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**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

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**1.1 Product identifier**

**Product name** TECHNICOAT ZN NI 3600  
**Synonyms** ZN NI 3600

**1.2 Uses and uses advised against**

**Uses** INDUSTRIAL APPLICATIONS

**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@duboischchemicals.com.au](mailto:sales@duboischchemicals.com.au)  
**Website** <http://duboischchemicals.com.au/>

**1.4 Emergency telephone numbers**

**Emergency** 13 11 26 (Poisons Information Centre)

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**2. HAZARDS IDENTIFICATION**

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**2.1 Classification of the substance or mixture**

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Oxidizing Liquids: Category 3  
Corrosive to Metals: Category 1

**Health Hazards**

Acute Toxicity: Oral: Category 5  
Skin Corrosion/Irritation: Category 1B  
Skin Sensitisation: Category 1  
Serious Eye Damage / Eye Irritation: Category 1  
Respiratory Sensitisation: Category 1  
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    TECHNICOAT ZN NI 3600****Hazard statements**

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H303	May be harmful if swallowed.
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.
H350i	May cause cancer by inhalation.
H360F	May damage fertility.
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.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
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.
P321	Specific treatment is advised - see first aid instructions.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use appropriate media to extinguish.
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.
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**2.3 Other hazards**

No information provided.

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**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

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**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
CHROMIUM (III) FLUORIDE TRIHYDRATE	16671-27-5	605-449-1	5 to 15%
SODIUM NITRATE	7631-99-4	231-554-3	5 to 15%
COBALT (II) NITRATE	10141-05-6	233-402-1	1 to 10%
NITRIC ACID	7697-37-2	231-714-2	1 to 10%
NON HAZARDOUS INGREDIENTS	Not Available	Not Available	Remainder

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**4. FIRST AID MEASURES**

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**4.1 Description of first aid measures**

<b>Eye</b>	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.
<b>Inhalation</b>	If inhaled, remove from contaminated area. To protect rescuer, use a Type B (Inorganic and acid gas) respirator where an inhalation risk exists. Apply artificial respiration if not breathing. Also rest and keep warm.
<b>Skin</b>	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.
<b>Ingestion</b>	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Rinse mouth out with water and give plenty of water to drink.
<b>First aid facilities</b>	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.

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**5. FIRE FIGHTING MEASURES**

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**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) when heated to decomposition. May ignite combustible materials.

**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**

2W

2     Fine Water Spray.

W     Risk of violent reaction or explosion. Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

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**6. ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. 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.

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**7. HANDLING AND STORAGE**

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**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 fire protection and 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/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Cobalt (metal and inorganic)	SWA [Proposed]	--	0.02	--	--
Cobalt, metal dust & fume (as Co)	SWA [AUS]	--	0.05	--	--
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

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 mist / vapour levels below the recommended exposure standard.

**PPE**

- Eye / Face** Wear splash-proof goggles.
- Hands** Wear chemical resistant gloves such as butyl rubber, natural rubber, neoprene or nitrile.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls. In a laboratory situation, wear a laboratory coat.
- Respiratory** Where an inhalation risk exists, wear a Type B (acid gas and vapours) respirator.



**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	BLUE-GREEN LIQUID
<b>Odour</b>	ACIDIC ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	< 2
<b>Vapour density</b>	NOT AVAILABLE
<b>Relative density</b>	1.24 to 1.28
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT AVAILABLE

**9.1 Information on basic physical and chemical properties**

Lower explosion limit	NOT AVAILABLE
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	OXIDISING LIQUID
Odour threshold	NOT AVAILABLE

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**10. STABILITY AND REACTIVITY**

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**10.1 Reactivity**

May intensify fire; oxidiser. 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**

Oxidising agent. Incompatible with combustible materials, reducing agents (e.g. sulphites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), metals, heat and ignition sources.

**10.6 Hazardous decomposition products**

May evolve toxic gases (nitrogen oxides) when heated to decomposition.

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**11. TOXICOLOGICAL INFORMATION**

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**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
SODIUM NITRATE	3430 mg/kg (rat)	> 5000 mg/kg (rat)	--
COBALT (II) NITRATE	434 mg/kg (rat)	--	--
NITRIC ACID	--	--	2.65 mg/l (Vapours)

**Skin**                        Causes severe burns. Contact may result in irritation, redness, pain, rash, dermatitis and severe burns.

**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**            Not classified as a mutagen.

**Carcinogenicity**        May cause cancer. Cobalt and cobalt compounds are classified as possibly carcinogenic to humans (IARC Group 2B).

**Reproductive**            May damage fertility or the unborn child. Animal tests show that cobalt compounds possibly cause toxic effects upon human reproduction and malformations in human babies.

**STOT - single exposure** Over exposure may result in irritation of the nose and throat, coughing and bronchitis. High level exposure may result in ulceration of the respiratory tract, lung tissue damage, chemical pneumonitis and pulmonary oedema. Effects may be delayed.

**STOT - repeated exposure**    Repeated exposure to fluorides may result in discolouration of teeth; as well as lung, kidney, liver, ligament and bone (osteosclerosis, skeletal fluorosis) damage.

**PRODUCT NAME    TECHNICOAT ZN NI 3600****Aspiration**                      This product does not present an aspiration hazard.

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**12. ECOLOGICAL INFORMATION**

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**12.1 Toxicity**

Toxic to aquatic life with long lasting effects.

**12.2 Persistence and degradability**

Nitric acid is not expected to persist in the environment.

**12.3 Bioaccumulative potential**

Nitric acid does not build up in plant or animal tissues largely because of its highly reactive properties.

**12.4 Mobility in soil**

SOIL: Nitric acid will dissolve the carbonate based materials in the soil. WATER: A significant amount will reach the water table where dilution and dispersion serve to reduce the acid concentration. The elevated nitrate levels stimulates aquatic plant growth.

**12.5 Other adverse effects**

Avoid contamination of drains and waterways.

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**13. DISPOSAL CONSIDERATIONS**

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**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.

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**14. TRANSPORT INFORMATION**

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

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	3093	3093	3093
<b>14.2 Proper Shipping Name</b>	OXIDIZING LIQUID, CORROSIVE, N.O.S. (contains nitric acid, sodium nitrate)	OXIDIZING LIQUID, CORROSIVE, N.O.S. (contains nitric acid, sodium nitrate)	OXIDIZING LIQUID, CORROSIVE, N.O.S. (contains nitric acid, sodium nitrate)
<b>14.3 Transport hazard classes</b>	8 (5.1)	8 (5.1)	8 (5.1)
<b>14.4 Packing Group</b>	II	II	II

**14.5 Environmental hazards**

Marine Pollutant.

**14.6 Special precautions for user****Hazchem code**                      2W**EmS**                                      F-A, S-Q

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**15. REGULATORY INFORMATION**

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**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Poison schedule**                      Classified as a Schedule 5 (S5) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**PRODUCT NAME    TECHNICOAT ZN NI 3600**

<b>Classifications</b>	Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).
<b>Inventory listings</b>	<b>AUSTRALIA: AIC (Australian Inventory of Industrial Chemicals)</b> All components are listed on AIC, or are exempt.

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**16. OTHER INFORMATION**

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**Additional information**      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.

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.

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.

<b>Abbreviations</b>	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 <sup>3</sup>	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

**PRODUCT NAME    TECHNICOAT ZN NI 3600**

**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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