## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name** | **Nitric acid, 65-70%** |
| **Other Names** | No Data Available |
| **Uses** | Manufacturing electronic and optical products; oxidising agent; pH-regulating agent; metal cleaning and etching; printing industry; photo-engraving; manufacturing jewellery; electroplating agent; manufacturing other chemicals (fertilisers, explosives); manufacturing pharmaceuticals. |
| **Chemical Family** | No Data Available |
| **Chemical Formula** | HNO3 |
| **Chemical Name** | Nitric acid, aqueous solution |
| **Product Description** | No Data Available |

### Contact Details of the Supplier of this Safety Data Sheet

| Organisation | Location | Telephone |
|---|---|---|
| Redox Ltd | 2 Swettenham Road<br>Minto NSW 2566<br>Australia | +61-2-97333000 |
| Redox Ltd | 11 Mayo Road<br>Wiri Auckland 2104<br>New Zealand | +64-9-2506222 |
| Redox Inc. | 3960 Paramount Boulevard<br>Suite 107<br>Lakewood CA 90712<br>USA | +1-424-675-3200 |
| Redox Chemicals Sdn Bhd | Level 2, No. 8, Jalan Sapir 33/7<br>Seksyen 33, Shah Alam Premier Industrial Park<br>40400 Shah Alam<br>Sengalor, Malaysia | +60-3-5614-2111 |

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

| Organisation | Location | Telephone |
|---|---|---|
| Poisons Information Centre | Westmead NSW | 1800-251525<br>131126 |
| Chemcall | Australia | 1800-127406<br>+64-4-9179888 |
| Chemcall | Malaysia | +64-4-9179888 |
| Chemcall | New Zealand | 0800-243622<br>+64-4-9179888 |
| National Poisons Centre | New Zealand | 0800-764766 |
| CHEMTREC | USA & Canada | 1-800-424-9300 CN723420<br>+1-703-527-3887 |

## 2. HAZARD IDENTIFICATION

**Poisons Schedule (Aust)** Schedule 6

### Globally Harmonised System

**Hazard Classification**

Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories**

Oxidising Liquids - Category 3

Corrosive to Metals - Category 1

Acute Toxicity (Inhalation) - Category 3

Skin Corrosion/Irritation - Category 1A

Serious Eye Damage/Irritation - Category 1

Specific Target Organ Toxicity (Repeated Exposure) - Category 2

**Pictograms**

**Signal Word**

Danger

**Hazard Statements**

| | |
|---|---|
| **H272** | May intensify fire; oxidizer. |
| **H290** | May be corrosive to metals. |
| **H314** | Causes severe skin burns and eye damage. |
| **H331** | Toxic if inhaled. |
| **H373** | May cause damage to organs through prolonged or repeated exposure. |
| **AUH071** | Corrosive to the respiratory tract |

**Precautionary Statements**

| | | |
|---|---|---|
| Prevention | **P210** | Keep away from heat. |
| | **P260** | Do not breathe fume/mist/vapours/spray. |
| | **P280** | Wear protective gloves/protective clothing/eye protection/face protection. |
| | **P220** | Keep/store away from combustible materials. |
| | **P271** | Use only outdoors or in a well-ventilated area. |
| Response | **P370 + P378** | In case of fire: Use water for extinction. |
| | **P303 + P361 + P353** | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. |
| | **P310** | Immediately call a POISON CENTER or doctor. |
| | **P305 + P351 + P338** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| | **P390** | Absorb spillage to prevent material-damage. |
| | **P301 + P330 + P331** | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| | **P363** | Wash contaminated clothing before reuse. |
| | **P304 + P340** | IF INHALED: Remove victim to fresh air and keep comfortable for breathing. |
| Storage | **P406** | Store in corrosive resistant container with a resistant inner liner. |
| | **P405** | Store locked up. |
| Disposal | **P501** | Dispose of contents/container in accordance with local / regional / national / international regulations. |

## National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Dangerous Goods Classification**

Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

## Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

| | | | |
|---|---|---|---|
| **HSNO Classifications** | Physical Hazards | **5.1.1C** | Oxidising substances that are liquids or solids: low hazard |
| | Health Hazards | **6.1D** | Substances that are acutely toxic - Harmful |
| | | **6.9B** | Substances that are harmful to human target organs or systems |
| | | **8.1A** | Substances that are corrosive to metals |
| | | **8.2B** | Substances that are corrosive to dermal tissue UN PGII |
| | | **8.3A** | Substances that are corrosive to ocular tissue |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

***Ingredients***

| Chemical Entity | Formula | CAS Number | Proportion |
|---|---|---|---|
| Nitric acid | No Data Available | 7697-37-2 | >=65 - <=70 % |
| Water | No Data Available | 7732-18-5 | >=30 - <=35 % |

## 4. FIRST AID MEASURES

***Description of necessary measures according to routes of exposure***

**Swallowed**

IF SWALLOWED: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person. Urgent hospital treatment is likely to be needed! Transport to hospital or doctor without delay.
*Do NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.

**Eye**

IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue flushing until advised to stop by a Poison Information Centre or a doctor, or for at least 15 minutes. May cause blindness! Transport to hospital or doctor without delay.
*Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. Do NOT use neutralising agents or any other additives.

**Skin**

IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately wash skin and hair with plenty of soap and running water for at least 20 minutes. Immediately call a Poison Centre or doctor/physician for advice. Wash contaminated clothing and shoes before reuse, or discard. For minor skin contact, avoid spreading material on unaffected skin.
*IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

**Inhaled**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Delayed pulmonary edema may occur. Get medical attention immediately!

**Advice to Doctor**

Immediate medical attention is required! Show this safety data sheet (SDS) to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. The exposed person should be kept under medical surveillance for 48 hours for delayed onset of pulmonary oedema.

**Medical Conditions Aggravated by Exposure**

No information available.

## 5. FIRE FIGHTING MEASURES

**General Measures**

Alert Fire Brigade and tell them location and nature of hazard. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers!

Non-combustible; however, may intensify fire (oxidiser). Substance itself does not burn but may decompose upon

| | |
|---|---|
| **Flammability Conditions** | heating to produce corrosive and/or toxic fumes. |
| **Extinguishing Media** | Use Carbon dioxide (CO2), dry chemical, dry sand, foam, water spray or fog for extinction.<br>*Use water spray or fog; do not use straight streams. |
| **Fire and Explosion Hazard** | OXIDISER: This substance will accelerate burning when involved in a fire and may decompose explosively when heated or involved in a fire. May explode from heat or contamination. May ignite combustibles. Vapours may accumulate in confined areas. Substance may react with water, releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. |
| **Hazardous Products of Combustion** | Fire or heat will produce irritating, toxic and/or corrosive gases, including Nitrogen oxides (NOx). |
| **Special Fire Fighting Instructions** | Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and may cause pollution. Runoff may create fire or explosion hazard! |
| **Personal Protective Equipment** | Wear positive pressure self-contained breathing apparatus (SCBA). Wear liquid-tight chemical protective clothing - It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. |
| **Flash Point** | No Data Available |
| **Lower Explosion Limit** | No Data Available |
| **Upper Explosion Limit** | No Data Available |
| **Auto Ignition Temperature** | No Data Available |
| **Hazchem Code** | 2R |

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **General Response Procedure** | Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources. All equipment used when handling the product must be grounded. Prevent exposure to heat. Do not contaminate - Keep combustibles away from spilled material. Do not get water inside containers. Do not touch or walk through spilled material. Clean up all spills immediately. Do not breathe mist/vapours. Prevent contact with eyes, skin and clothing. |
| **Clean Up Procedures** | Use a non-combustible material like vermiculite, sand or earth to soak up the product. Use clean, non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal (see SECTION 13). |
| **Containment** | Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.<br>*Vapour-suppressing foam may be used to control vapours. Water spray may be used to knock down or divert vapour clouds.<br>*Reaction with water may generate heat which will increase the concentration of fumes in the air. |
| **Decontamination** | Neutralise/decontaminate residue. Wash area and prevent runoff into drains. After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.<br>*Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. |
| **Environmental Precautionary Measures** | Prevent product from entering drains or waterways. Do not allow to enter into soil/subsoil. If contamination of drains or waterways occurs, advise emergency services. |
| **Evacuation Criteria** | Spill or leak area should be isolated immediately. Evacuate personnel to safe areas. Keep unauthorised personnel away. Keep upwind and to higher ground. |
| **Personal Precautionary Measures** | Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8).<br>*Wear positive pressure self-contained breathing apparatus (SCBA). Wear liquid-tight chemical protective clothing. Structural firefighters' protective clothing is not<br>effective in spill situations where direct contact with the substance is possible. |

## 7. HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Work under hood. Handle in accordance with good industrial hygiene and safety practice. Avoid generation of mist/vapours/aerosols. Do not breathe mist/vapours/aerosols and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). CORROSIVE/OXIDISING LIQUID: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Do not contaminate. To avoid violent reaction, ALWAYS add material to water and NEVER water to material. Absorb spillage to prevent material damage (see SECTION 6). |
| **Storage** | Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect containers against physical damage and check regularly for leaks. Keep away from heat, hot surfaces, sparks, open flames and |

other ignition sources - No smoking. Keep/store away from foodstuffs, clothing, combustible and incompatible materials (see SECTION 10). Store locked up or in an area accessible only to qualified or authorised persons.

**Container** Keep only in the original container or suitable packing, as recommended by manufacturer, i.e. Polyethylene or polypropylene container (Glass container is suitable for laboratory quantities). Do NOT use aluminium or galvanised containers. Check all containers are clearly labelled and free from leaks.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**General**

COMPONENT: Nitric acid (CAS No. 7697-37-2):
- Safe Work Australia (SWA) Exposure Standard: TWA = 2 ppm (5.2 mg/m3); STEL = 4 ppm (10 mg/m3).
- New Zealand Workplace Exposure Standard [Next review 2023]: TWA = 2 ppm (5.2 mg/m3); STEL = 4 ppm (10 mg/m3).
- NIOSH REL: TWA = 2 ppm (5 mg/m3); ST = 4 ppm (10 mg/m3).
- OSHA PEL: TWA = 2 ppm (5.2 mg/m3).
- Immediately dangerous to life or health (IDLH) concentration: 25 ppm.

DECOMPOSITION PRODUCT: Nitrogen dioxide (CAS No. 10102-44-0):
- Safe Work Australia Exposure Standard: TWA = 3ppm (5.6 mg/m3); STEL = 5 ppm (9.4 mg/m3).
- New Zealand Workplace Exposure Standard [Interim WES-Adopted 2020; Next review 2022]: TWA = 1 ppm (1.9 mg/m3)

**Exposure Limits** No Data Available

**Biological Limits** No information available.

**Engineering Measures** A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Apply technical measures to comply with the occupational exposure limits. *Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

**Personal Protection Equipment**

- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Supplied air respirator or self-contained breathing apparatus (refer to AS/NZS 1715 & 1716).
- Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Tight sealing safety goggles. If splashes are likely to occur, face protection shield.
- Hand protection: Wear protective gloves. Recommended: Elbow-length impervious gloves, e.g. PVC.
- Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Overalls; PVC apron or PVC protective suit; For large scale or continuous use, wear tight weave non-static clothing and non-sparking safety footwear/boots.

**Special Hazards Precaustions** This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

**Work Hygienic Practices** Do not eat, drink or smoke when using this product. Always wash hands with soap and water after handling. Take off immediately all contaminated clothing. Do NOT allow clothing wet with material to stay in contact with skin. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical State** | Liquid |
| **Appearance** | Liquid |
| **Odour** | Sharp, irritating |
| **Colour** | Colourless to pale yellow |
| **pH** | 1 (as supplied) |
| **Vapour Pressure** | No Data Available |
| **Relative Vapour Density** | No Data Available |
| **Boiling Point** | 121 °C |
| **Melting Point** | -41 °C |
| **Freezing Point** | No Data Available |
| **Solubility** | Miscible with water |
| **Specific Gravity** | 1.41 (Water = 1) |
| **Flash Point** | No Data Available |

| | |
|---|---|
| **Auto Ignition Temp** | No Data Available |
| **Evaporation Rate** | No Data Available |
| **Bulk Density** | No Data Available |
| **Corrosion Rate** | No Data Available |
| **Decomposition Temperature** | No Data Available |
| **Density** | No Data Available |
| **Specific Heat** | No Data Available |
| **Molecular Weight** | No Data Available |
| **Net Propellant Weight** | No Data Available |
| **Octanol Water Coefficient** | No Data Available |
| **Particle Size** | No Data Available |
| **Partition Coefficient** | No Data Available |
| **Saturated Vapour Concentration** | No Data Available |
| **Vapour Temperature** | No Data Available |
| **Viscosity** | No Data Available |
| **Volatile Percent** | No Data Available |
| **VOC Volume** | No Data Available |
| **Additional Characteristics** | No information available. |
| **Potential for Dust Explosion** | Not applicable. |
| **Fast or Intensely Burning Characteristics** | OXIDISER: This substance will accelerate burning when involved in a fire and may decompose explosively when heated or involved in a fire. |
| **Flame Propagation or Burning Rate of Solid Materials** | No information available. |
| **Non-Flammables That Could Contribute Unusual Hazards to a Fire** | Substance may react with water, releasing corrosive and/or toxic gases and runoff. |
| **Properties That May Initiate or Contribute to Fire Intensity** | Non-combustible; however, may intensify fire (oxidiser). Substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. May ignite combustibles. |
| **Reactions That Release Gases or Vapours** | Fire or heat will produce irritating, toxic and/or corrosive gases, including Nitrogen oxides (NOx). |
| **Release of Invisible Flammable Vapours and Gases** | Contact with metals may evolve flammable hydrogen gas. |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **General Information** | Nitric acid is a strong acid and oxidiser. Contact with alkaline material liberates heat. Reacts with water or steam to form toxic and corrosive nitrous fumes. Attacks most metals and some plastics, rubber and coatings. |
| **Chemical Stability** | Unstable in the presence of incompatible materials. Decomposes on exposure to light. |
| **Conditions to Avoid** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid exposure to air and light. Do not contaminate. |
| **Materials to Avoid** | Incompatible/reactive with combustible material, organic material, alkalis, carbides, chlorates, reducing agents, metals. |
| **Hazardous Decomposition Products** | Fire or heat will produce irritating, toxic and/or corrosive gases, including Nitrogen oxides (NOx). Contact with metals may evolve flammable hydrogen gas. |
| **Hazardous Polymerisation** | Hazardous polymerisation will not occur. |

## 11. TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **General Information** | - Acute toxicity: Corrosive on ingestion; Oral exposure may cause severe abdominal pain, burns to the skin or mouth, fever, a rapid drop in blood pressure, throat swelling and pain, bloody vomiting, shock or collapse. Toxic if inhaled; fumes from the chemical consist of a mixture of Nitrogen oxides, mainly Nitrogen dioxide, classified as "Fatal if inhaled". Inhalation hazard is increased at higher temperatures. Observed mortalities were due to pulmonary oedema |

[NICNAS].
- Skin corrosion/irritation: Corrosive to skin; Causes severe skin burns.
- Eye damage/irritation: Corrosive to eyes; Causes serious eye damage.
- Respiratory/skin sensitisation: No information available.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: "Acid mists, strong inorganic" are classified by the IARC Monographs as Carcinogenic to humans (Group 1).
- Reproductive toxicity: No information available.
- STOT (single exposure): Corrosive to the respiratory tract; May cause cough, sore throat, burning sensation, shortness of breath, laboured breathing. Inhalation exposure to the mist or fumes from the chemical or the decomposition product (Nitrogen dioxide), at high concentrations, caused immediate irritation of the respiratory tract (broncho-constriction), followed by delayed acute respiratory distress syndrome and delayed-onset pulmonary oedema [NICNAS].
- STOT (repeated exposure): Chronic inhalation exposure to nitric acid can cause respiratory irritation, leading to bronchitis and airways hyper-reactivity and erosion of dental enamel.
- Aspiration toxicity: No information available.

**Carcinogen Category** None

## 12. ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | No information available. |
| **Persistence/Degradability** | No information available. |
| **Mobility** | No information available. |
| **Environmental Fate** | Prevent entry into drains and waterways. |
| **Bioaccumulation Potential** | No information available. |
| **Environmental Impact** | No Data Available |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| **General Information** | Dispose of contents/container in accordance with local/regional/national regulations. |
| **Special Precautions for Land Fill** | Containers may still present a chemical hazard/danger when empty. Where possible, retain label warnings and SDS and observe all notices pertaining to the product. |

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)
ADG Code

| | |
|---|---|
| **Proper Shipping Name** | NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | 5.1 Oxidising Substances |
| **EPG** | 40 Toxic And/Or Corrosive Substances  Non-Combustible - Water Reactive |
| **UN Number** | 2031 |
| **Hazchem** | 2R |
| **Pack Group** | II |
| **Special Provision** | No Data Available |

### Land Transport (Malaysia)
ADR Code

| | |
|---|---|
| **Proper Shipping Name** | NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | 5.1 Oxidising Substances |
| **EPG** | 40 Toxic And/Or Corrosive Substances  Non-Combustible - Water Reactive |
| **UN Number** | 2031 |
| **Hazchem** | 2R |
| **Pack Group** | II |
| **Special Provision** | No Data Available |

### Land Transport (New Zealand)
NZS5433

| | |
|---|---|
| **Proper Shipping Name** | NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | 5.1 Oxidising Substances |
| **EPG** | 40 Toxic And/Or Corrosive Substances  Non-Combustible - Water Reactive |
| **UN Number** | 2031 |
| **Hazchem** | 2R |
| **Pack Group** | II |
| **Special Provision** | No Data Available |

### Land Transport (United States of America)
US DOT

| | |
|---|---|
| **Proper Shipping Name** | NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | 5.1 Oxidising Substances |
| **ERG** | 157 Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive) |
| **UN Number** | 2031 |
| **Hazchem** | 2R |
| **Pack Group** | II |
| **Special Provision** | No Data Available |

### Sea Transport
IMDG Code

| | |
|---|---|
| **Proper Shipping Name** | NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | 5.1 Oxidising Substances |
| **UN Number** | 2031 |
| **Hazchem** | 2R |
| **Pack Group** | II |
| **Special Provision** | No Data Available |
| **EMS** | F-A, S-Q |
| **Marine Pollutant** | No |

### Air Transport
IATA DGR

| | |
|---|---|
| **Proper Shipping Name** | NITRIC ACID other than red fuming, with at least 65% but not more than 70% nitric acid |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | 5.1 Oxidising Substances |
| **UN Number** | 2031 |
| **Hazchem** | 2R |

| | |
|---|---|
| **Pack Group** | II |
| **Special Provision** | No Data Available |
| **Comments** | PASSENGER AIRCRAFT: Forbidden<br>CARGO AIR: Not Accepted |

### National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

| | |
|---|---|
| **Dangerous Goods Classification** | Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) |

## 15. REGULATORY INFORMATION

| | |
|---|---|
| **General Information** | NITRIC ACID |
| **Poisons Schedule (Aust)** | Schedule 6 |

### Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

| | |
|---|---|
| **Approval Code** | HSR100763 (Reissued) |

### National/Regional Inventories

| | |
|---|---|
| **Australia (AIIC)** | Listed |
| **Canada (DSL)** | Listed |
| **Canada (NDSL)** | Not Listed |
| **China (IECSC)** | Listed |
| **Europe (EINECS)** | 231-714-2 |
| **Europe (REACh)** | Not Determined |
| **Japan (ENCS/METI)** | Listed |
| **Korea (KECI)** | Listed |
| **Malaysia (EHS Register)** | Listed |
| **New Zealand (NZIoC)** | Listed |
| **Philippines (PICCS)** | Listed |
| **Switzerland (Giftliste 1)** | Not Determined |
| **Switzerland (Inventory of Notified Substances)** | Not Determined |
| **Taiwan (NCSR)** | Listed |
| **USA (TSCA)** | Listed |

## 16. OTHER INFORMATION

**Related Product Codes**

NIACIB2000, NIACIB6500, NIACIB9800, NIACID0100, NIACID0101, NIACID0128, NIACID0129, NIACID0200, NIACID0500, NIACID0700, NIACID1000, NIACID1001, NIACID1002, NIACID1003, NIACID1004, NIACID1005, NIACID1006, NIACID1007, NIACID1008, NIACID1009, NIACID1010, NIACID1011, NIACID1012, NIACID1013, NIACID1014, NIACID1015, NIACID1016, NIACID1017, NIACID1018, NIACID1019, NIACID1020, NIACID1021, NIACID1022, NIACID1023, NIACID1100, NIACID1101, NIACID1110, NIACID1111, NIACID1113, NIACID1150, NIACID1151, NIACID1152, NIACID1153, NIACID1154, NIACID1200, NIACID1400, NIACID1700, NIACID1822, NIACID1823, NIACID1828, NIACID1889, NIACID1891, NIACID1892, NIACID1894, NIACID1895, NIACID1896, NIACID1897, NIACID1898, NIACID1900, NIACID2000, NIACID2001, NIACID2118, NIACID5000, NIACID5500, NIACID5501, NIACID5502, NIACID5503, NIACID5510, NIACID5512, NIACID5513, NIACID5514, NIACID5515, NIACID5516, NIACID5518, NIACID5521, NIACID5528, NIACID5550, NIACID5555, NIACID5666, NIACID6100, NIACID6300, NIACID6400, NIACID6500, NIACID6501, NIACID6502, NIACID6510, NIACID6511, NIACID6512, NIACID6513, NIACID6514, NIACID6515, NIACID6516, NIACID6521, NIACID6600, NIACID6700, NIACID6801, NIACID6804, NIACID6828, NIACID7000, NIACID7001, NIACID7010, NIACID7100, NIACID7200, NIACID7500, NIACID7700, NIACID7800, NIACID8000, NIACID8100, NIACID8200, NIACID8500, NIACID8900, NIACID9000, NIACID9100, NIACID9120, NIACID9130, NIACID9200, NIACID9300, NIACID9400, NIACID9500, NIACID9501, NIACID9600, NIACID9700, NIACID9701, NIACID9800, NIACID9801, NIACID9802, NIACID9810, NIACID9835, NIACID9900

**Revision**

5

**Revision Date**

21 Mar 2022

**Key/Legend**

**<** Less Than
**>** Greater Than
**AICS** Australian Inventory of Chemical Substances
**atm** Atmosphere
**CAS** Chemical Abstracts Service (Registry Number)
**cm²** Square Centimetres
**CO2** Carbon Dioxide
**COD** Chemical Oxygen Demand
**deg C (°C)** Degrees Celcius
**EPA (New Zealand)** Environmental Protection Authority of New Zealand
**deg F (°F)** Degrees Farenheit
**g** Grams
**g/cm³** Grams per Cubic Centimetre
**g/l** Grams per Litre
**HSNO** Hazardous Substance and New Organism
**IDLH** Immediately Dangerous to Life and Health
**immiscible** Liquids are insoluable in each other.
**inHg** Inch of Mercury
**inH2O** Inch of Water
**K** Kelvin
**kg** Kilogram
**kg/m³** Kilograms per Cubic Metre
**lb** Pound
**LC50** LC stands for lethal concentration. LC50 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 of time, usually 1 or 4 hours.
**LD50** 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.
**ltr** or **L** Litre
**m³** Cubic Metre
**mbar** Millibar
**mg** Milligram
**mg/24H** Milligrams per 24 Hours
**mg/kg** Milligrams per Kilogram
**mg/m³** Milligrams per Cubic Metre
**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
**mm** Millimetre
**mmH2O** Millimetres of Water
**mPa.s** Millipascals per Second
**N/A** Not Applicable
**NIOSH** National Institute for Occupational Safety and Health
**NOHSC** National Occupational Heath and Safety Commission
**OECD** Organisation for Economic Co-operation and Development
**Oz** Ounce
**PEL** Permissible Exposure Limit
**Pa** Pascal
**ppb** Parts per Billion
**ppm** Parts per Million
**ppm/2h** Parts per Million per 2 Hours
**ppm/6h** Parts per Million per 6 Hours
**psi** Pounds per Square Inch

**R** Rankine
**RCP** Reciprocal Calculation Procedure
**STEL** Short Term Exposure Limit
**TLV** Threshold Limit Value
**tne** Tonne
**TWA** Time Weighted Average
**ug/24H** Micrograms per 24 Hours
**UN** United Nations
**wt** Weight