



*Australia*

**POWER  
COOL**

## Safety Data Sheet

Hazardous, Dangerous Goods

### 1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: **POWERCOOL N2 TITRANT**

**Synonyms**

POWERCOOL N2 TITRANT - 65 mL

**Product Code**

PEN48052.65

**Recommended use:** Field Test Kit and Laboratory reagent.

**Supplier:** Penske Australia  
**ABN:** 47 073 690 990  
**Street Address:** 488 Blackshaws Road  
Altona North, Victoria 3025  
Australia  
**Telephone:** (03) 9243 9292  
**Facsimile:** (03) 9243 9271

**Emergency Telephone number:** 1800 625 526

### 2. HAZARDS IDENTIFICATION

This material is hazardous according to the criteria of Safe Work Australia GHS 7.



**Signal Word**

Danger

**Hazard Classifications**

Corrosive to Metals - Category 1  
Skin Corrosion - Category 1A  
Eye Irritation - Category 2A  
Carcinogenicity - Category 1B  
Specific Target Organ Toxicity (Repeated Exposure) - Category 2  
Acute Hazard to the Aquatic Environment - Category 1  
Chronic Hazard to the Aquatic Environment - Category 1

**Hazard Statements**

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H350 May cause cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

**Prevention Precautionary Statements**

P102 Keep out of reach of children.  
P103 Read carefully and follow all instructions.  
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 fumes, mist, vapours or spray.

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P264 Wash hands, face and all exposed skin thoroughly after handling.  
P273 Avoid release to the environment.  
P281 Use personal protective equipment as required.

## Response Precautionary Statements

P101 If medical advice is needed, have product container or label at hand.  
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 [or 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 CENTER/doctor.  
P314 Get medical advice/attention if you feel unwell.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P363 Wash contaminated clothing before reuse.  
P390 Absorb spillage to prevent material damage.  
P391 Collect spillage.

## Storage Precautionary Statements

P405 Store locked up.  
P406 Store in corrosive resistant original container with a resistant inner liner.

## Disposal Precautionary Statement

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

**Poison Schedule:** S6. Poison

## DANGEROUS GOOD CLASSIFICATION

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

**Dangerous Goods Class:** 8

## 3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Sulfuric acid, cerium(4+) salt (2:1), tetrahydrate	10294-42-5	30-60 % (w/w)
Sulfuric acid	7664-93-9	1-10 % (w/w)
Ingredients determined to be Non-Hazardous		Balance
		<hr/> 100%

## 4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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**Skin Contact:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

**Eye contact:** In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

**Ingestion:** Rinse mouth immediately and drink plenty of water. Call a physician immediately. If swallowed danger of perforation of the oesophagus and the stomach (strong corrosive effects).

**PPE for First Aiders:** Wear rubber boots, overalls, gloves, chemical goggles. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**Notes to physician:** Treat symptomatically. Can cause corneal burns.

## 5. FIRE FIGHTING MEASURES

**Hazchem Code:** 2X

**Suitable extinguishing media:** If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

**Specific hazards:** Non-combustible material.

**Firefighting further advice:** Not applicable.

## 6. ACCIDENTAL RELEASE MEASURES

### SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

### LARGE SPILLS

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

**Dangerous Goods - Initial Emergency Response Guide No:** 154

## 7. HANDLING AND STORAGE

**Handling:** Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols.

**Storage:** Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store locked up. Store in corrosive resistant container with a resistant inner liner. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

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This material is classified as a Class 8 Corrosive as per the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and/or the "New Zealand NZS5433: Transport of Dangerous Goods on Land" and must be stored in accordance with the relevant regulations.

This material is a Scheduled Poison Schedule 6 (Poison) and must be stored, maintained and used in accordance with the relevant regulations.

This product is a "Manufactured Product" as defined in the ADG Code.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m3	ppm	mg/m3	
Sulphuric acid		1		3	-

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15-minute period which should not be exceeded at any time during a normal eight-hour workday.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

**Biological Limit Values:** As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

**Engineering Measures:** Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well-ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator. Vapour heavier than air - prevent concentration in hollows or sumps. Do NOT enter confined spaces where vapour may have collected.

**Personal Protection Equipment:** RUBBER BOOTS, OVERALLS, GLOVES, CHEMICAL GOGGLES.



Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

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Wear rubber boots, overalls, gloves, chemical goggles. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

## RECOMMENDATIONS FOR CONSUMER USE:

Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Applying skin-protecting agents and skin cosmetics is recommended after use.

**Hygiene measures:** Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Material Family:</b>	Aqueous Formulation
<b>Form:</b>	Liquid
<b>Colour:</b>	Orange
<b>Odour:</b>	Odourless
<b>Solubility:</b>	Miscible with water
<b>Specific Gravity:</b>	N Av
<b>Relative Vapour Density (air=1):</b>	>1
<b>Vapour Pressure:</b>	N Av
<b>Flash Point (°C):</b>	N App
<b>Explosion/Flammability Limits:</b>	N App
<b>Autoignition Temperature (°C):</b>	N Av
<b>Melting Point/Range (°C):</b>	N Av
<b>Boiling Point/Range (°C):</b>	N Av
<b>pH:</b>	< 1
<b>Viscosity:</b>	N Av
<b>Total VOC (g/Litre):</b>	N Av

(Typical values only - consult specification sheet)

N Av = Not available, N App = Not applicable

## 10. STABILITY AND REACTIVITY

**Chemical stability:** This material is thermally stable when stored and used as directed.

**Conditions to avoid:** Heat. Direct sunlight. Avoid thermal decomposition do not overheat.

**Incompatible materials:** Metals. Bases. Finely powdered metals. Organic materials. Carbides. Alcohols. Amines. Nitrates. Halogens. Reducing agents. Sulphides Cyanides.

**Hazardous decomposition products:** Thermal decomposition generates corrosive vapours. May evolve toxic fumes in fire. SO<sub>x</sub> & CeO<sub>x</sub> may be emitted.

**Hazardous reactions:** Corrosive. Reacts with metals producing hydrogen gas, which may form explosive mixture with air. Thermal decomposition may evolve toxic fumes in fire - SO<sub>x</sub> & CeO<sub>x</sub>

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## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

### Acute Effects

**Inhalation:** Harmful if inhaled. There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea, and weakness. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects.

**Skin contact:** There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs. Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue. Open cuts abraded or irritated skin should not be exposed to this material. Entry into the bloodstream, though, for example, cuts, abrasions, or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. The material can produce severe chemical burns following direct contact with the skin.

**Ingestion:** The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Use of gastric lavage or emesis is contraindicated. Blood may be vomited. Brownish or yellowish stains may be seen around the mouth. Danger of possible perforation of stomach or oesophagus: Swelling of the throat may cause shortness of breath and choking.

**Eye contact:** Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely. If applied to the eyes, this material causes severe eye damage. Irritation of the eyes may produce a heavy secretion of tears (lachrymation). The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.

### Acute toxicity

**Inhalation:** This material has been classified as not hazardous for acute inhalation exposure. Acute toxicity estimate (based on ingredients):  $LC_{50} > 20.0$  mg/L for vapours or  $LC_{50} > 5.0$  mg/L for dust and mist.

**Skin contact:** This material has been classified as not hazardous for acute dermal exposure. Acute toxicity estimate (based on ingredients):  $LD_{50} > 2,000$  mg/Kg bw

**Ingestion:** This material has been classified as not hazardous for acute ingestion exposure. Acute toxicity estimate (based on ingredients):  $LD_{50} > 2,000$  mg/Kg bw

**Corrosion/Irritancy:** Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as not corrosive or irritating to skin.

**Sensitisation:** Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

**Aspiration hazard:** This material has been classified as not an aspiration hazard.

**Specific target organ toxicity (single exposure):** This material has been classified as not a specific hazard to target organs by a single exposure.

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## Chronic Toxicity

**Mutagenicity:** This material has been classified as not a mutagen.

**Carcinogenicity:** This material has been classified as a Category 1B Hazard.

**Reproductive toxicity (including via lactation):** This material has been classified as not a reproductive toxicant.

**Specific target organ toxicity (repeat exposure):** This material has been classified as a Category 2 Hazard.

## 12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

**Acute aquatic hazard:** This material has been classified as a Category Acute 1 Hazard. Acute toxicity estimate (based on ingredients):  $\leq 1$  mg/L

**Long-term aquatic hazard:** This material has been classified as a Category Chronic 2 Hazard. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): 1 - 10 mg/L, where the substance is not rapidly degradable and/or  $BCF \geq 500$  and/or  $\log Kow \geq 4$ .

**Ecotoxicity:** The tolerance of water organisms towards pH margin and variation is diverse.\* Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. \* \* Acute testing with fish showed 96h-LC50 at about pH 3.5 For Sulfuric Acid.\* Environmental Fate: Large discharges of sulfuric acid may contribute to the acidification of water and be fatal to aquatic life and soil micro-organisms, and may contribute to the acidification of effluent treatment systems and injure sewage treatment organisms.\* The substance is a strong oxidizer, (reacts with oxygen), and is highly corrosive to stainless steel. \* Terrestrial Fate: Soil - In soil, the ions from sulfuric acid can adsorb to soil particles or leach into surface water and groundwater.\* Prevent, by any means available, spillage from entering drains or water courses.\* DO NOT discharge into sewer or waterways.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

**Mobility:** Mobile in soil. May leach to groundwater. Minerals in the soil tend to neutralise acid contamination however larger or continuous emissions may lead to the product travelling into the groundwater. The product is water soluble & may spread in water systems. Will likely be mobile in the environment due to its water solubility.

## 13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible, material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

## 14. TRANSPORT INFORMATION

### ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

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**UN No:** 1760  
**Dangerous Goods Class:** 8  
**Packing Group:** II  
**Hazchem Code:** 2X  
**Emergency Response Guide No:** 154  
**Limited Quantities** 1 L

**Proper Shipping Name:** CORROSIVE LIQUID, N.O.S. (CERIUM DISULPHATE; SULPHURIC ACID)

**Segregation Dangerous Goods:** Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7) or food and food packaging in any quantity. Note 1: Concentrated strong alkalis are incompatible with concentrated strong acids. Note 2: Concentrated strong acids are incompatible with concentrated strong alkalis. Note 3: Acids are incompatible with Dangerous Goods of Class 6 which are cyanides. Exemptions may apply.

This product is a "Manufactured Product" as defined in the ADG Code.

## MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea. This material is classified as a Marine Pollutant (P) according to the International Maritime Dangerous Goods Code.



**UN No:** 1760  
**Dangerous Goods Class:** 8  
**Packing Group:** II

**Proper Shipping Name:** CORROSIVE LIQUID, N.O.S. (CERIUM DISULPHATE; SULPHURIC ACID)

## AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.



**UN No:** 1760  
**Dangerous Goods Class:** 8  
**Packing Group:** II

**Proper Shipping Name:** CORROSIVE LIQUID, N.O.S. (CERIUM DISULPHATE; SULPHURIC ACID)

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## 15. REGULATORY INFORMATION

**This material is not subject to the following international agreements:**

Montreal Protocol (Ozone depleting substances)  
The Stockholm Convention (Persistent Organic Pollutants)  
The Rotterdam Convention (Prior Informed Consent)  
Basel Convention (Hazardous Waste)  
International Convention for the Prevention of Pollution from Ships (MARPOL)

**This material/constituent(s) is covered by the following requirements:**

The Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act (Commonwealth): S6. Poison.

AICIS Status: Formulations where all components are AICS listed.

## 16. OTHER INFORMATION

Reason for issue: 5 Yearly Revision

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions. We expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. Penske Australia and New Zealand assumes no responsibility for accuracy of information unless the document is the most current available from an official Penske Australia and New Zealand distribution system.

### SDS Abbreviations Legend:

<	Less Than
>	Greater Than
AICIS	Australian Industrial Chemicals Introduction Scheme
atm	Atmosphere
CAS	Chemical Abstracts Service (Registry Number)
cm <sup>2</sup>	Square Centimetres
CO <sub>2</sub>	Carbon Dioxide
COD	Chemical Oxygen Demand
°C	Degrees Celcius

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<b>EPA (New Zealand)</b>	Environmental Protection Authority of New Zealand
<b>°F</b>	Degrees Fahrenheit
<b>G</b>	Grams
<b>g/cm<sup>3</sup></b>	Grams per Cubic Centimetre
<b>g/l</b>	Grams per Litre
<b>HSNO</b>	Hazardous Substance and New Organism
<b>Immiscible</b>	Liquids are insoluble in each other.
<b>K</b>	Kelvin
<b>Kg</b>	Kilogram
<b>kg/m<sup>3</sup></b>	Kilograms per Cubic Metre
<b>Lb</b>	Pound
<b>LC50 or LC<sub>50</sub></b>	LC stands for lethal concentration.
<b>LC50 or LC<sub>50</sub></b>	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, usually 1 or 4 hours.
<b>LD50 or LD<sub>50</sub></b>	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.
<b>L</b>	Litre
<b>m<sup>3</sup></b>	Cubic Metre mbar Millibar mg Milligram
<b>mg/24H</b>	Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m <sup>3</sup> Milligrams per Cubic Metre
<b>Miscible</b>	Liquids form one homogeneous liquid phase regardless of the amount of either component present.
<b>mm</b>	Millimetre
<b>mmH<sub>2</sub>O</b>	Millimetres of Water
<b>mmHg</b>	Millimetres of Mercury
<b>mPa/s</b>	Millipascals Second
<b>N App</b>	Not Applicable
<b>N Av</b>	Not Available
<b>Pa</b>	Pascal
<b>ppb</b>	Parts per Billion
<b>ppm</b>	Parts per Million
<b>ppm/2h</b>	Parts per Million per 2 Hours
<b>ppm/6h</b>	Parts per Million per 6 Hours
<b>Psi</b>	Pounds per Square Inch
<b>STEL</b>	Short Term Exposure Limit
<b>TLV</b>	Threshold Limit Value
<b>TWA</b>	Time Weighted Average
<b>ug/24H</b>	Micrograms per 24 Hours

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<b>UN</b>	United Nations
<b>Wt</b>	Weight

**END OF SDS**