026-24-1	<=100 %

**4. FIRST AID MEASURES***Description of necessary measures according to routes of exposure*

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth. Do not induce vomiting. Call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.
<b>Eye</b>	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
<b>Skin</b>	IF ON SKIN: Remove contaminated clothing and shoes immediately. Flush skin with with running water for at least 15 minutes. If skin irritation or rash occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	If exposed or concerned, get medical advice/attention. Treat symptomatically. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

**5. FIRE FIGHTING MEASURES**

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	Non-combustible material.
<b>Extinguishing Media</b>	If material is involved in a fire, use dry chemical, Carbon dioxide (CO <sub>2</sub> ), foam or water spray for extinction.
<b>Fire and Explosion Hazard</b>	Decomposes on heating, emitting toxic fumes.
<b>Hazardous Products of Combustion</b>	Fire or heat may produce irritating, toxic and/or corrosive fumes.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may pollute waterways.

<b>Personal Protective Equipment</b>	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

## 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid generating dust. Do not breathe dust and avoid contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Collect spillage (sweep or vacuum up) and seal in properly labelled containers for disposal (see SECTION 13).
<b>Containment</b>	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
<b>Decontamination</b>	No information available.
<b>Environmental Precautionary Measures</b>	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
<b>Personal Precautionary Measures</b>	Use personal protective equipment as required (see SECTION 8).

## 7. HANDLING AND STORAGE

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Obtain special instructions before use - Do not handle until all safety precautions have been read and understood. Avoid generating dust. Do not breathe dusts or mists and avoid contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection; In case of inadequate ventilation, wear respiratory protection (see SECTION 8). Avoid release to the environment - Collect spillage (see SECTION 6).
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers tightly closed when not in use - check regularly for spills. Avoid exposure to moisture. Avoid exposure to extremes of temperature. Keep away from foodstuffs and incompatible materials (see SECTION 10). Store locked up.
<b>Container</b>	Keep in the original container.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	No specific exposure standards are available for this product. For Cobalt, metal dust and fume (as Co): - Safe Work Australia Exposure Standard: TWA = 0.05 mg/m <sup>3</sup> ; Respiratory and/or skin sensitiser (Sen). - New Zealand Workplace Exposure Standard (2018): TWA = 0.02 mg/m <sup>3</sup> ; Exposure can also be estimated by biological monitoring (bio); Suspected carcinogen (6.7B); Skin absorption (skin); Dermal sensitiser (dsen); Respiratory sensitiser (rsen).
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
<b>Personal Protection Equipment</b>	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Positive pressure

air supplied full-face respirator (refer to AS/NZS 1715 & 1716).

- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Chemical goggles, face shield or air mask (not required if wearing air supplied mask).

- Hand protection: Wear protective gloves. Recommended: Impervious gloves (long).

- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.

**Special Hazards Precautions**

No information available.

**Work Hygienic Practices**

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid
<b>Appearance</b>	Crystalline powder
<b>Odour</b>	Odourless
<b>Colour</b>	Red
<b>pH</b>	4 - 5 (10% soln.)
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	No Data Available
<b>Melting Point</b>	No Data Available
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	No Data Available
<b>Specific Gravity</b>	No Data Available
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	No information available.

<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Non-combustible material.
<b>Reactions That Release Gases or Vapours</b>	Decomposes on heating, emitting toxic fumes, including Sulfur oxides, Cobalt oxides.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	Contact with water liberates toxic gas. Contact with strong oxidising agents may cause fire.
<b>Chemical Stability</b>	Stable under normal storage and handling conditions.
<b>Conditions to Avoid</b>	Avoid generating dust. Avoid exposure to moisture. Avoid exposure to extremes of temperature.
<b>Materials to Avoid</b>	Incompatible/reactive with strong oxidising agents.
<b>Hazardous Decomposition Products</b>	Decomposes on heating, emitting toxic fumes, including Sulfur oxides, Cobalt oxides.
<b>Hazardous Polymerisation</b>	Hazardous polymerisation will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"> <li>- Acute toxicity: Harmful if swallowed. Swallowing can result in nausea, vomiting, diarrhoea, and abdominal pain.</li> <li>- Skin corrosion/irritation: May cause skin irritation. Prolonged and/or repeated contact may cause irritation and/or dermatitis.</li> <li>- Eye damage/irritation: Causes eye irritation.</li> <li>- Respiratory/skin sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.</li> <li>- Germ cell mutagenicity: Suspected of causing genetic defects; However, effective protective processes exist in vivo to prevent genotoxicity in humans [NICNAS]. In an occupational study in 35 workers in a cobalt refinery, there was no indication of increased DNA strand breaks or micronuclei in blood lymphocytes compared with 27 unexposed workers [NICNAS]. Cobalt sulfate, heptahydrate had no genotoxic effect in a mammalian bone marrow chromosome aberration test, in four SD rats administered a single oral gavage dose of 80, 160 or 320 mg/kg bw. [study similar to OECD TG 475]. Genotoxic effects observed in vitro are consistent with a reactive oxygen mechanism [NICNAS].</li> <li>- Carcinogenicity: May cause cancer by inhalation. Cobalt sulfate and other soluble cobalt(II) salts (CAS No. 10026-24-1) are classified by the IARC Monographs as "Possibly carcinogenic to humans" (Group 2B).</li> <li>- Reproductive toxicity: May damage fertility or the unborn child.</li> <li>- STOT (single exposure): Breathing in dust may result in respiratory irritation.</li> <li>- STOT (repeated exposure): Causes damage to organs through prolonged or repeated exposure. Chronic exposure may result in damage to the kidneys, lungs, heart, thyroid and skin.</li> <li>- Aspiration toxicity: No information available.</li> </ul>
<b>Acute</b>	
<b>Ingestion</b>	Acute toxicity (Oral): - LD50, Rat: 582 mg/kg
<b>Carcinogen Category</b>	Cat. 1B

**12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	No information available.
<b>Persistence/Degradability</b>	Not readily biodegradable.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Very toxic to aquatic life with long lasting effects - Avoid release to the environment.
<b>Bioaccumulation Potential</b>	No information available.
<b>Environmental Impact</b>	No Data Available

**13. DISPOSAL CONSIDERATIONS**

<b>General Information</b>	Dispose of contents/container in accordance with local/regional/national regulations.
<b>Special Precautions for Land Fill</b>	No information available.

**14. TRANSPORT INFORMATION****Land Transport (Australia)**

ADG Code

<b>Proper Shipping Name</b>	Cobalt sulphate, heptahydrate
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	171 Substances (Low to Moderate Hazard)
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	AU01
<b>Comments</b>	Not regulated as DG when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs.

**Land Transport (Malaysia)**

ADR Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	171 Substances (Low to Moderate Hazard)
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Land Transport (New Zealand)**

NZS5433

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<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	171 Substances (Low to Moderate Hazard)
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

### Land Transport (United States of America)

US DOT

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>ERG</b>	171 Substances (Low to Moderate Hazard)
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

### Sea Transport

IMDG Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available
<b>EMS</b>	F-A, S-F
<b>Marine Pollutant</b>	Yes

### Air Transport

IATA DGR

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

### National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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**15. REGULATORY INFORMATION**

**General Information** No Data Available

**Poisons Schedule (Aust)** Not Scheduled

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

**Approval Code** HSR002512 - Additives Process Chemicals and Raw Materials (Carcinogenic) Group Standard 2020

**National/Regional Inventories**

<b>Australia (AIC)</b>	Listed
<b>Canada (DSL)</b>	Not Determined
<b>Canada (NDSL)</b>	Not Determined
<b>China (IECSC)</b>	Not Determined
<b>Europe (EINECS)</b>	Not Determined
<b>Europe (REACH)</b>	Not Determined
<b>Japan (ENCS/METI)</b>	Not Determined
<b>Korea (KECI)</b>	Not Determined
<b>Malaysia (List of Classified Substances)</b>	Not Determined
<b>New Zealand (NZIoC)</b>	Listed
<b>Philippines (PICCS)</b>	Not Determined
<b>Taiwan (TCSI)</b>	Not Determined
<b>USA (TSCA)</b>	Not Determined
<b>Mexico (INSQ)</b>	Not Determined

**16. OTHER INFORMATION**

**Related Product Codes** COSULP0500, COSULP1000, COSULP1001, COSULP1002, COSULP1003, COSULP1004, COSULP1005, COSULP1006, COSULP1007, COSULP1008, COSULP1009, COSULP1010, COSULP1011, COSULP1012, COSULP1013, COSULP1014, COSULP1015, COSULP1016, COSULP1017, COSULP1018, COSULP1019, COSULP1020, COSULP1021, COSULP1022, COSULP1023, COSULP1024, COSULP1025, COSULP1026, COSULP1027, COSULP1028, COSULP1029, COSULP1030, COSULP1031, COSULP1032, COSULP1033, COSULP1034, COSULP1035, COSULP1036, COSULP1037, COSULP1038, COSULP1039, COSULP1200, COSULP1250, COSULP1251, COSULP1400, COSULP1500, COSULP1501, COSULP1502, COSULP1600, COSULP1700, COSULP1701, COSULP1800, COSULP1801, COSULP1802, COSULP1803, COSULP1804, COSULP1805, COSULP1806, COSULP1807, COSULP2000, COSULP2001, COSULP2002, COSULP2003, COSULP2004, COSULP2005, COSULP2006, COSULP2007, COSULP2050, COSULP2051, COSULP2100, COSULP2101, COSULP2102, COSULP2103, COSULP2104, COSULP2105, COSULP2106, COSULP2107, COSULP2108, COSULP2109, COSULP2110, COSULP2111, COSULP2112, COSULP2113, COSULP2114, COSULP2115, COSULP2116, COSULP2117, COSULP2118, COSULP2119, COSULP2120, COSULP2121, COSULP2122, COSULP2123, COSULP2200, COSULP2201, COSULP2300,

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COSULP2301, COSULP2302, COSULP2500, COSULP2501, COSULP2502, COSULP2503, COSULP2600, COSULP2601, COSULP2700, COSULP2701, COSULP2702, COSULP2703, COSULP2800, COSULP2801, COSULP2802, COSULP3000, COSULP3001, COSULP3002, COSULP3100, COSULP3200, COSULP3300, COSULP3400, COSULP3401, COSULP3500, COSULP3501, COSULP3600, COSULP3610, COSULP3611, COSULP3700, COSULP3800, COSULP3900, COSULP4000, COSULP4100, COSULP4200, COSULP4201, COSULP4202, COSULP4203, COSULP4300, COSULP4301, COSULP4302, COSULP4400, COSULP4500, COSULP4501, COSULP4800, COSULP5000, COSULP5001, COSULP5002, COSULP5200, COSULP5201, COSULP5400, COSULP5500, COSULP5501, COSULP5502, COSULP6000, COSULP6010, COSULP6200, COSULP6300, COSULP6500, COSULP7000, COSULP7100, COSULP7200, COSULP7300, COSULP7500, COSULP7501, COSULP8000, COSULP8001, COSULP8200, COSULP8201, COSULP8500, COSULP8600, COSULP9000, COSULP9100, COSULP9200, COSULP9201, COSULP9300, COSULP9500, COSULP9600, COSULP9605, COSULP9700, COSULP9800, COSULP9801, COSULP9802, COSULP9805, COSULP9820, COSULP9825, COSULP9900

## Revision

3

## Revision Date

01 Oct 2020

## Reason for Issue

Update sds

## Key/Legend

< Less Than

> Greater Than

**AICS** Australian Inventory of Chemical Substances

**atm** Atmosphere

**CAS** Chemical Abstracts Service (Registry Number)

**cm<sup>2</sup>** Square Centimetres

**CO<sub>2</sub>** Carbon Dioxide

**COD** Chemical Oxygen Demand

**deg C (°C)** Degrees Celcius

**EPA (New Zealand)** Environmental Protection Authority of New Zealand

**deg F (°F)** Degrees Farenheit

**g** Grams

**g/cm<sup>3</sup>** Grams per Cubic Centimetre

**g/l** Grams per Litre

**HSNO** Hazardous Substance and New Organism

**IDLH** Immediately Dangerous to Life and Health

**immiscible** Liquids are insoluable in each other.

**inHg** Inch of Mercury

**inH<sub>2</sub>O** Inch of Water

**K** Kelvin

**kg** Kilogram

**kg/m<sup>3</sup>** Kilograms per Cubic Metre

**lb** Pound

**LC<sub>50</sub>** LC stands for lethal concentration. LC<sub>50</sub> is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

**LD<sub>50</sub>** LD stands for Lethal Dose. LD<sub>50</sub> is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

**ltr or L** Litre

**m<sup>3</sup>** Cubic Metre

**mbar** Millibar

**mg** Milligram

**mg/24h** Milligrams per 24 Hours

**mg/kg** Milligrams per Kilogram

**mg/m<sup>3</sup>** Milligrams per Cubic Metre

**Misc or Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

**mm** Millimetre

**mmH<sub>2</sub>O** Millimetres of Water

**mPa.s** Millipascals per Second

**N/A** Not Applicable

**NIOSH** National Institute for Occupational Safety and Health

**NOHSC** National Occupational Heath and Safety Commission

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

**Oz** Ounce

**PEL** Permissible Exposure Limit

**Pa** Pascal

**ppb** Parts per Billion

**ppm** Parts per Million

**ppm/2h** Parts per Million per 2 Hours

**ppm/6h** Parts per Million per 6 Hours

## **SAFETY DATA SHEET COBALT SULFATE, HEPTAHYDRATE REVISION 3, DATE 01 OCT 2020**

**psi** Pounds per Square Inch  
**R** Rankine  
**RCP** Reciprocal Calculation Procedure  
**STEL** Short Term Exposure Limit  
**TLV** Threshold Limit Value  
**tne** Tonne  
**TWA** Time Weighted Average  
**ug/24H** Micrograms per 24 Hours  
**UN** United Nations  
**wt** Weight