SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **TRIPASS ELV 5101**

Synonyms TRIPASS ELV5101

1.2 Uses and uses advised against

Uses INDUSTRIAL APPLICATIONS ● SURFACE COATING ● 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

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

Environmental Hazards

Aquatic Toxicity (Chronic): Category 2

2.2 GHS Label elements

Signal word **DANGER**

Pictograms

Hazard statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H411	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.
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.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.

Storage statements

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
CHROMIUM (III) CHLORIDE	10025-73-7	233-038-3	5 to 10%
NITRIC ACID	7697-37-2	231-714-2	5 to 10%
SODIUM HYDROGEN FLUORIDE	1333-83-1	215-608-3	1 to 3%
COBALT (II) NITRATE	10141-05-6	233-402-1	0.5 to 2%
NICKEL CHLORIDE HEXAHYDRATE	7791-20-0	616-576-7	0.5 to 1.5%
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. 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.

Skin If skin contact occurs, immediately remove contaminated clothing. Flush skin under running water for 15 minutes. Then apply calcium gluconate gel or HEXAFLUORINE ®. Contact a Poisons Information Centre on

13 11 26 (Australia Wide).

Ingestion For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

First aid facilities Eye wash facilities and safety shower should be available. Calcium gluconate gel should be readily available wherever the product is used or stored.

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

Eye Treatment: Flush the eye with water for at least 15 minutes, continue irrigation with isotonic saline or water until the severe pain of the burn is relieved. Instil several drops of sterile calcium gluconate (10% solution).

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 gases (nitrogen oxides, fluorides and hydrogen fluoride) when heated to decomposition. May evolve metal oxides and hydrogen chloride gas 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. 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, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should be bunded and have appropriate ventilation systems.

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 (III) CHLORIDE	SWA [AUS]	--	0.5	--	--
Chromium (metal), (II), (III) (as Cr)	SWA [Proposed]	--	0.04	--	--
Cobalt (metal and inorganic)	SWA [Proposed]	--	0.02	--	--
Cobalt, metal dust & fume (as Co)	SWA [AUS]	--	0.05	--	--
Fluorides, as F	SWA [AUS]	--	2.5	--	--
Nickel, soluble compounds (as Ni)	SWA [AUS]	--	0.1	--	--
Nitric acid	SWA [AUS]	2	5.2	4	10
Nitric acid	SWA [Proposed]	2	5.2	--	--

Biological limits

Ingredient	Determinant	Sampling Time	BEI
COBALT (II) NITRATE	Cobalt in urine	End of shift at end of workweek	15 µg/L
SODIUM HYDROGEN FLUORIDE	Fluoride in urine	Prior to shift	2 mg/L
	Fluoride in urine	End of shift	3 mg/L

Reference: ACGIH Biological Exposure Indices

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 butyl or viton® gloves.

Body Wear a laboratory coat and rubber or PVC boots and a PVC apron and impervious coveralls.

Respiratory Wear a Full-face Type B (Inorganic and Acid gas) respirator. With prolonged use, wear an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	GREEN LIQUID
Odour	SLIGHT ACIDIC ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	> 100°C
Melting point	< 0°C
Evaporation rate	NOT AVAILABLE
pH	< 1
Vapour density	NOT AVAILABLE
Relative density	1.126
Solubility (water)	SOLUBLE
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

9.1 Information on basic physical and chemical properties

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 (violently) with combustible materials, metals, reducing agents (e.g. sulphites), alkalis (e.g. sodium hydroxide), ammonia, heat and ignition sources.

10.6 Hazardous decomposition products

May evolve toxic gases (nitrogen oxides, fluorides and hydrogen fluoride) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity 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
CHROMIUM (III) CHLORIDE	440 mg/kg (rat)	--	31.5 mg/m³/2 hr (mouse)
NITRIC ACID	--	--	2.65 mg/l (Vapours)
COBALT (II) NITRATE	434 mg/kg (rat)	--	--
NICKEL CHLORIDE HEXAHYDRATE	105 mg/kg (rat)	--	--

Skin Causes severe burns. Contact may result in burning sensation (delayed), severe and deep burns, discolouration, severe tissue damage and death which may be delayed. May be absorbed through skin with highly toxic effects.

Eye Causes severe burns. Contact may result in irritation, lacrimation, pain, redness and corneal burns with possible serious eye damage.

Sensitisation May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Mutagenicity Suspected of causing genetic defects.

Carcinogenicity May cause cancer. Nickel and cadmium compounds are classified as carcinogenic to humans (IARC Group 1). Cobalt and cobalt compounds are classified as possibly carcinogenic to humans (IARC Group 2B). There is inadequate evidence in experimental animals for the carcinogenicity of chromium (III) compounds (IARC Monograph, Volume 49).

Reproductive May damage fertility or the unborn child.

STOT - single exposure Over exposure may result in mucous membrane irritation of the respiratory tract, coughing, bronchitis, ulceration, bloody nose, lung tissue damage, chemical pneumonitis, pulmonary oedema and death.

STOT - repeated exposure Repeated exposure to cobalt compounds may result in liver, kidney, lung and heart damage. Repeated exposure to nickel and its compounds via inhalation to high concentrations may result in lung fibrosis.

Aspiration Not expected to present an aspiration hazard.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Harmful effect due to pH shift. Discharge into the environment should be avoided.

12.2 Persistence and degradability
No information provided.

12.3 Bioaccumulative potential
No information provided.

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 Neutralise with lime, weak alkali or similar. For small amounts, 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

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 nitric acid, sodium bifluoride, cobalt nitrate)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid, sodium bifluoride, cobalt nitrate)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid, sodium bifluoride, cobalt nitrate)
14.3 Transport hazard class	8	8	8
14.4 Packing Group	II	II	II

14.5 Environmental hazards
Marine Pollutant.

14.6 Special precautions for user
Hazchem code 2X

GTEPG 8A1

EmS F-A, S-B

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

ACIDS: When mixing acids with water (diluting), caution must be taken as heat will be generated which causes violent spattering. Always add a small volume of acid to a large volume of water, NEVER the reverse.

HYDROFLUORIC ACID: Severe burns and tissue damage have been reported after direct contact with small quantities of low concentration (< 20 %) hydrofluoric acid. An immediate burning sensation and pain is not always apparent but is a delayed effect which may proceed to corrosive tissue damage and toxic systemic effects through absorption. Hydrofluoric acid has the potential to cause permanent tissue damage and to be fatal if contaminated areas are not treated immediately.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

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.

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