

Sulphuric Acid

Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

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| Product Name: | Sulphuric Acid |
| Other Names: | Sulphuric Acid 98.5%, Oil of Vitriol |
| Product Code: | 8100000 |
| Recommended Use: | Chemical reagent |
| Restrictions of Use: | Refer to Section 15 |
| Company Identification: | Ravensdown Limited |
| Address: | 292 Main South Road, Hornby, Christchurch, 8042 PO Box 1049, Christchurch 8011 |
| Customer Centre: | 0800 100 123 |
| National Poisons Information Centre: | 0800 POISON (0800 764 766) |
| Emergency Phone Number: | 0800 CHEMCALL (0800 243 622) (24hr) (Emergencies Only) |
| Transport Emergency Phone Number: | 111 - tell operator what service is needed: Fire, Ambulance or Police |
| Date of SDS Preparation | 30 April 2021 |

Section 2: HAZARD IDENTIFICATION

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

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| EPA Approval No: | HSR001572 |
| Pictograms: |  |
| Signal Word: | DANGER |

| HSNO Classification | Hazard Code | Hazard Statement |
|---|-------------|---|
| Acute inhalation toxicity Cat. 4 | H332 | Harmful if inhaled. |
| Carcinogenicity Cat. 1 | H350 | May cause cancer. |
| Specific target organ toxicity – repeated exposure Cat. 1 | H372 | Causes damage to organs through prolonged or repeated exposure. |
| Corrosive to metals Cat. 1 | H290 | May be corrosive to metals. |
| Skin corrosion Cat. 1B | H314 | Causes severe skin burns and eye damage. |
| Serious eye damage Cat. 1 | H318 | Causes serious eye damage. |
| Hazardous to the aquatic environment chronic Cat. 3 | H412 | Harmful to aquatic life with long lasting effects. |

| Prevention Code | Prevention Statement |
|-----------------|---|
| P102 | Keep out of reach of children. |
| P103 | Read label before use. |
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P234 | Keep only in original container. |

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| P260 | Do not breathe fumes, vapours or spray. |
| P264 | Wash hands thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective clothing as detailed in Section 8. |
| P281 | Use personal protective equipment as required. |

| Response Code | Response Statement |
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| P101 | If medical advice is needed, have product container or label at hand. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |
| P363 | Wash contaminated clothing before reuse. |
| P390 | Absorb spillage to prevent material damage. |
| P301 + P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303 + P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position 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. |

| Storage Code | Storage Statement |
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| P405 | Store locked up. |
| P406 | Store in corrosive resistant container with a resistant inner liner. |

| Disposal Code | Disposal Statement |
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| P501 | Dispose of according to Local Regulations or Authorities |

Section 3: COMPOSITION INFORMATION

| INGREDIENT | CAS No. | CONTENT |
|----------------|-----------|---------|
| Sulphuric Acid | 7664-93-9 | 98.5% |
| Water | 7732-18-5 | 1.5% |

Section 4: FIRST AID MEASURES

| Routes of Exposure: | |
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| If in eyes: | If Diphoterine SIEW or Diphoterine solution is available: Wash eye with contents of SIEW where available and continue washing with portable Diphoterine solution Otherwise: Flush with plenty of water for several minutes holding eyelid open if necessary. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes or until advised to stop by Poisons Information Centre or Doctor. Seek medical assistance. |
| If on skin: | If Diphoterine Micro DAP is available: Remove contaminated clothing and wash continuously with Micro DAP solution Otherwise: Remove contaminated clothing and flush skin underwater for 15 minutes. Contact the National Poisons Centre on number above. For skin burns, cover with a clean dry dressing until medical help is available. |
| If ingested: | For advice, contact the National Poisons Centre on number above. Seek medical assistance immediately. Never give anything by mouth to an unconscious person. If swallowed rinse mouth but DO NOT induce vomiting. Give a glass of water. |
| If inhaled: | Remove patient from area of exposure. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood – cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek medical advice. |
| Most important symptoms and effects, both acute and delayed | |

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| Symptoms: | Refer to Section 11 for all symptoms. |
| Eyes: | Causes serious eye damage. |
| Skin: | Causes severe skin burns. |
| Ingested: | Not applicable. |
| Inhaled: | Harmful if inhaled. |
| Chronic: | May cause cancer. Causes damage to organs through prolonged or repeated exposure. |
| Notes to Doctor: | Treat symptomatically. Effects may be delayed. Can cause corneal burns. |

Section 5: FIRE FIGHTING MEASURES

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| Hazard Type | Non Flammable |
| Hazards from combustion products | Non-combustible but may emit sulphuric acid mist/fumes and sulphur dioxide if involved in fire. |
| Suitable Extinguishing media | Not combustible, however, if material is involved in fire use: Water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder). |
| Precautions for firefighters and special protective clothing | Self-contained breathing apparatus, suitable protective clothing including goggles and protective gloves. |
| HAZCHEM CODE | 2P |

Section 6: ACCIDENTIAL RELEASE MEASURES

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| Personal precautions, protective equipment and emergency procedures: | |
| Wear appropriate protective clothing as detailed in Section 8. Exclude non-essential people from the area. | |
| Environmental precautions: | |
| Avoid unintended release of excessive amounts into waterways or sewers. If spill does enter waterway contact local authority. | |
| Methods and material for containment and cleaning up: | |
| Contain spill and use absorbent (enviropeat, vermiculite or other inert material) and add large quantities of water. Neutralise with lime or soda ash. Collect and place in sealable containers. Avoid generating dust. Reuse or recycle where possible. Dispose of according to Section 13. | |

Section 7: HANDLING AND STORAGE

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| Handling: | <p>Read label before use.</p> <p>Obtain special instructions before use.</p> <p>Do not handle until all safety precautions have been read and understood.</p> <p>Always add the acid to water, never the reverse.</p> <p>Keep only in original container.</p> <p>Do not breathe fumes, vapours or spray.</p> <p>Wash hands thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p> <p>Use only outdoors or in a well-ventilated area.</p> <p>Avoid release to the environment.</p> <p>Wear protective clothing as detailed in Section 8.</p> <p>Use personal protective equipment as required.</p> |
| Storage: | <p>Store in a cool, dry area away from alkalis, amines, reducing agents, oxidising agents some aldehydes, ketones, styrene monomer. Store in containers approved for sulphuric acid.</p> <p>Keep out of the reach of children.</p> <p>Store locked up.</p> <p>Store in corrosive resistant container with a resistant inner liner.</p> <p>Quantities greater than 1,000 litres require secondary containment.</p> |

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

| Substance | TWA | | STEL | |
|------------------------------|-----|-------------------|------|-------------------|
| | ppm | mg/m ³ | ppm | mg/m ³ |
| Product Name: Sulphuric Acid | | | | |
| Date of SDS: 30 April 2021 | | | | |

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2019 11TH EDITION.

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| Engineering Controls: | Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. If inhalation risk exists: Use with local exhaust ventilation while wearing suitable mist respirator. Keep containers closed when not in use. |
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Personal Protection Equipment:


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| Eyes: | Always wear goggles or a face shield. Eye wash facilities must be available. |
| Skin/Hands: | Always wear PVC or other suitable gloves, PVC overtrousers, overcoat and gumboots. Ensure safety shower available. |
| Respiratory: | If mist or vapour present wear suitable mask with acid mist canister. |
| General: | Do not eat, drink or smoke while using this product. Remove protective clothing and wash hands and face before meals and after work. Wash protective clothing daily after work. |

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance | Liquid |
| Colour | Heavy colourless to oily brown |
| Odour | Odourless |
| Odour Threshold | Not available |
| pH | <1 |
| Boiling Point | 310°C |
| Melting Point | 5°C |
| Freezing Point | Not available |
| Flash Point | Not available |
| Flammability | Non flammable |
| Upper and Lower Explosive Limits | Not available |
| Vapour Pressure | Not available |
| Vapour Density | Not available |
| Specific Gravity | 1.84g/cm ³ @ 15°C |
| Water Solubility | Miscible – never add water to acid. |
| Partition Coefficient: | Not available |
| Auto-ignition Temperature | Not available |
| Decomposition Temperature | Not available |
| Kinematic Viscosity | Not available |
| Particle Characteristics | Not available |

Section 10: STABILITY AND REACTIVITY

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| Stability of Substance | Stable under normal conditions. |
| Possibility of hazardous reactions | Not available |
| Conditions to Avoid | Exothermic reaction with water which may cause violent spattering, in concentrated form. Never add water to acid. |
| Incompatible Materials | Keep away from alkalis, amines, reducing agents, oxidising agents some aldehydes, |

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| | ketones, styrene monomer. Corrosive to most metals liberating flammable hydrogen gas. |
| Hazardous Decomposition Products | None. Will release flammable hydrogen gas on reaction with most metals. |

Section 11: TOXICOLOGICAL INFORMATION

Acute Effects:

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| Swallowed | May be harmful if swallowed. Swallowing acid rapidly destroys body tissue causing severe burns. LD50 (Oral, rat) 2,140mg/kg. |
| Dermal | Not applicable. |
| Inhalation | Harmful if inhaled. Breathing, in mists or aerosols. Damages the lungs and may cause pulmonary oedema. Nose, mouth and throat may be damaged. |
| Eye | Corrosive to eyes. Causes severe damage often leading to blindness. Mists and vapours are severe eye irritants. |
| Skin | Will destroy body tissue and result in severe burns. Mists and vapours are severe irritants to mucous membrane and skin. |

Chronic Effects:

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| Carcinogenicity | May cause cancer. |
| Reproductive Toxicity | Not applicable. |
| Germ Cell Mutagenicity | Not applicable. |
| Aspiration | Not applicable. |
| STOT/SE | Not applicable. |
| STOT/RE | Causes damage to organs through prolonged or repeated exposure. |

Section 12: ECOLOGICAL INFORMATION

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| Hazardous to the aquatic environment chronic Cat. 3 | Harmful to aquatic life with long lasting effects. |
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| Product: | |
| Persistence and degradability | No data available. |
| Bioaccumulation | No data available. |
| Mobility in Soil | No data available. |
| Other adverse effects | Avoid washing excessive amounts into streams and waterways. Avoid unintended release into the environment. |

Section 13: DISPOSAL INFORMATION

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| Disposal Method: | Dispose of product only by using according to label or at an approved landfill. Recycle where possible. Do not contaminate bodies of water with chemical or empty container. Refer to the Local council bylaws and Land Waste Management Authority. |
| Container Disposal: | Burn container in an appropriate incinerator if circumstance, such as wind direction permit. Otherwise bury in an approved landfill. Do not use container for any other purpose. |
| Precautions or methods to avoid: | Do not allow to enter waterways. |

Section 14: TRANSPORT INFORMATION

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2012



Road, Rail, Sea and Air Transport

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| UN No | 1830 |
|--------------|-------------|

Product Name: Sulphuric Acid
Date of SDS: 30 April 2021

SDS Prepared by: Technical Compliance Consultants (NZ) Ltd
Tel: 64 9 475 5240 www.techcomp.co.nz

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| Class - Primary | 8 |
| Packing Group | II |
| Proper Shipping Name | SULPHURIC ACID |
| Marine Pollutant | No |
| Special Provisions | If the product's individual container is below 1L, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG. |

Section 15: REGULATORY INFORMATION

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| This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017 | |
| EPA Approval Code: | HSR001572 |
| GHS Classification: | Acute inhalation toxicity Cat. 4 Carcinogenicity Cat. 1 Specific target organ toxicity – repeated exposure Cat. 1 Corrosive to metals Cat. 1 Skin corrosion Cat. 1B Serious eye damage Cat. 1 Hazardous to the aquatic environment chronic Cat. 3 |

| HSW (HS) Regulations 2017 | Trigger Quantity |
|---|--------------------------------|
| Signage Trigger Quantities (Schedule 3) | 250L (Skin corrosion Cat. 1B) |
| Emergency Response Plan (Schedule 5) | 1000L (Skin corrosion Cat. 1B) |
| Secondary Containment (Schedule 5) | 1000L (Skin corrosion Cat. 1B) |
| Location Certificate | 250L (Skin corrosion Cat. 1B) |
| Tracking (Schedule 26) | Not required |
| Certified Handlers | Not required |
| Restrictions of use | None known. |

Section 16: OTHER INFORMATION

Glossary

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| Cat | Category |
| EC ₅₀ | Median effective concentration. |
| EEL | Environmental Exposure Limit. |
| EPA | Environmental Protection Authority |
| HSNO | Hazardous Substances and New Organisms. |
| HSW | Health and Safety at Work. |
| LC ₅₀ | Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it. |
| LD ₅₀ | Lethal dose to kill 50% of test animals/organisms. |
| LEL | Lower explosive level. |
| OSHA | American Occupational Safety and Health Administration. |
| TEL | Tolerable Exposure Limit. |
| TLV | Threshold Limit Value-an exposure limit set by responsible authority. |
| UEL | Upper Explosive Level |
| WES | Workplace Exposure Limit |

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd 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

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Please contact Ravensdown, if further information is required.

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