

Section 1 Identification of Chemical Product and Company

Code	Description	Size	Colour
20250	Gorilla Smart Expanding Foam	600 ml	Champagne
20252	Gorilla Smart Expanding Foam	750 ml	Champagne

Recommended use:		Expanding Foam
HSNO Group Standard		HSR002515
UN number, shipping name and packaging group:		UN1950 Aerosols
Suppliers contact details:	Soudal Ltd	Freephone: 0800 70 10 80
	14 Avalon Drive	Phone: (07) 847 5540
	Nawton	
	Hamilton 3200	Email: sales@soudal.co.nz
	New Zealand	Website: www.soudal.co.nz
POISON CENTRE NUMBER: 0800 764 766 (24 hours)		

Section 2 Hazards Identification

Statement of Hazardous Nature

This product is classified as:

HAZARDOUS SUBSTANCE according to the criteria of HSNO.

REGULATED under NZS5433:2007 Transport of Dangerous Goods on Land

Hazardous Substances and New Organisms (HSNO) classification:

Classification	Hazard statements
Flammable Aerosol Category 1 2.1.2A	H222 Extremely flammable aerosol
Acute Inhalation Toxicity Category 4 6.1D	H332 Harmful if inhaled
Skin Effects Category 2 6.3A	H315 Causes skin irritation
Eye Effects Category 2 6.4A	H319 Causes serious eye irritation
Respiratory Sensitisation Category 1 6.5A	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sensitisation Category 1 6.5B	H317 May cause an allergic skin reaction
Carcinogenicity Category 2 6.7B	H351 Suspected of causing cancer
STOT – RE Category 2 6.9B	H372 Causes damage to organs through prolonged or repeated inhalation
STOT – SE RTI Category 3 6.9	H335 May cause respiratory irritation

HSNO Signal Word:

DANGER



Precautionary Statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking	P272	Contaminated work clothing should not be allowed out of the workplace
P211	Do not spray on an open flame or other ignition source		
P251	Do not pierce or burn even after use	P405	Store locked up
P260	Do not breathe gas	P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C
P271	Use only outdoors or in a well-ventilated place	P403+P233	Store in a well-ventilated place. Keep container tightly closed
P284	In case of inadequate ventilation wear respiratory protection		
P280	Wear protective gloves/ Protective clothing/ face protection		
P270	Do not eat, drink or smoke when using this product		

Section 3. Composition/Information on Ingredients

Ingredient	CAS No.	Individual HSNO classification	Concentration (% by Wt.)
Polymethylene polyphenylisocyanate	9016-87-9	Acute Inhalation Toxicity Category 4; Skin Effects Category 3; Eye Effects Category 2; STOT – RE Category 1; STOT – SE Category 1	30 - 40
Propane, 2-methyl	75-28-5	Flammable Gas Category 1	1 - 10
Dimethyl Ether	115-10-6	Flammable Gas Category 1	1 - 10
Propane	74-98-6	Flammable Gas Category 1	1 - 10
Ingredients not contributing to classification			balance

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

Section 4 First Aid Measures

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

Eye contact:

Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin contact:

Flush skin and hair with running water (and soap if available). Remove any adhering solids with industrial skin cleansing cream. DO NOT use solvents. Seek medical attention in the event of irritation.

Inhalation:

Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted. If aerosols, fumes or combustion products are inhaled: Remove to fresh air; Lay patient down. Keep warm and rested; Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures; If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor.

Ingestion:

Not considered a normal route of entry.

General advice and advice for physicians:

Treat symptomatically.

Section 5 Fire-Fighting Measures

Extinguishing media:

Foam, Carbon Dioxide, Dry Powder

Fire/ Explosion Hazard:

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Extremely flammable. Serious fire hazard when exposed to heat or flame. When heated to high temperatures decomposes rapidly generating vapour which pressures and may then rupture containers with release of flammable and highly toxic isocyanate vapour. Burns with acrid black smoke and poisonous fumes. Due to reaction with water producing CO₂-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Combustion yields traces of highly toxic hydrogen cyanide HCN, plus toxic nitrogen oxides NO_x and carbon monoxide. Containers may explode when heated - Ruptured cylinders may rocket May burn but does not ignite easily. Fire exposed cylinders may vent contents through pressure relief devices thereby increasing vapour concentration. Fire may produce irritating, poisonous or corrosive gases. Runoff may create fire or explosion hazard. May decompose explosively when heated or involved in fire. Contact with gas may cause burns, severe injury and/ or frostbite. POISONOUS: MAY BE FATAL IF INHALED, SWALLOWED OR ABSORBED THROUGH SKIN

Advice for fire-fighters:

Alert Fire & Emergency New Zealand and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Fight fire from a safe distance, with adequate cover. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach containers suspected to be hot. Equipment should be thoroughly decontaminated after use.

Section 6 Accidental Release Measures

Minor Spills

Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Wear protective clothing, impervious gloves and safety glasses. Shut off all possible sources of ignition and increase ventilation. Wipe up. If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated. Undamaged cans should be gathered and stowed safely.

Major Spills

Clear area of personnel. Alert Fire & Emergency New Zealand and tell them location and nature of hazard. Control personal contact with the substance, by using protective equipment as required. Prevent spillage from entering drains or water ways. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal. Wash area and prevent runoff into drains or waterways. If contamination of drains or waterways occurs, advise emergency services.

Section 7 Handling and Storage

Handling:

Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. DO NOT incinerate or puncture aerosol cans. DO NOT spray directly on humans, exposed food or food utensils. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Storage:

Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open. Such compounds should be sited and built in accordance with statutory requirements. The storage compound should be kept clear and access restricted to authorised personnel only. Cylinders stored in the open should be protected against rust and extremes of weather. Cylinders in storage should be properly secured to prevent toppling or rolling. Check storage areas for hazardous concentrations of gases prior to entry. Cylinders in storage should be checked periodically for general condition and leakage. Protect cylinders against physical damage. Move and store cylinders correctly as instructed for their manual handling. Observe manufacturer's storage and handling recommendations contained within this SDS.

Section 8 Exposure Controls/Personal Protection

Exposure Limits

CAS no.	Substance or ingredient	WES-TWA		WES-STEL	
9016-87-9	Polymethyleme polyphenylisocyanate	0.02 mg/m ³		0.07 mg/m ³	
115-10-6	Dimethyl ether	766 mg/m ³	400 ppm	958 mg/m ³	500 ppm

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5-day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Engineering Controls:

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Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Exposure controls:

Control	Protective measure
Eye	Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent] 
Respiratory	Not generally required, but if concentration exceeds exposure limits then a Type A filter of sufficient capacity is recommended 
Skin	No special equipment needed when handling small quantities. OTHERWISE: For potentially moderate exposures: Wear general Butyl or Neoprene protective gloves. For potentially heavy exposures: Wear chemical protective gloves, eg. PVC, and safety footwear. 

Section 9 Physical and Chemical Properties

General substance properties:

Property	Details
Appearance	Aerosol
Odour	Characteristic
pH	No data
Vapour pressure	kPa
Vapour Density	> 1 heavier than air
Viscosity	Not applicable
Boiling Point	No data °C
Volatile materials	No data %
Water solubility	miscible
Freezing/melting point	No data.
Specific gravity/density	0.92 g/ml
Flash point	No data °C
Auto-ignition temperature	No data °C
Upper and lower flammability limits	Lower % Upper %

Corrosiveness	No data.
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Section 10 Stability and Reactivity

Stability:

Stable under normal conditions.

Conditions to avoid:

Ignition sources; elevated temperatures

Incompatible materials to avoid:

Avoid oxidising agents and some acids

Hazardous decomposition products:

Combustion products include carbon monoxide (CO), carbon dioxide (CO₂), silicone dioxide and other pyrolysis products typical of burning organic material.

Section 11 Toxicological Information

Summary of Toxicity

Test	Data and symptoms of exposure
Inhaled	Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Isobutane produces a dose dependent action and at high concentrations may cause numbness, suffocation, exhilaration, dizziness, headache, nausea, confusion, incoordination and unconsciousness in severe cases. The paraffin gases are practically not harmful at low doses. Higher doses may produce reversible brain and nerve depression and irritation. Inhalation of toxic gases may cause: Central Nervous System effects including depression, headache, confusion, dizziness, stupor, coma and seizures; respiratory: acute lung swellings, shortness of breath, wheezing, rapid breathing, other symptoms and respiratory arrest; heart: collapse, irregular heartbeats and cardiac arrest; gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain. The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia. Gastrointestinal disturbances are characterised by nausea and vomiting. Pulmonary sensitisation may produce asthmatic reactions ranging from minor breathing difficulties to severe allergic attacks; this may occur following a single acute exposure or may develop without warning for several hours after exposure. Sensitized people can react to very low doses and should not be allowed to work in situations allowing exposure to this material. Continued exposure of sensitised persons may lead to possible long-term respiratory impairment. Inhalation hazard is increased at higher temperatures. Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure. WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.
Oral	Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments Isoparaffinic hydrocarbons cause temporary lethargy, weakness, incoordination and diarrhoea. Accidental ingestion of the material may be seriously damaging to the health of the individual; animal experiments indicate that ingestion of less than 40 gram may be fatal.
Dermal	The material may accentuate any pre-existing dermatitis condition Spray mist may produce discomfort Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. Exposure to the material may result in a skin inflammation called chloracne. This is characterised by white- and blackheads, keratin cysts, spots, excessive discolouration.
Eye	Not considered to be a risk because of the extreme volatility of the gas. This material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.

Chronic	There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Main route of exposure to the gas in the workplace is by inhalation. Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates. The chemistry of reaction of isocyanates, as evidenced by MDI, in biological milieu is such that in the event of a true exposure of small MDI doses to the mouth, reactions will commence at once with biological macromolecules in the buccal region and will continue along the digestive tract prior to reaching the stomach. Reaction products will be a variety of polyureas and macromolecular conjugates with for example mucus, proteins and cell components. This is corroborated by the results from an MDI inhalation study. Following an inhalation exposure of rats to radiolabelled MDI, 79% of the dose was excreted in faeces. The faecal excretion in these animals was considered entirely due to ingestion of radioactivity from grooming and ingestion of deposited material from the nasopharyngeal region via the mucociliary escalator, i.e. not following systemic absorption. The faecal Version radioactivity was tentatively identified as mixed molecular weight polyureas derived from MDI. Diamine was not present. Thus, for MDI and diisocyanates in general the oral gavage dosing route is inappropriate for toxicological studies and risk assessment. It is expected that oral gavage dosing will result in a similar outcome to that produced by TDI or MDI, that is (1) reaction with stomach contents and (2) polymerization to solid polyureas. Reaction with stomach contents is very plausibly described in case reports of accidental ingestion of polymeric MDI based glue in domestic animals. Extensive polymerization and CO₂ liberation resulting in an expansion of the gastric content is described in the stomach, without apparent acute chemical toxicity Polyurea formation in organic and aqueous phases has been described. In this generally accepted chemistry of hydrolysis of an isocyanate the initially produced carbamate decarboxylates to an amine which. The amine, as a reactive intermediate, then reacts very readily with the present isocyanate to produce a solid and inert polyurea. This urea formation acts as a pH buffer in the stomach, thus promoting transformation of the diisocyanate into polyurea, even under the acidic conditions. At the resorptive tissues in the small intestine, these high molecular reaction products are likely to be of very low bioavailability, which is substantiated by the absence of systemic toxicity in acute oral bioassays with rats at the OECD limit dose (LC₅₀>2 g/kg bw). The respiratory tract may be regarded as the main entry for systemically available isocyanates as evidenced following MDI exposures. A detailed summary on urinary, plasma and in vitro metabolite studies is provided below. Taken together, all available studies provide convincing evidence that MDI-protein adduct and MDI-metabolite formation proceeds: via formation of a labile isocyanate glutathione (GSH)-adduct, then transfer to a more stable adduct with larger proteins, and without formation of free MDA. MDA reported as a metabolite is actually formed by analytical workup procedures (strong acid or base hydrolysis) and is not an identified metabolite in urine or blood Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation and increased cell growth. Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.
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Ingredient	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Polymethylene polyphenylisocyanate	>2000 mg/kg	9400 mg/kg	0.49 mg/L/7hr
Isobutane			658 mg/L/4hr
Dimethyl ether			309 mg/L/4hr
Propane			49943 mg/L/15m

Section 12 Ecological Information

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high-water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters. Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Ingredient	Fish	Crustacea	Algae
Polymethylene polyphenylisocyanate	LC ₅₀ 96hr >1 mg/L		EC ₅₀ 96hr 1 - 640 mg/L
Isobutane	LC ₅₀ 96hr 6.7 mg/L		EC ₅₀ 96hr 7.7 mg/L
Dimethyl ether	LC ₅₀ 96hr 1 - 783mg/L	EC ₅₀ 48hr >4400 mg/L EC ₁₀₀ 48hr >4000 mg/L	EC ₅₀ 96hr 154.9 mg/L
Propane	LC ₅₀ 96hr 10.3 mg/L		EC ₅₀ 96hr 7.7 mg/L

	Persistence H ₂ O/ Soil	Persistence Air	Bioaccumulation	Mobility
Isobutane	HIGH	HIGH	LOW	LOW
Dimethyl ether	LOW	LOW	LOW	HIGH

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Propane	LOW	LOW	LOW	LOW
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Section 13 Disposal Considerations

Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise: If container cannot be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled. The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous. Only dispose to the environment if a tolerable exposure limit has been set for the substance. Only deposit the hazardous substance into or onto a landfill or sewage facility or incinerator, where the hazardous substance can be handled and treated appropriately.

Section 14 Transport Information



HAZCHEM

Land Transport UNDG

Class or division	2.1
Subsidiary Risk	None
UN Number	1950
UN Packing Group	
Shipping Name	Aerosols
Special Provisions	63 190 277 327 344 381
Limited Quantities	1000 ml

Air Transport IATA

ICAO/IATA Class	2.1
ICAO/IATA Subrisk	None
UN/ID Number	1950
Packing Group	
Special provision	A145 A167 A802 A1
Cargo only	
Packing instructions	203
Maximum Qty/pack	150 Kg
Passenger and Cargo	
Packing instructions	203 Forbidden
Maximum Qty/pack	75 Kg Forbidden
Passenger & Cargo Limited Quantity	
Packing instructions	Y203 Forbidden
Maximum Qty/pack	30 Kg G Forbidden
Shipping Name	Aerosols

Marine Transport IMDG

IMDG Class	2.1
IMDG Subrisk	None
UN Number	1950
UN Packing Group	
EmS Number	F-D, S-U
Special provisions	63 190 277 327 344 381 969
Limited quantities	1000 ml
Marine pollutant	Yes
Shipping Name	Aerosols

Section 15 Regulatory Information

HSNO approval number and Group Standard:

HSR002517	Aerosols (Flammable, Toxic [6.7])
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Group Standard conditions and other regulations:

Condition	Requirement
SDS	Safety data sheet must be available to a person handling the substance within 10 minutes.
Emergency plan	Required when quantities exceed 3000 Lt water equivalent
Certified handler	Not required
Tracking	Not applicable
Bunding and secondary containment	Not applicable
Signage	Required when present in quantities exceeding 3000 Lt water equivalent
Location Compliance Certificate	Required when present in quantities exceeding 3000 Lt water equivalent
Hazardous Area	As per AS/NZS60079.10
Fire extinguisher	2 required when present in quantities exceeding 3000 Lt water equivalent

National Inventories

Australia	AICS	Y
Canada	DSL	Y
Canada	NDSL	N
China	IECSC	Y
Europe	EINEC/ELINCS/NLP	N
Japan	ENCS	Y
Korea	KECI	Y
New Zealand	NZIOC	Y
Philippines	PICCS	Y
USA	TSCA	Y
Taiwan	TCSI	Y
Mexico	INSQ	N
Vietnam	NCI	Y
Russia	ARIPS	T

Section 16 Other Information

Revision History

July 2020	Reformulated and reformatted
August 2016	Reclassification
November 2014	origination

Abbreviations:

Abbreviation	Description
CAS number	Number assigned to chemical in the Chemical Abstracts Service registry
HAZCHEM code	Code used by fire-fighters to determine correct method of action in the case of fire
HSNO	Hazardous Substances and New Organisms (Act)
ICAO Technical Instructions	International Civil Aviation Organization Technical Instructions
IMDG code	International Maritime Dangerous Goods code controlled by the International Maritime Organization (IMO)
LC ₅₀	Lethal concentration 50% - concentration fatal to 50% of the tested population
LD ₅₀	Lethal dose 50% - dose fatal to 50% of the tested population
NZS 5433	New Zealand Standard 5433 (Standard for the Transport of Dangerous Goods on Land)

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SDS	Safety data sheet
STEL	Short term exposure limit
TWA	Time weighted average (typically measured as 8 hours)
UN number	United nations number
WES	Workplace exposure standard

References

Chemical properties and HSNO classifications derived from the New Zealand chemical classification information database (CCID). www.epa.govt.nz. Workplace exposure limits derived from Workplace Exposure Standards and Biological Exposure Indices 11th Edition (November 2019).

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material in combination with any other material or in any process, unless specified in the text.

This SDS was prepared by Collievale Enterprises Ltd in accord with the Hazardous Substances (Safety Data Sheets) Notice 2017
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End of SDS