Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **COBALT SULPHATE HEPTAHYDRATE**

Other name(s): Cobalt sulfate heptahydrate; Cobalt (II) sulphate heptahydrate; Cobaltous sulphate heptahydrate.

Recommended Use of the Chemical and Restrictions on Use Ceramics, pigments, glazes, in plating baths for cobalt, additive to soils, catalyst, paint and ink drier, storage batteries.

Supplier: Ixom Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226
Street Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700
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Emergency Telephone: **0 800 734 607 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

SIGNAL WORD: DANGER

Subclasses:
Subclass 6.1 Category D - Substances which are acutely toxic.
Subclass 6.3 Category A - Substances that are irritating to the skin.
Subclass 6.4 Category A - Substances that are irritating to the eye.
Subclass 6.5 Category A - Substances that are respiratory sensitisers.
Subclass 6.5 Category B - Substances that are contact sensitisers.
Subclass 6.7 Category B - Substances that are suspected human carcinogens.
Subclass 6.8 Category B - Substances that are suspected human reproductive or developmental toxicants.
Subclass 6.9 Category A - Substances that are toxic to human target organs or systems.
Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.
Subclass 9.3 Category B - Substances that are ecotoxic to terrestrial vertebrates.

Approval Number: HSR003620

Hazard Statement(s):
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.
H432 Toxic to terrestrial vertebrates.

Precautionary Statement(s):

Prevention:
P102 Keep out of reach of children.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust.
P264 Wash hands 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/protective clothing/eye protection/face protection.
P281 Use personal protective equipment as required.
P285 In case of inadequate ventilation wear respiratory protection.
P273 Avoid release to the environment.

Response:
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P304+P341 IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see First Aid Measures on the Safety Data Sheet).
P362 Take off contaminated clothing before re-use.
P363 Wash contaminated clothing before re-use.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P391 Collect spillage.

Storage:
P405 Store locked up.

Disposal:
P501 In case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Notice 2017. This may also include any method of disposal that must be avoided.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Cobalt sulfate heptahydrate	10026-24-1	>=90%	H302 H317 H319 H334 H341 H350i H360F H372 H410

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:
Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:
If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye Contact:
If in eyes, wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Ingestion:
Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:
Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem or Emergency Action Code: 2Z

Specific hazards arising from the chemical:
Non-combustible material. Environmentally hazardous.

Special protective equipment and precautions for fire-fighters:
Decomposes on heating emitting toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition. If safe to do so, remove containers from path of fire.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Clear area of all unprotected personnel. Do not allow container or product to get into drains, sewers, streams or ponds. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Wear protective equipment to prevent skin and eye contact and breathing in dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid skin and eye contact and breathing in dust. Avoid handling which leads to dust formation. When using do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well ventilated place. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Standards: No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituent(s):

Cobalt metal dust & fume, as Co: WES-TWA 0.02 mg/m^3, 6.7B Suspected human carcinogen, bio, skin, dsen, rsen

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The average airborne concentration of a substance calculated over an eight-hour working day.

'bio' - Biological Exposure Index.

'Skin' Notice - applicable to a substance that is capable of being significantly absorbed into the body through contact with the skin. The exposure standard is invalidated if such contact should occur.

(dsen) - Dermal sensitiser.

(rsen) - Respiratory sensitiser.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls:
Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as Personal Protective Equipment (PPE):
The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, CHEMICAL GOGGLES, SAFETY SHOES, FACE SHIELD OR AIR MASK, GLOVES (Long).
* Not required if wearing air supplied mask.

Wear overalls, impervious gloves and a positive pressure air supplied full-face respirator. 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

Physical state:	Solid
Colour:	Pink to Red
Odour:	Odourless
Molecular Formula:	Co.H2SO4.7H2O
Specific Gravity:	2.03 @25°C
Relative Vapour Density (air=1):	Not applicable
Vapour Pressure (20 °C):	Not applicable
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not applicable
Solubility in water (g/L):	260 @20°C
Melting Point/Range (°C):	98-105
Decomposition Point (°C):	735
pH:	4 (100 g/L, 20°C)

10. STABILITY AND REACTIVITY

Reactivity:	Contact with water liberates toxic gas.
Chemical stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions:	Contact with strong oxidising agents may cause fire. Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid dust generation. Avoid exposure to direct sunlight. Avoid exposure to moisture. Avoid exposure to extremes of temperature. Avoid exposure to heat.
Incompatible materials:	Incompatible with strong oxidising agents , tert-butyl hydroperoxide .
Hazardous decomposition products:	Oxides of sulfur. Oxides of cobalt.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, and abdominal pain.
Eye contact:	Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.

Skin contact: A skin sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

Inhalation: Breathing in dust may result in respiratory irritation. A respiratory sensitiser. Can cause possible allergic reactions, producing asthma-like symptoms.

Acute toxicity:
Oral LD50 (rat): 582 mg/kg

Respiratory or skin sensitisation: A respiratory sensitiser. A skin sensitiser.

Chronic effects: Chronic exposure may result in damage to the kidneys , lungs, heart, thyroid, and skin.

Mutagenicity: Suspected of causing genetic defects.
Carcinogenicity: May cause cancer.
Reproductive toxicity: May damage fertility or the unborn child.
Specific Target Organ Toxicity (STOT) - single exposure: No information available.
Specific Target Organ Toxicity (STOT) - repeated exposure: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

Persistence/degradability: Not readily biodegradable.

Bioaccumulative potential: No information available.

Mobility in soil: No information available.

Aquatic toxicity: Very toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life.

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to local government authority for disposal recommendations. Dispose of contents/container in accordance with local/regional/national/international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport
Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

UN No: 3077
Transport Hazard Class: 9 Miscellaneous Dangerous Goods

Packing Group:	III
Proper Shipping Name or Technical Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COBALT SULFATE HEPTAHYDRATE)
Hazchem or Emergency Action Code:	2Z

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No:	3077
Transport Hazard Class:	9 Miscellaneous Dangerous Goods
Packing Group:	III
Proper Shipping Name or Technical Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COBALT SULFATE HEPTAHYDRATE)
IMDG EMS Fire:	F-A
IMDG EMS Spill:	S-F
Marine Pollutant	Yes

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No:	3077
Transport Hazard Class:	9 Miscellaneous Dangerous Goods
Packing Group:	III
Proper Shipping Name or Technical Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COBALT SULFATE HEPTAHYDRATE)

15. REGULATORY INFORMATION

Classification:
Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

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16. OTHER INFORMATION

Supplier Safety Data Sheet; 11/ 2019.

This safety data sheet has been prepared by Ixom Operations Pty Ltd (Toxicology & SDS Services).

Reason(s) for Issue:
5 Yearly Revised Primary SDS
Change in Hazardous Chemical Classification

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.