

# SAFETY DATA SHEET



Revision date: 16-Sep-2022

Revision Number 9

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** BULK FORTIS PRODUCTS

**Product Code(s)** 000000009246

### Other means of identification

**Proper shipping name** EXPLOSIVE, BLASTING, TYPE E

**UN number** 0241

**Synonyms** Fortis Coal System, Fortis Advantage System, Fortis Eclipse System, Fortis Eclipse Plus System, Fortis Deep, Fortis Deep Plus, Fortis Extra System, Fortis Extra i, Fortis Clear System, Fortis Marathon, Fortis Xtreme, Fortis Vulcan, Fortis Vulcan Plus

### Recommended use of the chemical and restrictions on use

**Recommended use** Mining, quarrying and general blasting work, usually in bulk applications. Normally delivered down a borehole as a bulk explosive. Restricted to professional users.

**Uses advised against** No information available.

### Details of the supplier of the safety data sheet

#### **Supplier**

Orica New Zealand Limited

Street Address:  
Brunnings Road  
Carters Beach  
Westport, 7892  
New Zealand

Telephone Number: +64 3 788 8163

### For further information, please contact

**Contact Point** Product Safety Department

### Emergency telephone number

**Emergency Telephone** 0 800 734 607 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

### GHS Classification

**SIGNAL WORD**

Danger

EPA New Zealand HSNO approval code or group standard HSR100175

The 'Health and Safety at Work (Hazardous Substances) Regulations, 'Hazardous substances that require tracking' are applicable to this material.

|   |                |
|---|----------------|
| <b>Explosives</b>   | Division 1.1 D |
| <b>Acute toxicity - Oral</b>                              | Category 4     |
| <b>Skin corrosion/irritation</b>                          | Category 2     |
| <b>Serious eye damage/eye irritation</b>                  | Category 2     |
| <b>Effects on or via lactation</b>                        | Yes            |
| <b>Specific target organ toxicity (repeated exposure)</b> | Category 1     |
| <b>Acute aquatic toxicity</b>                             | Category 1     |
| <b>New Zealand Terrestrial vertebrates</b>                | Yes            |

**Label elements****Hazard statements**

H201 - Explosive; mass explosion hazard  
H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H362 - May cause harm to breast-fed children  
H372 - Causes damage to organs through prolonged or repeated exposure  
H400 - Very toxic to aquatic life  
Hazardous to terrestrial vertebrates

**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Keep only in original packaging  
Do not subject to grinding/shock/friction  
Wash hands thoroughly after handling  
Do not breathe fume, gas, mist, vapours, spray  
Do not eat, drink or smoke when using this product  
Avoid contact during pregnancy and while nursing  
Wear protective gloves / protective clothing / eye protection / face protection  
Avoid release to the environment

**Precautionary Statements - Response**

Specific treatment (see First aid on this SDS)  
If exposed or concerned: Get medical advice/attention  
Get medical advice/attention if you feel unwell  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
IF ON SKIN: Wash with plenty of water and soap  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash it before reuse  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth  
In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives

Collect spillage

**Precautionary Statements - Storage**

Store in accordance with local regulations

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Refer to manufacturer/supplier for information on disposal/recovery/recycling

**Other hazards which do not result in classification**

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

| Chemical name              | CAS No.    | Weight-% |
|----------------------------|------------|----------|
| Ammonium nitrate           | 6484-52-2  | >60%     |
| Fuels, diesel              | 68334-30-5 | <10%     |
| Non hazardous component(s) | -          | to 100%  |

### 4. FIRST AID MEASURES

**Description of first aid measures**

|   |  |
|---|--|
| <b>General advice</b>                     | For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Show this safety data sheet to the doctor in attendance.   |
| <b>Emergency telephone number</b>         | Poisons Information Center, New Zealand: 0800 764 766<br>Poisons Information Center, Australia: 13 11 26   |
| <b>Inhalation</b>                         | Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, (trained personnel should) give oxygen. Immediately give oxygen if victim turns blue (lips, ears, fingernails). If breathing has stopped, give artificial respiration. Get medical attention immediately.   |
| <b>Eye contact</b>                        | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Get medical attention if symptoms occur.  |
| <b>Skin contact</b>                       | Wash off immediately with plenty of water. Get medical attention if irritation develops and persists. Nitrates/nitrates can be absorbed through cut, burnt or broken skin. Take off contaminated clothing and wash before reuse. Contact with product at elevated temperatures can result in thermal burns. For skin burns, cool skin area with rapidly with cold water. |
| <b>Ingestion</b>                          | Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.   |
| <b>Self-protection of the first aider</b> | Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information.  |

**Most important symptoms and effects, both acute and delayed**

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | May cause redness and tearing of the eyes. Nitrates can be absorbed through cut, burnt or broken skin. |
|-----------------|--|

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**

Treat symptomatically. Explosive material. Shrapnel from detonation may cause burns, wounds and bruises. Treat as for exposure to nitrates. May cause methemoglobinemia. Clinical findings: The smooth muscle relaxant effect of nitrate salts may lead to headache, dizziness and marked hypotension. Cyanosis is clinically detectable when approximately 15% of the haemoglobin has been converted to methaemoglobin (ferric iron). Symptoms such as headache, dizziness, weakness and dyspnoea occur when methemoglobin concentrations are 30% to 40%; at levels of about 60% stupor, convulsions, coma and respiratory paralysis occur and the blood is a chocolate brown colour. At higher levels death may result. Spectrophotometric analysis can determine the presence and concentration of methemoglobin in the blood.

**Treatment:**

1. Give 100% oxygen.
2. In cases of (a) ingestion: use gastric lavage, (b) contamination of skin (unburnt or burnt): continue washing to remove salts.
3. Observe blood pressure and treat hypotension if necessary.
4. When methaemoglobin concentrations exceed 40% or when symptoms are present, give methylene blue 1 or 2 mg/kg body weight in a 1% solution by slow intravenous injection. If cyanosis has not been resolved within one hour a second dose of 2 mg/kg body weight may be given. The total dose should not exceed 7 mg/kg body weight as unwanted effects such as dyspnoea, chest pain, vomiting, diarrhoea, mental confusion and cyanosis may occur. Without treatment methaemoglobin levels of 20-30% revert to normal within 3 days.
5. Bed rest is required for methaemoglobin levels in excess of 40%.
6. Continue to monitor and give oxygen for at least two hours after treatment with methylene blue.
7. Consider transfer to centre where haemoperfusion can be performed to remove the nitrates from the blood if the condition of the patient is unstable.
8. Following inhalation of oxides of nitrogen the patient should be observed in hospital for 24 hours for delayed onset of pulmonary oedema.

Further observation for 2-3 weeks may be required to detect the onset of the inflammatory changes of bronchiolitis fibrosa obliterans.

Effects from exposure to decomposition products including nitrogen dioxide (possible decomposition component) can include chest discomfort, shortness of breath and possible pulmonary oedema, the onset of which may be delayed. The exposed person should be kept under medical surveillance for 24 hours for delayed onset of pulmonary oedema.

## 5. FIRE FIGHTING MEASURES

### Suitable Extinguishing Media

**Suitable Extinguishing Media** Do not fight fires involving explosives.

### **Unsuitable extinguishing media**

### Specific hazards arising from the chemical

**Specific hazards arising from the chemical** Explosive. May be ignited by heat, sparks or flames. May explode from friction, heat or contamination. Risk of explosion by shock or heating under confinement. On burning under confined or semi-confined conditions, some oxides of nitrogen and/or carbon will be present. Brown fumes indicate the presence of toxic oxides of nitrogen.

**Hazardous combustion products** Carbon oxides. Nitrogen oxides. Ammonium nitrate fumes. Ammonia.

### Special protective actions for fire-fighters

**Special protective equipment for fire-fighters** In the case of a small fire, if actual explosive is not burning, carefully remove as much explosive as possible to a safe distance. However, if explosive is burning, evacuate area

immediately and allow to burn. DO NOT fight fire.

A major fire may involve a risk of explosion. An adjacent detonation may also involve the risk of explosion. Mass explosion hazard. Severe explosion hazard when shocked or exposed to heat. Confinement of burning material may result in detonation.

Hazchem code E

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Explosive material. Evacuate personnel to safe areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not subject to grinding/shock/friction. Use personal protective equipment as required. Avoid contact with skin, eyes and inhalation of vapors. Ensure adequate ventilation.

**Other information** Refer to protective measures listed in Sections 7 and 8.

In the case of a transport accident notify the Police, Regulatory Authorities and Orica Australia Pty Ltd (Telephone: 1800 033 111 -- 24 hour service) and/or Orica New Zealand Ltd (Telephone: 0800 734 607 -- 24 hour service) or Orica International (Telephone: +61 3 9663 2130 -- 24 hour service Australia).

**For emergency responders** Explosive material. Remove all sources of ignition. Use personal protection recommended in Section 8.

### Environmental precautions

**Environmental precautions** Keep out of waterways. Local authorities should be advised if significant spillages cannot be contained.

### Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways.

**Methods for cleaning up** Handle with care. Collect with clean non-metallic implements. Use a spark-free shovel. Collect in properly labelled containers, with loose fitting lids, for disposal.

### Precautions to prevent secondary hazards

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Hazardous Substances (Emergency Management) Regulations 2001** Emergency management plans complying with applicable legislation should be in place.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle with care. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Use personal protection equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Avoid contamination with other substances. Do NOT subject the material to impact, friction between hard surfaces nor to any form of heating. Keep out of reach of children.

**General hygiene considerations** Contaminated work clothing should not be allowed out of the workplace. Do not get in eyes, on skin, or on clothing. Wear suitable gloves and eye/face protection. Wash hands before

breaks and immediately after handling the product. Take off contaminated clothing and wash it before reuse.

#### **Conditions for safe storage, including any incompatibilities**

##### **Storage Conditions**

Store material in a well ventilated magazine suitably licensed for the explosives hazard classification. Do not store with other explosives products that have an incompatible explosives hazard classification (for example detonators must not be stored with blasting/high explosives). Store in accordance with local regulations. Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Store away from strong acids, strong alkalis, nitrites, chlorates, chlorides, permanganates. Store away from other materials. Protect from physical damage.

##### **Incompatible materials**

Incompatible with strong acids and bases. Incompatible with combustible materials. Permanganates. Incompatible with oxidizing agents. Ammonium nitrate is a powerful oxidising agent. Ammonium nitrate is incompatible with, and must be stored away from, tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, bromates, chlorates, chlorites, hypochlorites, perchlorates, chloroisocyanurates, nitrites, powdered metals, strong acids, reducing agents, permanganates, combustible materials, brass, bronze, copper, zinc.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **Control parameters**

##### **Exposure Limits**

No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituent(s) and decomposition product(s):

Oil mist, mineral: WES-TWA 5 mg/m<sup>3</sup>, WES-STEL 10 mg/m<sup>3</sup>

Decomposition product(s):

Nitrogen dioxide: WES-TWA 1 ppm, 1.9 mg/m<sup>3</sup>

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

WES - STEL (Workplace Exposure Standard - Short Term Exposure Limits) - 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 short-term and eight-hour, time-weighted average exposures should be determined.

Fuels, diesel: 100 mg/m<sup>3</sup>, SKIN (total hydrocarbons, inhalable) for 8 hour time-weighted average (TWA).

TWA (ACGIH - Time-weighted Average) the time-weighted average concentration for a conventional 8-hour work day and a 40-hour work week, to which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse effect.

Skin - ACGIH - The designation of 'Skin' refers to the potential significant contribution to the overall exposure by the cutaneous route, including mucous membranes and eyes, either by direct contact with vapours or, of probable greater significance, by direct

contact with the substance.

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. The 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.

#### **Appropriate engineering controls**

##### **Engineering controls**

Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Ventilation systems.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

#### **Individual protection measures, such as personal protective equipment**

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES.



##### **Eye/face protection**

Goggles.

##### **Hand protection**

Protective gloves.

##### **Skin and body protection**

Overalls. Protective shoes or boots.

##### **Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

##### **Environmental exposure controls**

No information available.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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

|                       |   |
|-----------------------|---|
| <b>Physical state</b> | Gel / Solid   |
| <b>Appearance</b>     | Emulsion Freshly prepared bulk explosive is hot (60-70 C) |
| <b>Color</b>          | Usually cream to gold, but may be a darker colour         |
| <b>Odor</b>           | Negligible  |
| <b>Odor threshold</b> | No information available.                                 |

| <b><u>Property</u></b>                | <b><u>Values</u></b> | <b><u>Remarks • Method</u></b> |
|---------------------------------------|----------------------|--------------------------------|
| <b>pH</b>                             | No data available    | None known                     |
| <b>Melting point / freezing point</b> | No data available    | None known                     |
| <b>Boiling point / boiling range</b>  | No data available    | None known                     |
| <b>Flash point</b>                    | Not applicable       | None known                     |
| <b>Evaporation rate</b>               | No data available    | None known                     |
| <b>Flammability (solid, gas)</b>      | No data available    | None known                     |

|   |                                   |            |
|---|-----------------------------------|------------|
| <b>Flammability Limit in Air</b>              |                                   | None known |
| <b>Upper flammability or explosive limits</b> | No data available                 |            |
| <b>Lower flammability or explosive limits</b> | No data available                 |            |
| <b>Vapor pressure</b>                         | No data available                 | None known |
| <b>Vapor density</b>                          | No data available                 | None known |
| <b>Relative density</b>                       | 0.95-1.35 @ 20C                   | None known |
| <b>Water solubility</b>                       | Insoluble in water                | None known |
| <b>Solubility(ies)</b>                        | No data available                 | None known |
| <b>Partition coefficient</b>                  | No data available                 | None known |
| <b>Autoignition temperature</b>               | No data available                 | None known |
| <b>Decomposition temperature</b>              | No data available                 | None known |
| <b>Kinematic viscosity</b>                    | No data available                 | None known |
| <b>Dynamic viscosity</b>                      | No data available                 | None known |
| <b>Explosive properties</b>                   | Explosive; mass explosion hazard. |            |

Other information**10. STABILITY AND REACTIVITY**Reactivity

**Reactivity** Explosive.

Chemical stability

**Stability** Explosive properties. Risk of explosion by shock, friction, fire or other sources of ignition. Capable of detonation, explosive decomposition, or explosive reaction but requires a strong initiating source or must be heated under confinement before initiation. Detonation may occur from static electricity discharge or mechanical/heavy impact, particularly under confinement.

Explosion data

**Sensitivity to mechanical impact** Yes.

**Sensitivity to static discharge** Yes.

Possibility of hazardous reactions

**Hazardous polymerization** Hazardous polymerization does not occur.

**Possibility of hazardous reactions** A major fire may involve a risk of explosion. An adjacent detonation may also involve the risk of explosion. Mass explosion hazard. Explosion may result due to shock, friction, fire or other sources of ignition. Detonation may occur from heavy impact or excessive heating. Explosion creates the potential for shrapnel.

Conditions to avoid

**Conditions to avoid** Heat. Keep away from open flames, hot surfaces and sources of ignition. Static discharge (electrostatic discharge). Do not subject to grinding/shock/friction. Avoid contact with other chemicals. Avoid contact with combustible substances. Protect from moisture.

Incompatible materials

**Incompatible materials** Incompatible with strong acids and bases. Incompatible with combustible materials. Permanganates. Incompatible with oxidizing agents. Ammonium nitrate is a powerful oxidising agent. Ammonium nitrate is incompatible with, and must be stored away from, tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, bromates, chlorates,



chlorites, hypochlorites, perchlorates, chloroisocyanurates, nitrites, powdered metals, strong acids, reducing agents, permanganates, combustible materials, brass, bronze, copper, zinc.

### Hazardous decomposition products

**Hazardous decomposition products** Carbon oxides. Nitrogen oxides. Ammonium nitrate fumes. Ammonia. When heated to decomposition (unconfined) ammonium nitrate produces nitrous oxide, white ammonium nitrate fumes and water. When mixed with strong acids, and occasionally during blasting, it produces an irritating toxic brown gas, mostly nitrogen dioxide. When molten it may decompose violently due to shock or pressure.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Information on likely routes of exposure

|                            |  |
|----------------------------|--|
| <b>Product Information</b> | No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:  |
| <b>Inhalation</b>          | May cause irritation of respiratory tract. Causes headache, drowsiness or other effects to the central nervous system. Blasting may produce a toxic brown gas of nitrogen dioxide. Inhalation of the gas may result in chest discomfort, shortness of breath and possible pulmonary oedema, the onset of which may be delayed. |
| <b>Eye contact</b>         | Causes eye irritation.   |
| <b>Skin contact</b>        | May cause irritation. Prolonged skin contact may defat the skin and produce dermatitis. Contact with hot material may cause skin burns. Shrapnel from detonation may cause burns, wounds and bruises. Nitrates can be absorbed through cut, burnt or broken skin. Further information is provided under 'Chronic Effects'.     |
| <b>Ingestion</b>           | Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache). May cause a lowering of blood pressure (hypotension).   |
| <b>Symptoms</b>            | May cause redness and tearing of the eyes.   |

### Acute toxicity

#### **Numerical measures of toxicity**

No information available.

#### **Component Information**

| Chemical name    | Oral LD50            | Dermal LD50             | Inhalation LC50         |
|------------------|----------------------|-------------------------|-------------------------|
| Ammonium nitrate | = 2217 mg/kg ( Rat ) | -                       | > 88.8 mg/L ( Rat ) 4 h |
| Fuels, diesel    | = 7500 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | = 4.6 mg/L ( Rat ) 4 h  |

See section 16 for terms and abbreviations

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|  |                                |
|--|--------------------------------|
| <b>Skin corrosion/irritation</b>         | Irritating to skin.            |
| <b>Serious eye damage/eye irritation</b> | Causes serious eye irritation. |

**Respiratory or skin sensitization** No information available.**Germ cell mutagenicity** No information available.**Carcinogenicity** No information available.

| Chemical name              | New Zealand | IARC     |
|----------------------------|-------------|----------|
| Fuels, diesel - 68334-30-5 |             | Group 2B |

**Reproductive toxicity** May cause harm to breast-fed children.**STOT - single exposure** No information available.**STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure.**Aspiration hazard** No information available.

**Chronic effects:** NITRATES: Absorption of nitrates by ingestion, inhalation or through burnt or broken skin may cause dilation of the blood vessels by direct smooth muscle relaxation with a subsequent lowering of blood pressure and may also cause breathing difficulties, blueness of the skin (cyanosis) and methaemoglobinaemia.

Diesel fuel has been classified by the International Agency for Research on Cancer (IARC) as a Group 3 agent. Group 3 - The agent is not classifiable as to its carcinogenicity to humans.

Diesel fuel has been shown to be carcinogenic in animal tests and has caused mutations in vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased foetal resorptions at maternally toxic doses.

This material contains within the diesel oil component of this formulation polycyclic aromatic hydrocarbons (PAHs). Some PAHs have been implicated as potential skin carcinogens in humans under conditions of poor personal hygiene, prolonged or repeated skin contact and exposure to sunlight. Toxic effects are unlikely to occur if good personal hygiene is practised.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity** Avoid contaminating waterways.**Terrestrial ecotoxicity** There is no data for this product.

| Chemical name    | Algae/aquatic plants | Fish                                     | Crustacea |
|------------------|----------------------|--|-----------|
| Ammonium nitrate | -                    | LC50: 65 - 85mg/L (48h, Cyprinus carpio) | -         |
| Fuels, diesel    | -                    | LC50: =35mg/L (96h, Pimephales promelas) | -         |

### Persistence and degradability

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Component Information**

| Chemical name    | Partition coefficient |
|------------------|-----------------------|
| Ammonium nitrate | -3.1                  |

**Other adverse effects**

**Other adverse effects** Ammonium nitrate was evaluated at 5, 10, 25 and 50 mg (NH<sub>4</sub><sup>+</sup>)/L. The fertility of Daphnia magna was decreased at 50 mg/L. Post embryonic growth of crustacea was impaired at 10, 25 and 50 mg/L.

For diesel oil: Floats on water. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

**Waste from residues/unused products** Dispose of product in packaging/container in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act, and Hazardous Substances (Amendments and Revocations) Notice 2020. Treat the chemical using a method that changes the characteristics or composition of the chemical so that the chemical is no longer a hazardous chemical; or export the chemical from New Zealand as waste.

Small quantities of damaged or deteriorated explosives may be destroyed by inclusion in a blast hole containing good explosive (s). For large quantities of damaged or deteriorated explosives notify Orica Australia Pty Ltd and/or Orica New Zealand Pty Ltd.

**Contaminated packaging**

For packages that have been in direct contact with hazardous chemicals, the person must ensure that the package is rendered incapable of containing any chemical. It must be disposed of in a manner that is consistent with the requirements for disposal of the chemical that it contained, taking into account the material the package is manufactured from. Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous chemical (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the chemical to be classified as hazardous (class 6, 8, or 9 chemical).

**14. TRANSPORT INFORMATION****ROAD AND RAIL TRANSPORT**

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

**UN number** 0241  
**Proper shipping name** EXPLOSIVE, BLASTING, TYPE E  
**Hazard class** 1.1D  
**Hazchem code** E

**IATA** Forbidden

**IMDG** Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

**UN number** 0241  
**UN proper shipping name** EXPLOSIVE, BLASTING, TYPE E  
**Transport hazard class(es)** 1.1D

IMDG EMS Fire F-B  
 IMDG EMS Spill S-X

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### New Zealand

**National regulations** See section 8 for national exposure control parameters

The 'Health and Safety at Work (Hazardous Substances) Regulations', 'Hazardous substances that require tracking' are applicable to this material.

**EPA New Zealand HSNO approval code or group standard** HSR100175

#### International Inventories

|                      |   |
|----------------------|---|
| <b>NZIoC</b>         | Contact supplier for inventory compliance status.   |
| <b>TSCA</b>          | Contact supplier for inventory compliance status.   |
| <b>DSL/NDSL</b>      | Contact supplier for inventory compliance status.   |
| <b>EINECS/ELINCS</b> | Contact supplier for inventory compliance status.   |
| <b>ENCS</b>          | Contact supplier for inventory compliance status.   |
| <b>IECSC</b>         | Contact supplier for inventory compliance status.   |
| <b>KECL</b>          | Contact supplier for inventory compliance status.   |
| <b>PICCS</b>         | Contact supplier for inventory compliance status.   |
| <b>AIIC</b>          | All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals. |

#### Legend:

**NZIoC** - New Zealand Inventory of Chemicals

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AIIC** - Australian Inventory of Industrial Chemicals

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

## 16. OTHER INFORMATION

ACGIH is a registered trademark of The American Conference of Governmental Industrial Hygienists.  
 `Registry of Toxic Effects of Chemical Substances'. Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2021  
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**Revision Note:**

The symbol (\*) in the margin of this SDS indicates that this line has been revised.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

|         |                             |      |                                  |
|---------|-----------------------------|------|----------------------------------|
| TWA     | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value         | *    | Skin designation                 |
| C       | Carcinogen                  |      |                                  |

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AELG(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australian Industrial Chemicals Introduction Scheme (AICIS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

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**End of Safety Data Sheet**