



SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name CHROMATE INDICATOR SOLUTION
Synonyms CC6258, CP2360

1.2 Uses and uses advised against

Uses INDICATOR SOLUTION • LABORATORY APPLICATIONS • LABORATORY REAGENT

1.3 Details of the supplier of the product

Supplier name ROWE SCIENTIFIC PTY LTD
Address 11 Challenge Blvd, Wangara, WA, 6065, AUSTRALIA
Telephone (08) 9302 1911
Fax (08) 9302 1905
Email rowewa@rowe.com.au
Website <http://www.rowe.com.au>

1.4 Emergency telephone numbers

Emergency (08) 9302 1911

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Not classified as a Physical Hazard

Health Hazards

Skin Corrosion/Irritation: Category 2
Skin Sensitisation: Category 1
Serious Eye Damage / Eye Irritation: Category 2A
Germ Cell Mutagenicity: Category 1B
Carcinogenicity: Category 1B
Toxic to Reproduction: Category 1B

Environmental Hazards

Aquatic Toxicity (Chronic): Category 2

2.2 GHS Label elements

Signal word DANGER

Pictograms



PRODUCT NAME CHROMATE INDICATOR SOLUTION

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.

Prevention statements

P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response statements

P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P321	Specific treatment is advised - see first aid instructions.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Storage statements

P405	Store locked up.
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Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
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2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
POTASSIUM CHROMATE	7789-00-6	232-140-5	<5%
POTASSIUM DICHROMATE	7778-50-9	231-906-6	<1%
WATER	7732-18-5	231-791-2	Remainder

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).
First aid facilities	Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed

May cause sensitisation by skin contact. Chromium (VI) compounds are classified as carcinogenic to humans (IARC Group 1). May cause genetic defects.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

PRODUCT NAME CHROMATE INDICATOR SOLUTION

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic hexavalent chromium oxides when heated to decomposition.

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Contamination with incompatibles may cause fire or explosion. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Chromium (VI) (as Cr)	SWA [Proposed]	--	7E-6	--	--
Chromium (VI) compounds (as Cr)	SWA [AUS]	--	0.05	--	--

PRODUCT NAME CHROMATE INDICATOR SOLUTION**Biological limits**

Ingredient	Reference	Determinant	Sampling Time	BEI
POTASSIUM CHROMATE	ACGIH BEI	Total chromium in urine	End of shift at end of workweek	25 µg/L
	ACGIH BEI	Total chromium in urine	Increase during shift	10 µg/L
	WEL [UK]	Total chromium in urine	Post shift	10 µmol chromium/mo l creatinine in urine
	WES [NZ]	Total chromium in urine	End of shift at end of workweek	30 µg/L
	WES [Proposed]	Total chromium in urine	End of shift at end of workweek	25 µg/L
POTASSIUM DICHROMATE	ACGIH BEI	Total chromium in urine	End of shift at end of workweek	25 µg/L
	ACGIH BEI	Total chromium in urine	Increase during shift	10 µg/L
	WEL [UK]	Total chromium in urine	Post shift	10 µmol chromium/mo l creatinine in urine
	WES [NZ]	Total chromium in urine	End of shift at end of workweek	30 µg/L
	WES [Proposed]	Total chromium in urine	End of shift at end of workweek	25 µg/L

8.2 Exposure controls**Engineering controls**

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE

Eye / Face	Wear splash-proof goggles.
Hands	Wear PVC or rubber gloves.
Body	Wear coveralls.
Respiratory	Where an inhalation risk exists, wear a Type B-Class P2 (Inorganic gases/vapors and Particulate) respirator.

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Appearance	COLOURLESS TO YELLOW LIQUID
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	100°C (Approximately)
Melting point	< 0°C
Evaporation rate	AS FOR WATER
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Relative density	1 (Approximately)
Solubility (water)	SOLUBLE
Vapour pressure	18 mm Hg @ 20°C
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE

PRODUCT NAME CHROMATE INDICATOR SOLUTION

9.1 Information on basic physical and chemical properties

Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

% Volatiles	> 60 % (Water)
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10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Incompatible with combustible materials, reducing agents (e.g. sulphites), metals and some plastics and resins.

10.6 Hazardous decomposition products

May evolve toxic hexavalent chromium oxides when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity May be harmful if swallowed, in contact with skin, and/or if inhaled.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
POTASSIUM DICHROMATE	25 mg/kg (rat)	960 to 1330 mg/kg (rabbit)	0.09 to 0.2 mg/L/4hrs (rat)

Skin Contact may result in irritation, redness, pain, rash and dermatitis.

Eye Contact may result in irritation, lacrimation, pain, redness and possible burns.

Sensitisation May cause an allergic skin reaction. This product is not classified as a respiratory sensitiser.

Mutagenicity May cause genetic defects.

Carcinogenicity Hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1), resulting in an increased risk of lung cancer.

Reproductive May damage fertility or the unborn child.

STOT - single exposure Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.

STOT - repeated exposure Repeated exposure to hexavalent chromium via inhalation may result in ulceration and perforation of the nasal septum, bronchitis, decreased pulmonary function and pneumonia. Repeated exposure may also result in effects on the liver, kidney, gastrointestinal and immune systems, and possibly the blood.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

No information provided.

PRODUCT NAME CHROMATE INDICATOR SOLUTION

12.3 Bioaccumulative potential

No information provided.

12.4 Mobility in soil

No information provided.

12.5 Other adverse effects

WATER: Chromium (VI) may be reduced to Chromium (III) by organic matter present in water, and may eventually deposit in sediments. Toxic to microorganisms. May bioaccumulate. SOIL: Chromium in the soil may be transported from soil through runoff and leaching of water. ATMOSPHERE: Chromium is primarily removed from the atmosphere by fallout and precipitation and may enter surface water or soil.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal Add a solution of a mild reducing agent (thiosulphate, bisulphate or ferrous salt, but not carbon or sulphur) to the product. A sulphite or ferrous salt will require addition of 3 M sulphuric acid to promote reduction. Neutralise the solution with soda ash. Absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None allocated.	None allocated.	None allocated.
14.2 Proper Shipping Name	None allocated.	None allocated.	None allocated.
14.3 Transport hazard class	None allocated.	None allocated.	None allocated.
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

Marine Pollutant.

14.6 Special precautions for user

Hazchem code None allocated.

15. REGULATORY INFORMATION

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

Poison schedule Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information

PRODUCT NAME CHROMATE INDICATOR SOLUTION

IARC GROUP 1 - CONFIRMED HUMAN CARCINOGEN. This product contains an ingredient for which there is sufficient evidence to have been classified by the International Agency for Research into Cancer as a human carcinogen. The use of products known to be human carcinogens should be strictly monitored and controlled.

CHROMATES - CHROMIUM PRODUCTS: Asthma sufferers, respiratory impaired or previously sensitised (respiratory or skin) individuals are advised to avoid all exposure to chromium or chromate based products.

CHROMIUM: The most common form of chromium found in nature and in biological materials is trivalent (III) chromium which is poorly absorbed into the body. Chromium (VI) is readily absorbed where it is converted intracellularly to the carcinogenic chromium (III) form. Chromium (VI) compounds are classified as carcinogenic to humans (IARC Group 1). Chromium (III) is not classifiable as to its carcinogenicity in humans (IARC Group 3).

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

PRODUCT NAME CHROMATE INDICATOR SOLUTION

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