SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name	**KENVERT 418**
Synonyms	418 KENVERT

1.2 Uses and uses advised against

Uses	INDUSTRIAL APPLICATIONS ● SPECIALTY CHEMICAL ● SURFACE FINISHING

1.3 Details of the supplier of the product

Supplier name	**DUBOIS CHEMICALS AUSTRALIA PTY LIMITED**
Address	305 Frankston Dandenong Rd, Dandenong South, VIC, 3175, AUSTRALIA
Telephone	(03) 9768 3860
Email	sales@duboischemicals.com.au
Website	http://duboischemicals.com.au/

1.4 Emergency telephone numbers

Emergency	13 11 26 (Poisons Information Centre)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Corrosive to Metals: Category 1

Health Hazards

Acute Toxicity: Oral: Category 3
Skin Corrosion/Irritation: Category 1A
Skin Sensitisation: Category 1
Serious Eye Damage / Eye Irritation: Category 1
Acute Toxicity: Inhalation: Category 2
Respiratory Sensitisation: Category 1
Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)
Germ Cell Mutagenicity: Category 1B
Carcinogenicity: Category 1A
Toxic to Reproduction: Category 1B
Specific Target Organ Toxicity (Repeated Exposure): Category 1

Environmental Hazards

Aquatic Toxicity (Acute): Category 1
Aquatic Toxicity (Chronic): Category 1

2.2 GHS Label elements

Signal word	**DANGER**
Pictograms	

Hazard statements

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Prevention statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original packaging.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
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.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P284	Wear respiratory protection.

Response statements

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep 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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTRE or doctor/physician.
P320	Specific treatment is urgent - see first aid instructions.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.

Storage statements

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.

Disposal statements

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

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
HYDROCHLORIC ACID	7647-01-0	231-595-7	10 to 20%
SODIUM DICHROMATE	10588-01-9	234-190-3	10 to 20%
CHROMIUM TRIOXIDE	1333-82-0	215-607-8	5 to 7%
ADDITIVE(S)	-	-	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. To protect rescuer, use a Full-face Type B (Inorganic and acid gas) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing. Also rest and keep warm.
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). Rinse mouth out with water and give plenty of water to drink.
First aid facilities	Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

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

2X

2	Fine Water Spray.
X	Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

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/m³	ppm	mg/m³
Chromium (VI) (as Cr)	SWA [Proposed]	--	7E-6	--	--
Chromium (VI) compounds (as Cr)	SWA [AUS]	--	0.05	--	--
Hydrogen chloride	SWA [Proposed]	2 (Peak)	2.98 (Peak)	--	--
Hydrogen chloride (Hydrochloric acid)	SWA [AUS]	5 (Peak)	7.5 (Peak)	--	--

Biological limits

Ingredient	Determinant	Sampling Time	BEI
CHROMIUM TRIOXIDE	Total chromium in urine	End of shift at end of workweek	25 µg/L
	Total chromium in urine	Increase during shift	10 µg/L
	Total chromium in urine	Post shift	10 µmol chromium/mol creatinine in urine
	Total chromium in urine	End of shift at end of workweek	30 µg/L
	Total chromium in urine	End of shift at end of workweek	25 µg/L
SODIUM DICHROMATE	Total chromium in urine	End of shift at end of workweek	25 µg/L
	Total chromium in urine	Increase during shift	10 µg/L
	Total chromium in urine	Post shift	10 µmol chromium/mol creatinine in urine
	Total chromium in urine	End of shift at end of workweek	30 µg/L
	Total chromium in urine	End of shift at end of workweek	25 µg/L

Reference: ACGIH Biological Exposure Indices

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, use local or extraction ventilation at source. Maintain mist / vapour levels below the recommended exposure standard.

PPE

Eye / Face Wear a faceshield and splash-proof goggles.

Hands Wear PVC or rubber gloves.

Body Wear coveralls. When using large quantities or where heavy contamination is likely, wear rubber boots and a PVC apron.

Respiratory Wear a Type B-Class P2 (Inorganic gases/vapors and Particulate) respirator. If spraying, with prolonged use, or if in confined areas, wear an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance BROWN / RED LIQUID

9.1 Information on basic physical and chemical properties

Odour	CHARACTERISTIC ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	> 74°C
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	< 1
Vapour density	NOT AVAILABLE
Relative density	1.205
Solubility (water)	MISCIBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity

May be corrosive to metals.

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 oxidising agents (e.g. hypochlorites), alkalis (e.g. sodium hydroxide), ammonia, metals, heat and ignition sources.

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 Fatal if inhaled. Toxic if swallowed. Ingestion may result in severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
HYDROCHLORIC ACID	2210 mg/kg (rat)	--	1108 ppm/1hr (human - respiratory irritation)
SODIUM DICHROMATE	50 mg/kg (rat)	--	--
CHROMIUM TRIOXIDE	80 mg/kg (rat)	--	--

Skin	Contact may result in irritation, redness, pain, rash, dermatitis and possible severe skin burns.
Eye	Contact may result in irritation, lacrimation, pain, redness, corneal burns and possible serious eye damage.
Sensitisation	May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Mutagenicity	There is some evidence that hexavalent chromium compounds may have genetic effects.
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. Over exposure may result in severe mucous membrane irritation of the nose and throat, with coughing and burning sensation.
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

Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

WATER: Chromium (VI) may be reduced to Chromium (III) by organic matter present in water, and may eventually deposit in sediments. 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.

12.3 Bioaccumulative potential

Chromium (VI) compounds have the potential to bioaccumulate.

12.4 Mobility in soil

No information provided.

12.5 Other adverse effects

Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal	Soluble salts: convert to insoluble form by dissolving in water and precipitating with lime or sodium carbonate. Absorb with sand or similar and dispose of to an approved landfill site. Insoluble salts: Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	3264	3264	3264
14.2 Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains chromium trioxide, sodium dichromate, hydrochloric acid)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains chromium trioxide, sodium dichromate, hydrochloric acid)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains chromium trioxide, sodium dichromate, hydrochloric acid)
14.3 Transport hazard class	8	8	8
14.4 Packing Group	III	III	III

14.5 Environmental hazards

Marine Pollutant.

14.6 Special precautions for user

Hazchem code	2X

EmS	F-A, S-B
Other information	The environmentally hazardous substance mark is not required when transported in packages of less than 5 kg/L (UN Model Regulations: Special Provision 375; IATA: Special Provision A197; IMDG: Special Provision 969) or less than 500 kg/L by Australian Road and Rail.

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. **EUROPE:EINECS (European Inventory of Existing Chemical Substances)** All components are listed on EINECS, or are exempt.

16. OTHER INFORMATION

Additional information

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/m³	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.

Prepared by

Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmtglobal.com

[End of SDS]