

SDS 1914 Chromium trioxide

User declaration:- I have read and understood this Safety Data Sheet

Name:- _____ Signature _____ Date _____



GHS Symbols:

Date of Issue/re-issue:-**20.8.2018**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name



ecp

ECP LTD

Address: 39 Woodside Ave, Northcote, Auckland , New Zealand

Emergency Tel: NZ: 0800 154 666 (24 h)

Telephone: 09 480 4386

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Product Chromium (VI) Oxide

Synonyms Chromium trioxide

Tracked Substance?: YES

Regulatory Classification numbers

CAS Number: 1333-82-0

UN Number: 1463

HSNO Approval Number: HSR002693 – Tracking required

DG Class : 5.1

Secondary DG Class (if any): 6.1

Packing group: II

Recommended use: Laboratory Investigations

2.Hazard Identification

2.1 GHS Classification Oxidizing liquids or solids (Category A) Acute toxicity, Oral (Category C) Acute toxicity, Dermal (Category B) Skin corrosion (Category A) Serious eye damage (Category A) Respiratory sensitisation (Category A) Germ cell mutagenicity (Category A) Carcinogenicity (Category A) Toxic to Reproduction (Category B) Specific Target Organ Toxicity, Inhalation (Category A) Aquatic toxicity (Acute or Chronic) (Category A)

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word **Danger**

Hazard statement(s) H271 May cause fire or explosion; strong oxidizer. H301 Toxic if swallowed. H310 Fatal in contact with skin. H314 Causes severe skin burns and eye damage. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H340 May cause 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 if inhaled. H400 Very toxic to aquatic life.

Precautionary statement(s) Prevention P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat. P220 Keep/Store away from clothing/ combustible materials. P221 Take any precaution to avoid mixing with combustibles. P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P262 Do not get in eyes, on skin, or on clothing. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P283 Wear fire/ flame resistant/ retardant clothing.

Response P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P306 + P360 IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. P310 Immediately call a POISON CENTER/doctor. P322 Specific measures (see supplemental first aid instructions on this label). P363 Wash contaminated clothing before reuse. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. P371 + P380 + P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. P391 Collect spillage. Storage P405 Store locked up. Disposal P501 Dispose of contents/ container to an approved waste disposal plant. Restricted to professional users.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Ingredients determined not to be hazardous		Balance to 100%
	Chromium trioxide	1333-82-0	60-100 %

4. FIRST AID MEASURES

Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting. Wash out mouth with water and give plenty of water to drink. Seek immediate medical attention.

Skin	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. Seek immediate medical attention.
Eye	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.
First Aid Facilities	Safety showers, eye wash fountains and normal washroom facilities.
Advice to Doctor	Accident victims should be given 5-10 g ascorbic acid (non-effervescent form) dissolved in water. Repeated doses of 5-10 g ascorbic acid per day may be given whilst features of toxicity are present. The quantity and length of treatment will be dependent on the severity of the poisoning.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 131 126; New Zealand 0800 764 766) or a doctor (at once).

5. FIRE FIGHTING MEASURES

Suitable Extinguishing

Media All extinguisher types can be used, select on the basis of other materials present.

Hazards from

Combustion Products Non combustible material.

Specific Hazards This product is an oxidiser. Contact with combustible material may cause fire.

Hazchem Code 2W

Decomposition Temp. Decomposition starts above the melting point of 196°C.
Decomposes to chromic oxide evolving oxygen.
Decomposition begins at 196°C liberating oxygen, no hazardous decomposition products observed under normal conditions of use.

Precautions in connection with Fire Wear Self-Contained Breathing Apparatus (S.C.B.A) and full protective clothing to minimise skin exposure.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Increase ventilation. Evacuate all unnecessary personnel. Wear sufficient respiratory protection and full protective clothing to minimise skin and eye exposure. Collect material and then transfer to a suitable container. Use absorbent paper dampened with water to pick up remaining material. Wash surfaces well, with soap and water. Seal all wastes in vapour tight labelled plastic containers for eventual disposal. If large quantities of this material enter the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

7. HANDLING AND STORAGE

Precautions for Safe Handling	Use in a well ventilated area. DO NOT store or use in confined spaces. Avoid breathing in vapours. When dealing with this product, repeated or prolonged skin exposure without protection should be prevented in order to lessen the possibility of skin disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. Washing hands prior to eating, drinking, smoking or using toilet facilities.
Conditions for Safe Storage	Store in a cool dry place away from foodstuffs and easily oxidizable/combustible material. Store in labelled, corrosion-resistant containers. Keep containers tightly closed. Store away from incompatible materials. Have appropriate fire extinguishers available in and near the storage area. For information on the design of the storeroom, reference should be made to Australian Standard AS 4326-1995: The storage and handling of oxidizing agents. Reference should also be made to all State and Federal regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	No exposure standards have been established for this material by the Australian National Occupational Health & Safety Commission (NOHSC) or the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour.
Biological Limit Values	No biological limit allocated.
Engineering Controls	Use with good general ventilation. If mists or vapours are produced local exhaust ventilation should be used.
Respiratory Protection	If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.
Eye Protection	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
Hand Protection	Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Body Protection	Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark red solid.
Odour	Odourless.
Decomposition Temperature	Decomposition starts above the melting point of 196°C. Decomposes to chromic oxide evolving oxygen. Decomposition begins at 196°C liberating oxygen, no hazardous decomposition products observed under normal conditions of use.
Melting Point	196°C
Boiling Point	Decomposes above the melting point.
Solubility in Water	Soluble.
Specific Gravity	2.7 g/cm ³ (20°C)
pH Value	ca. 1 at a concentration of 10 g/l water (20°C)
Vapour Pressure	Not applicable.
Vapour Density (Air=1)	Not available.
Flash Point	Not applicable.
Auto-Ignition Temperature	Not applicable.
Flammable Limits - Lower	Not applicable.
Flammable Limits - Upper	Not applicable.
Molecular Weight	99.99 (CrO ₃)
Oxidising Properties	Strong oxidising agent.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal use conditions.
Conditions to Avoid	Contact with with incompatibles.
Incompatible Materials	Contact with organic materials, oils, greases or other readily oxidizable material should be avoided. Contact with combustible material may cause fire. This product may act as an oxidizing agent to initiate or sustain a fire involving organic

matter or other easily oxidizable material.

Hazardous Decomposition Products Thermal decomposition may produce chromic oxide (Cr₂O₃) or other oxides of chromium which may be hazardous.

Hazardous Reactions Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information LD₅₀/oral/rat: 52 mg/kg (both sexes)
LC₅₀/inhalation/rat: 0.217 mg/l/4hrs (both sexes)
LD₅₀/dermal/rabbit: 57 mg/kg (both sexes)
Corrosivity test/rabbit: corrosive to skin.

Inhalation Inhalation of product vapours will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.

Ingestion Toxic if swallowed. Ingestion of this product may cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.

Skin Skin contact will cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction. This product may cause sensitisation in some individuals.

Eye Eye contact will cause stinging, blurring, tearing, severe pain and possible permanent corneal damage.

Chronic Effects Prolonged or repeated exposure to chromic acid dust/mist may cause chronic eye irritation, skin ulceration and ulceration and perforation of the nasal septum. 'Epidemiological studies in the chromate production, chromate pigment and chromium plating industries indicate that long term exposure to dust and mists containing hexavalent (CrVI) compounds is associated with increased risk of respiratory tract cancer in humans. The specific soluble compounds of hexavalent chromium that 'may reasonably be anticipated to be carcinogenic by inhalation' have not been identified other than chromium trioxide. Partially soluble and insoluble compounds such as zinc and zinc potassium chromate, strontium and calcium chromates already carry a carcinogenic category classification'.

Carcinogenicity It is important to recognise that this product is classified as a Category 1 Carcinogen according to National Occupational Health And Safety Commission (NOHSC). That is, there is sufficient evidence to establish a causal association between human exposure and the development of cancer on the basis of epidemiological data.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

AQUATIC TOXICITY:
LC₅₀/96 hr/Colisa fasciatus: 40mg CrO₃/l

EC50/24 hr/Pseudomonas fluorescens: 500mg/l

Persistence / Degradability	Chromium(VI) in water will eventually be reduced to Chromium(III) by organic matter in the water. Most chromium released into water will ultimately be deposited in the sediment. Chromium is not expected to biomagnify in the aquatic food chain.
Mobility	No data is available for this material.
Bioaccumulative Potential	Bioaccumulation of chromium from soil to above ground parts of plants is unlikely. There is no indication of biomagnification of chromium along the terrestrial food chain (soil-plant-animal).
Environment Protection	Cr(VI) compounds are toxic in the aquatic environment. When added to natural waters containing organic material Cr(VI) is reduced to Cr(III) being precipitated as the Hydroxide. Do not empty into drains, sewers/watercourses i.e. contain. If spillage does enter watercourses or sewers, inform the appropriate local water authority or National Regulatory body immediately. Small areas of contamination which cannot be removed may be treated with ferrous sulphate solution or sodium metabisulphite solution to reduce the hexavalent chromium to the trivalent form and the pH adjusted to 8.5 with sodium carbonate or sodium hydroxide solution to precipitate chromium hydroxide.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	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.
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14. TRANSPORT INFORMATION

Transport Information	<p>AUSTRALIA:</p> <p>This material is a Class 5.1 - Oxidising Agent and subsidiary Class 8 Corrosive Substance according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. This material is incompatible in a placard load with any of the following:</p> <ul style="list-style-type: none">- Explosives (Class 1)- Flammable Gases (Class 2.1)- Toxic Gases (Class 2.3)- Flammable Liquids (Class 3)- Flammable Solids (Class 4.1)- Spontaneously Combustible Substances (Class 4.2)- Dangerous When Wet Substances (Class 4.3)- Organic Peroxides (Class 5.2)- Toxic Substances (Class 6)(where the toxic substances are fire risk substances)- Radioactive Substances (Class 7)- Corrosive Substances (Class 8)- Miscellaneous Dangerous Goods (Class 9)(where the miscellaneous dangerous goods are fire risk substances), and- Combustible Liquids. <p>NEW ZEALAND:</p> <p>This material is classified as a Class 5.1 Oxidising Substance and subsidiary Class 8 Corrosive</p>
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Substance according to NZS 5433:1999 Transport of Dangerous Goods on Land. This material must not be loaded in the same freight container or on the same vehicle with:

- Explosives (Class 1)
- Flammable Gases (Class 2.1)
- Toxic Gases (Class 2.3)
- Flammable Liquids (Class 3),
- Spontaneously Combustible Substances (Class 4.2)
- Dangerous When Wet Substances (Class 4.3)
- Organic Peroxides (Class 5.2)
- Infectious substances (Class 6)
- Corrosive Substances (Class 8)

Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

- Flammable Solids (Class 4.1)
- Toxic Substances (Class 6)
- Radioactive Materials (Class 7) unless specifically exempted

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Flammable Liquids (Class 3),
- Flammable Solids (Class 4.1)
- Spontaneously Combustible Substances (Class 4.2)
- Dangerous When Wet Substances (Class 4.3)
- Organic Peroxides (Class 5.2)
- Toxic Substances (Class 6)
- Infectious Substances (Class 6), and
- Corrosive Substances (Class 8)

U.N. Number	1463
Proper Shipping Name	CHROMIUM TRIOXIDE, ANHYDROUS
DG Class	5.1
Sub.Risk	8
Hazchem Code	2W
Packaging Method	3.8.5.1
Packing Group	II
EPG Number	5C2
IERG Number	31

15. REGULATORY INFORMATION

Regulatory Information	Australia: Classified as hazardous according to criteria of National Occupational Health & Safety
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