

Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **COBALT OXIDE Co2O3**

Recommended Use of the Chemical and Restrictions on Use Pigment, colouring enamels, glazing pottery, paint pigment, glass colouring agent, fodder additive, cobalt catalyst.

Supplier: Ixom Operations Pty Ltd
ABN: 51 600 546 512
Street Address: Level 8, 1 Nicholson Street
East Melbourne Victoria 3002
Australia

Telephone Number: +61 3 9906 3000
Emergency Telephone: **1 800 033 111 (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

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Oral Toxicity - Category 4
Skin Sensitisation - Category 1
Carcinogenicity - Category 2

SIGNAL WORD: WARNING



Hazard Statement(s):

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.

Precautionary Statement(s):

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing 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.

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**Response:**

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

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 Safety Data Sheet).

P363 Wash contaminated clothing before re-use.

P308+P313 IF exposed or concerned: Get medical advice/attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): None allocated.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Cobalt oxide Co2O3	1308-04-9	<=100%	H302 H317 H351

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. Seek medical advice if effects persist.

Skin Contact:

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water and soap. 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. 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).

Specific hazards arising from the chemical:

Non-combustible material.

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Special protective equipment and precautions for fire-fighters:

Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. 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.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place. Protect from moisture. 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

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Cobalt, metal dust & fume (as Co): 8hr TWA = 0.05 mg/m³, Sen

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

'Sen' Notice - sensitiser. The substance can cause a specific immune response in some people. An affected individual may subsequently react to exposure to minute levels of that substance and should not be further exposed to the substance.

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.

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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, SAFETY SHOES, SAFETY GLASSES, GLOVES, DUST MASK.



Wear overalls, safety glasses and impervious gloves. Avoid generating and inhaling dusts. If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. 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:	Powder
Colour:	Black
Odour:	Odourless
Molecular Formula:	Co ₂ O ₃
Solubility:	Insoluble in water. Soluble in mineral acids.
Specific Gravity:	5.7
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not applicable
Melting Point/Range (°C):	ca. 895
pH:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity:	Hygroscopic: absorbs moisture or water from surrounding air.
Chemical stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions:	None known.

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Conditions to avoid:	Avoid exposure to moisture. Avoid exposure to direct sunlight. Avoid exposure to heat.
Incompatible materials:	Incompatible with oxidising agents , hydrogen peroxide .
Hazardous decomposition products:	None known.

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:	May be an eye irritant. Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.
Skin contact:	Contact with skin may result in irritation. A skin sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis.
Inhalation:	Breathing in dust may result in respiratory irritation.

Acute toxicity:

Oral LD50 (rat): >5000 mg/kg

Inhalation LC50 (rat): >4.83 mg/L/4hrs

Chronic effects: Suspected of causing cancer.

For COBALT:

Oral LD50 (rat): 91 mg/kg (cobalt fluoride) to 317 mg/kg (cobalt carbonate).

Inhalation LC50(rat): 165 mg/m³/0.5hr (mixed oxides).

A significant decrease in lung function due to chronic bronchial obstruction was observed in humans exposed to 0.038 mg/m³ cobalt for 6 hours. Evidence from animal tests and studies with exposed workers indicate that repeated or prolonged exposure to cobalt metal dust and fumes can cause respiratory sensitisation. Exposure may also lead to wheezing, bronchitis and asthma.

Rats and guinea pigs (but not dogs) exposed to 9 mg/m³ cobalt as cobalt oxide for 3 months had increased levels of haemoglobin and subfractions of white blood cells.

Cobalt sulfate administered to guinea pigs at 20 mg cobalt/kg bw/day for 5 weeks resulted in the development of abnormal heart conditions in some of the animals. In workers, transient heart changes (myocardial) have been reported at exposure concentrations below 0.06 mg/m³ as cobalt.

There is some evidence to suggest that cobalt compounds are carcinogenic in test animals, however this effect has occurred following the chronic administration of cobalt directly into the trachea of the animals. Exposure to humans in this manner is highly unlikely and as such cobalt is not likely to present a carcinogenic risk to man.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

Product Name: COBALT OXIDE Co2O3

Substance No: 000000050215

Issued: 25/08/2015

Version: 2

Disposal methods:

Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

Marine Transport

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

Air Transport

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

15. REGULATORY INFORMATION

Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Oral Toxicity - Category 4

Skin Sensitisation - Category 1

Carcinogenicity - Category 2

Hazard Statement(s):

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

Poisons Schedule (SUSMP): None allocated.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

In: 'The Dictionary of Substances and their Effects'. Ed. Gangolli S. Royal Society of Chemistry, 1999.

International Agency for Research on Cancer. In: 'IARC Monographs on the Evaluation of Carcinogenic Risk to Humans'. World Health Organisation, 1975.

In 'Agency for Toxic Substances and Disease Registry, Toxicological Profile for Cobalt', US Department of Health & Human Services, ATSDR, 1992.

American Conference of Governmental and Industrial Hygienists. In: 'Threshold Limit Values and Biological Exposure Indices'. American Conference of Governmental and Industrial Hygienists Inc., 2001.

Agency for Toxic Substances and Disease Registry. Toxicology Profile. US Dept of Health and Human Services, 1997.

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

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Reason(s) for Issue:

5 Yearly Revised Primary SDS

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.