

1. IDENTIFICATION

Product Name	Sodium bichromate, Solution
Other Names	Sodium dichromate, Solution
Uses	Water treatment; Catalyst; Tanning; Corrosion inhibitors and surface treatment.
Chemical Family	No Data Available
Chemical Formula	Cr ₂ H ₂ O ₇ .2Na
Chemical Name	Chromic acid (H ₂ Cr ₂ O ₇), disodium salt, aqueous solution
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details


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

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
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) Schedule 6

Globally Harmonised System

Hazard Classification	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)	
Hazard Categories	Oxidising Liquids - Category 2 Acute Toxicity (Oral) - Category 3 Acute Toxicity (Dermal) - Category 4 Acute Toxicity (Inhalation) - Category 2 Skin Corrosion/Irritation - Category 1B Sensitisation (Respiratory) - Category 1 Sensitisation (Skin) - Category 1 Germ Cell Mutagenicity - Category 1B 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	H272	May intensify fire; oxidizer.
	H301	Toxic if swallowed.
	H312	Harmful in contact with skin.
	H314	Causes severe skin burns and eye damage.
	H317	May cause an allergic skin reaction.
	H330	Fatal if inhaled.
	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	H340	May cause genetic defects.
	H350	May cause cancer.
	H360FD	May damage fertility. May damage the unborn child.
	H372	Causes damage to organs through prolonged or repeated exposure.
	H410	Very toxic to aquatic life with long lasting effects.
Precautionary Statements	Prevention	P210 Keep away from heat. P260 Do not breathe mist/vapour/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P201 Obtain special instructions before use. P284 Wear respiratory protection. P273 Avoid release to the environment. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace.
	Response	P370 + P378 In case of fire: Use water for extinction. P310 Immediately call a POISON CENTER or doctor/physician. P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

	P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P363	Wash contaminated clothing before reuse.
	P391	Collect spillage.
Storage	P405	Store locked up.
Disposal	P501	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 & Rail (ADG Code)

Dangerous Goods Classification

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

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications			
Physical Hazards	5.1.1B		Oxidising substances that are liquids or solids: medium hazard
Health Hazards	6.1B		Substances that are acutely toxic - Fatal
	6.5A		Substances that are respiratory sensitisers
	6.5B		Substances that are contact sensitisers
	6.6A		Substances that are known or presumed human mutagens
	6.7A		Substances that are known or presumed human carcinogens
	6.8A		Substances that are known or presumed human reproductive or developmental toxicants
	8.2C		Substances that are corrosive to dermal tissue UN PGIII
	8.3A		Substances that are corrosive to ocular tissue
Environmental Hazards	9.1A		Substances that are very ecotoxic in the aquatic environment
	9.1C		Substances that are harmful in the aquatic environment
	9.2B		Substances that are ecotoxic in the soil environment
	9.3B		Substances that are ecotoxic to terrestrial vertebrates

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Sodium bichromate	Cr ₂ H ₂ O ₇ .2Na	10588-01-9	50 %
Water	H ₂ O	7732-18-5	50 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed

IF SWALLOWED: Rinse mouth, then drink a glass of water. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.

Eye

IF IN EYES: Immediately flush eyes with running water (continuously) for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Immediately call a Poison Centre or doctor/physician for advice. Remove contact lenses if present and easy to do. Continue flushing until advised to stop by a Poisons Information Centre or a

doctor, or for at least 15 minutes.

Skin	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Flush skin and hair with running water for at least 15 minutes. In case of gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. Immediately call a Poison Centre or doctor/physician for advice. For minor skin contact, avoid spreading material on unaffected skin. Wash contaminated clothing and shoes before reuse.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device - Administer oxygen if breathing is difficult.
Advice to Doctor	Urgent hospital treatment is likely to be needed. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of identity and nature of the product(s) involved, and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Do not move cargo if cargo has been exposed to heat. Cool containers with water spray until well after fire is out - If impossible, withdraw from area and let fire burn. Dam fire control water for later disposal. ALWAYS stay away from tank ends.
Flammability Conditions	OXIDISING SUBSTANCE: Non-combustible; however, will accelerate burning when involved in a fire.
Extinguishing Media	If material is involved in a fire, use flooding quantities of water for extinction - Do not use dry chemicals, Carbon dioxide (CO ₂) or foam. Large fire: Flood fire area with water from a protected position.
Fire and Explosion Hazard	Risk of violent reaction or explosion: May explode from heating, shock, friction or contamination. May ignite combustibles. Containers may explode when heated. Runoff may create fire or explosion hazard.
Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive gases, including Sodium oxides and Chromium oxides.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways; Runoff may create fire or explosion hazard.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. Structural firefighter's uniform will provide limited protection.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2W

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Prevent exposure to heat - ELIMINATE all ignition sources. Do not contaminate - Keep combustibles away from spilled material. Do not breathe vapours and prevent contact with eyes, skin and clothing.
Clean Up Procedures	Use a non-combustible material like vermiculite, sand or earth to soak up the product and place in a suitable, loosely-covered container for later disposal (see SECTION 13).
Containment	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Use water spray to knock down vapours or divert vapour clouds.
Decontamination	Clean surfaces thoroughly with water to remove residual contamination.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses - Runoff may pollute waterways; Runoff may create fire or explosion hazard.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. Large spill: Immediately contact Police or Fire Brigade; Consider downwind evacuation within at least 100 m.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). Large spill: Wear SCBA and chemical splash suit.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Obtain special instructions before use - Do not handle until all safety precautions have been read and understood. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Do not breathe mist/vapours/spray and prevent contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required; Wear respiratory protection (see SECTION 8). OXIDISING SUBSTANCE: Do not contaminate - Take any precaution to avoid mixing with combustibles/other incompatible materials (see SECTION 10). Keep away from heat and sources of ignition - No smoking.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from moisture. Keep away from heat and sources of ignition - No smoking. Keep/store away from foodstuffs, combustible and other incompatible materials (see SECTION 10). Store locked up.
Container	Keep only in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For Chromium (VI) compounds, water soluble: - Safe Work Australia (SWA) Exposure Standard (as Cr): TWA = 0.05 mg/m ³ ; Respiratory and/or skin sensitiser (Sen). - New Zealand Workplace Exposure Standard (WES) 2018 (as Cr): TWA = 0.01 mg/m ³ ; Exposure can also be estimated by biological monitoring (bio); Confirmed carcinogen (6.7A); Sensitiser (sen); Skin absorption (skin).
Exposure Limits	No Data Available
Biological Limits	New Zealand WorkSafe Biological Exposure Index (BEI) value for Chromium (VI) water-soluble fume: - Determinant: Total chromium in urine - End of shift at end of work week: 25 µg/litre - End of 8-hr exposure: Increase of 10 µg/litre
Engineering Measures	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.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection. Recommended: Particulate filter or air-supplied respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles, full face-shield (not required if wearing air-supplied mask). - Hand protection: Wear protective gloves. Recommended: Elbow-length, impervious gloves. - Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Overalls, splash apron, rubber boots.
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. Wash thoroughly after handling. Remove contaminated clothing and shoes immediately and wash before storage or reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	No information available.
Colour	Brown or orange
pH	<=3.5
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Miscible with water
Specific Gravity	1.345 - 1.355

Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	1.345 - 1.355 g/ml
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	Risk of violent reaction or explosion: May explode from heating, shock, friction or contamination.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	OXIDISING SUBSTANCE: Non-combustible; however, will accelerate burning when involved in a fire. May ignite combustibles.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including Sodium oxides and Chromium oxides.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Keep away from heat and sources of ignition. Do not contaminate.
Materials to Avoid	Incompatible/reactive with combustible/organic materials, acids, hydrazine, acetic anhydride, ammonium compounds, cyanides, peroxides, hydroxylamine.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including Sodium oxides and Chromium oxides.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"> - Acute toxicity: Toxic if swallowed. Harmful in contact with skin. Fatal if inhaled. Accidental or intentional ingestion of high doses of chromium (VI) compounds by humans has resulted in severe respiratory, cardiovascular, gastrointestinal, haematological, hepatic, renal and neurological effects [NICNAS]. - Skin corrosion/irritation: Causes severe skin burns. In workers regularly exposed to Cr (VI) in solution, chrome ulcers
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developed after some initial damage to the skin; The severity of the ulcer depends upon the frequency and duration of skin contamination, the condition of the skin and the pH of the solution [NICNAS].

- Eye damage/irritation: Causes serious eye damage (implicit).
- Respiratory/skin sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
- Germ cell mutagenicity: May cause genetic defects.
- Carcinogenicity: May cause cancer.
- Reproductive toxicity: May damage fertility or the unborn child.
- STOT (single exposure): Irritating to the respiratory system (implicit).
- STOT (repeated exposure): Causes damage to organs through prolonged or repeated inhalation exposure. Workers exposed to dissolved chromium (VI) aerosols and chromium trioxide mists reported effects on the respiratory, renal and gastrointestinal systems [NICNAS].
- Aspiration toxicity: No information available.

Carcinogen Category Cat. 1B

12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available.
Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	Very toxic to aquatic life with long lasting effects - Prevent entry into drains and waterways.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container through a licensed waste disposal company and in accordance with local/regional/national regulations.
Special Precautions for Land Fill	No information available.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	OXIDISING LIQUID, TOXIC, N.O.S. (Sodium bichromate, Solution)
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	6.1 Toxic and Infectious Substances - Toxic Substances
EPG	31 Oxidizing Substances
UN Number	3099
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	OXIDISING LIQUID, TOXIC, N.O.S. (Sodium bichromate, Solution)
Class	5.1 Oxidising Substances

Subsidiary Risk(s)	6.1 Toxic and Infectious Substances - Toxic Substances
EPG	31 Oxidizing Substances
UN Number	3099
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	OXIDISING LIQUID, TOXIC, N.O.S. (Sodium bichromate, Solution)
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	6.1 Toxic and Infectious Substances - Toxic Substances
EPG	31 Oxidizing Substances
UN Number	3099
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	OXIDISING LIQUID, TOXIC, N.O.S. (Sodium bichromate, Solution)
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	6.1 Toxic and Infectious Substances - Toxic Substances
ERG	142 Oxidizers - Toxic (Liquid)
UN Number	3099
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	OXIDISING LIQUID, TOXIC, N.O.S. (Sodium bichromate, Solution)
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	6.1 Toxic and Infectious Substances - Toxic Substances
UN Number	3099
Hazchem	2W
Pack Group	II
Special Provision	No Data Available
EMS	F-A, S-Q
Marine Pollutant	Yes

Air Transport

IATA DGR

Proper Shipping Name	OXIDISING LIQUID, TOXIC, N.O.S. (Sodium bichromate, Solution)
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	6.1 Toxic and Infectious Substances - Toxic Substances
UN Number	3099
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

National Transport Commission (Australia)

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

Dangerous Goods Classification

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

15. REGULATORY INFORMATION

General Information

No Data Available

Poisons Schedule (Aust)

Schedule 6

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code

HSR006382

National/Regional Inventories

Australia (AICS)

Listed

Canada (DSL)

Not Determined

Canada (NDSL)

Not Determined

China (IECSC)

Not Determined

Europe (EINECS)

Not Determined

Europe (REACH)

Not Determined

Japan (ENCS/METI)

Not Determined

Korea (KECI)

Not Determined

Malaysia (EHS Register)

Not Determined

New Zealand (NZIoC)

Listed

Philippines (PICCS)

Not Determined

Switzerland (Giftliste 1)

Not Determined

Switzerland (Inventory of Notified Substances)

Not Determined

Taiwan (NCSR)

Not Determined

USA (TSCA)

Listed

16. OTHER INFORMATION

Related Product Codes

SOBICL0700, SOBICL1000, SOBICL1700, SOBICL3600, SOBICL3900, SOBICL3902, SOBICL4000, SOBICL5000, SOBICL5100

Revision
Revision Date
Key/Legend

4

24 May 2016

< Less Than
> Greater Than

AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO₂ 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/cm³ 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
inH₂O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 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.
LD50 LD stands for Lethal Dose. LD50 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
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health 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
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