



SAFETY DATA SHEET

Revision date: 18-Dec-2024

Revision Number 11

Section 1: Identification

Product identifier

Product Name BULK FORTIS PRODUCTS
Product Code(s) 000000009246

Other means of identification

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, Fortis Nova System, Fortis 4D Coal System, Fortis 4D Clear System, Fortis 4D Clear-i, Fortis 4D Advantage System, Fortis 4D Extra System, Fortis 4D Deep System, Fortis 4D Marathon System, Fortis 4D Eclipse System, Fortis 4D Vulcan System

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

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.

Section 2: Hazard 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

Explosives	Division 1.1 Type D
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 2
Chronic aquatic toxicity	Category 3

Label elements**Signal word**

Danger

Hazard statements

H201 - Explosive; mass explosion hazard

H319 - Causes serious eye irritation

H351 - Suspected of causing cancer

H412 - Harmful to aquatic life with long lasting effects

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.

Wear protective gloves/clothing and eye/face protection.

Avoid release to the environment.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.

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.

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.

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

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

Other hazards which do not result in classification

No information available.

Section 3: Composition/information on ingredients

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

Section 4: First-aid measures

Description of first aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Take a copy of the Safety Data Sheet when going for medical treatment.
Inhalation	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.
Eye contact	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. Do not rub affected area. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists. Take off contaminated clothing and wash before reuse. Nitrates can be absorbed through cut, burnt or broken skin. Contact with product at elevated temperatures can result in thermal burns. For skin burns, cool skin area with rapidly with cold water.
Ingestion	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.
Self-protection of the first aider	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

Symptoms	May cause redness and tearing of the eyes. Nitrates can be absorbed through cut, burnt or broken skin. Contact with hot material can cause thermal burns.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	<p>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/nitrite 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.</p> <p>Treatment:</p> <ol style="list-style-type: none">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
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- 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/nitrites 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.

Section 5: Fire-fighting measures

Hazchem code E
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 and precautions 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. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. 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.

Section 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.
<u>Environmental precautions</u>	
Environmental precautions	Keep out of waterways. Local authorities should be advised if significant spillages cannot be contained.
<u>Methods and material for containment and cleaning up</u>	
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. After cleaning, flush away traces with water.
<u>Precautions to prevent secondary hazards</u>	
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 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 other materials. Protect from physical damage.
Incompatible materials	Incompatible with strong acids and bases. Incompatible with oxidizing agents. Incompatible

with combustible materials. 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.

Section 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 constituents and decomposition product(s):.

Chemical name	New Zealand	Australia	ACGIH TLV	United Kingdom
Fuels, diesel 68334-30-5	TWA: 100 mg/m ³ Sk*	-	TWA: 100 mg/m ³ total Hydrocarbons inhalable fraction and vapor Sk*	-

Oil mist, mineral: WES-TWA 5 mg/m³, WES-STEL 10 mg/m³
 Diesel fuel: WES-TWA 100 mg/m³ total hydrocarbons, inhalable fraction and vapour, skin

Decomposition product(s):
 Nitrogen dioxide: WES-TWA 1 ppm, 1.9 mg/m³

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.

'Skin' Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

These Workplace 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 workplace 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.

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. Apply technical measures to comply with occupational exposure limits.

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.
Thermal hazards	Caution - material can be hot.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.95-1.35@20°C	None known
Water solubility	Insoluble in water.	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Explosive; mass explosion hazard.	

Other information
Particle characteristics

Section 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. Contact with other chemicals. Avoid contact with combustible substances. Protect from moisture.

Incompatible materials

Incompatible materials Incompatible with strong acids and bases. Incompatible with oxidizing agents. Incompatible with combustible materials. 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.

Section 11: Toxicological information

Acute toxicity**Information on likely routes of exposure**

Product Information	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:
Inhalation	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.
Eye contact	Causes serious eye irritation.
Skin contact	May cause irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact 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'.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache). May cause a lowering of blood pressure (hypotension). May cause a lowering of blood pressure (hypotension).
Symptoms	May cause redness and tearing of the eyes. Nitrates can be absorbed through cut, burnt or broken skin. Contact with hot material can cause thermal burns.

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)	> 5000 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

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

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	Suspected of causing cancer. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	New Zealand	IARC
Fuels, diesel - 68334-30-5	-	Group 2B Group 3

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Chronic effects: No information available for the product.

Available information from animal studies indicate that repeated or prolonged exposure to a component of this material could result in effects on the skin. 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.

Diesel fuels, distillate (light) 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.

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.

Data used to identify the health effects Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity

Keep out of waterways.
Ammonium nitrate is a plant nutrient. Large scale contamination may kill vegetation and cause poisoning in livestock and poultry.

Ammonium nitrate was evaluated at 5, 10, 25 and 50 mg (NH4+)/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. Can stimulate weed and algal growth in static surface waters.

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

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

Terrestrial ecotoxicity There is no data for this product.

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Ammonium nitrate	-3.1

Mobility in soil

Mobility No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with federal, state and local regulations.
 Dispose of waste in accordance with environmental legislation.
 Dispose of product in packaging in a way that is consistent with the EPA Consolidation 30 April 2021 of the Hazardous Substances (Disposal) Notice 2017 and the Act.
 Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance 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 substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.
 Packages may only be reused or recycled if:
 - the substance has a physical hazard other than corrosive to metal, and has been treated to remove any residual contents of the hazardous substance;
 - or for substances that have a health or environmental hazard, or corrosive to metal, the

contents of the residue in the package are below the threshold for the substance to be classified as hazardous in the Hazardous Substances (Hazard Classification) Notice 2020.

Section 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 or ID number 0241
Proper shipping name EXPLOSIVE, BLASTING, TYPE E
Transport hazard class(es) 1.1D
Hazchem code E

IATA TRANSPORT PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in Passenger and Cargo Aircraft, and Cargo Aircraft Only.

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
 No information available

Special precautions for user
 Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

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

EPA New Zealand HSNO approval code or group standard HSR100175

National regulations See section 8 for national exposure control parameters

Certified handlers, tracking and controlled substance license requirements Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information
 Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information
 Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

Other Regulations Tracking is required for this material.

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

International Inventories

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

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 Chemicals Inventory

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC- Australian Inventory of Industrial Chemicals

TCSI - Taiwan Chemical Substance Inventory

Section 16: Other information

Prepared By	This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).
Revision date:	18-Dec-2024
Reason(s) For Issue:	Revised Primary SDS Addition/Change of synonymous name(s)

Revision Note:

***Indicates updated data since last publication.

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

Legend

SVHC: Substances of Very High Concern for Authorization:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

STOT: Specific Target Organ Toxicity

ATE: Acute Toxicity Estimate

LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
**	Hazard Designation	+	Sensitizers
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)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGl(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)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
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)
U.S. 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
World Health Organization

1.1D, 6.4A, 6.7B, 9.1C

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since The Supplier cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Supplier representative or The Supplier at the contact details on page 1.

The Supplier's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet