

Section 1 – Identification of Chemical Product and Company

| Code | Description | Size | Colour |
|-------|--|-------|--------|
| 19325 | Holdfast 1117 Contact Spray Grade Adhesive | 20 Lt | Clear |
| 19326 | Holdfast 1117 Contact Spray Grade Adhesive | 20 Lt | Red |

| | | |
|---|-----------------|---|
| Recommended use: | Adhesive | |
| Supplier contact details: | Soudal Ltd | Freephone: 0800 70 10 80 |
| | 14 Avalon Drive | Phone: (07) 847 5540 |
| | Nawton | |
| | Hamilton 3200 | Email: info@soudal.co.nz |
| | New Zealand | Website: www.soudal.co.nz |
| POISON CENTRE NUMBER: 0800 764 766 (24 hours) | | |

Section 2 – Hazard 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 Liquid Cat 2 | 3.1B | H225 Highly flammable liquid and vapour |
| Acute Oral Toxicity Cat 4 | 6.1D | H302 Harmful if swallowed |
| Skin Effects Cat 2 | 6.3A | H315 Causes skin irritation |
| Eye Effects Cat 2 | 6.4A | H319 Causes serious eye irritation |
| Reproductive Toxicity Cat 2 | 6.8B | H361 Suspected of damaging fertility or the unborn child |
| STOT – SE Cat 1 | 6.9A | H370 Causes damage to organs |
| STOT – RE Cat 1 | 6.9A | H372 Causes damage to organs through prolonged or repeated exposure |
| Chronic Aquatic Hazard Cat 3 | 9.1C | H412 harmful to aquatic life with long lasting effects |
| Vertebrate Toxicity Cat 3 | 9.3C | H433 Harmful to terrestrial vertebrates |

HSNO Signal Word :

DANGER


Precautionary Statements:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking
P233 Keep container tightly closed
P240 Ground/ bond container and receiving equipment
P241 Use explosion-proof lighting/ ventilating/ electrical/ intrinsically safe equipment

P242 Use only non-sparking tools
P243 take precautionary measures against static discharge
P271 use in a well-ventilated area
P260 Do not breathe fumes/ mists/ vapours/ sprays
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection

P281 Use personal protective equipment as required
P272 Contaminated work clothing should not be allowed out of the workplace
P270 Do not eat, drink or smoke when using this product

P273 Avoid release to the environment
P405 Store locked up
P403+P235 Store in a well-ventilated place. Keep cool

Section 3 - Composition/Information on Ingredients

| Ingredient | CAS No. | Individual HSNO classification | Concentration (% by Wt.) |
|--|----------|---|--------------------------|
| Toluene | 108-88-3 | Flammable Liquid Category 2; Acute Oral Toxicity Category 4; Acute Inhalation Toxicity Category 4; Skin Effects Category 2; Eye Effects Category 2; Reproductive Toxicity Category 2; STOT – SE Category 2; STOT – RE Category 2; Chronic Aquatic Hazard Category 4; Vertebrate Toxicity Category 3 | 30 – 60 |
| Acetone | 71-36-3 | Flammable Liquid Category 2; Acute Oral Toxicity Category 5; Skin Effects Category 3; Eye Effects Category 2 | 30 – 60 |
| Hexane | 110-54-3 | Flammable Liquid Category 2; Acute Oral Toxicity Category 5; Skin Effects Category 3; Eye Irritation Category 2; STOT – SE Category 1; STOT – RE Category 1; Chronic Aquatic Hazard Category 2 | 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:

Wash out immediately 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. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin contact:

Immediately flush body and clothes with large amounts of water, using safety shower if available. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor.

Inhalation:

Remove from contaminated area. 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. Apply artificial respiration if not breathing, 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:

If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. **If swallowed do NOT induce vomiting.** If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice. Avoid giving milk or oils. Avoid giving alcohol.

General advice and advice for physicians:

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

Section 5 - Fire-Fighting Measures

Extinguishing media:

Foam, Carbon Dioxide, Dry Powder

Fire/ Explosion Hazard

Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat, flame and/or oxidisers. Vapour may travel a considerable distance to source of ignition. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO).

Advice for fire-fighters:

Alert Fire Brigade 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 cylinders suspected to be hot.** Equipment should be thoroughly decontaminated after use. Positive pressure, self-contained breathing apparatus is required for fire-fighting of hazardous materials. Full structural fire-fighting (bunker) gear is the minimum acceptable attire. The need for proximity, entry and special protective clothing should be determined for each incident, by a competent fire-fighting safety professional.

Section 6 - Accidental Release Measures

Minor Spills

Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb small quantities with vermiculite or other absorbent material. Wipe up. Collect residues in a flammable waste container.

Major Spills

Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.

Prevent, by any means available, spillage from entering drains or water course. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Neutralise/decontaminate residue (see Section 13 for specific agent). Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. After clean-up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. If contamination of drains or waterways occurs, advise emergency services.

Section 7 - Handling and Storage

Handling:

Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Contains low boiling substance: Storage in sealed containers may result in pressure build-up causing violent rupture of containers not rated appropriately. Check for bulging containers. Vent periodically. Always release caps or seals slowly to ensure slow dissipation of vapours. Electrostatic discharge may be generated during pumping - this may result in fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then

≤ 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling discharging or handling operations. 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, heat or ignition sources. When handling, **DO NOT eat, drink or smoke.** Vapour may ignite on pumping or pouring due to static electricity. **DO NOT use plastic buckets.** Earth and secure metal containers when dispensing or pouring product. Use spark-free tools when handling. Avoid contact with incompatible materials. Keep containers securely sealed. 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. **DO NOT allow clothing wet with material to stay in contact with skin**

Storage:

Store in original containers in approved flame-proof area. No smoking, naked lights, heat or ignition sources. **DO NOT store in pits, depressions, basements or areas where vapours may be trapped.** Keep containers securely sealed. Store away from incompatible materials in a cool, dry well ventilated area. Protect containers against physical damage and check regularly for leaks. 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 |
|----------|-------------------------|----------------------------------|-----------------------------------|
| 108-88-3 | Toluene | 188 mg/m ³ (50 ppm) | |
| 67-64-1 | Acetone | 1185 mg/m ³ (500 ppm) | 2375 mg/m ³ (1000 ppm) |
| 110-54-3 | Hexane | 72 mg/m ³ (20 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:

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. For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.

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] No special equipment required due to the physical form of the product.  |
| Respiratory | Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate. |
| Skin |  PE/EVAL/PE or PVA. Avoid skin contact. If skin contact or contamination of clothing is likely, protective clothing should be worn. [AS 2161] Wear protective clothing. |

Section 9 - Physical and Chemical Properties

General substance properties:

| Property | Details |
|--------------------------|----------------|
| Appearance | Liquid |
| Odour | Solvent |
| pH | No data |
| Vapour pressure | No data |
| Vapour Density | No data |
| Viscosity | Not applicable |
| Boiling Point | 50 – 114 C |
| Volatile materials | No data |
| Water solubility | immiscible |
| Freezing/melting point | No data. |
| Specific gravity/density | 0.8 g/ml |

| | |
|-------------------------------------|-------------------------|
| Flash point | -22 C |
| Auto-ignition temperature | No data |
| Upper and lower flammability limits | Lower 1.5 % Upper 9.7 % |
| Corrosiveness | No data. |

Section 10 - Stability and Reactivity

Stability:

Stable under normal conditions.

Conditions to avoid:

Ignition sources; elevated temperatures

Incompatible materials to avoid:

Avoid oxidising agents (nitrates, oxidising acids, chlorine bleaches, pool chlorine etc) as ignition may result

Hazardous decomposition products:

Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂) other pyrolysis products typical of burning organic material. May emit corrosive fumes.

Section 11 - Toxicological Information

Summary of Toxicity

| Test | Data and symptoms of exposure |
|---------|--|
| Inhaled | There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs. The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. The acute toxicity of inhaled alkylbenzenes is best described by central nervous system depression. As a rule, these compounds may also act as general anaesthetics. Systemic poisoning produced by general anaesthesia is characterised by light-headedness, nervousness, apprehension, euphoria, confusion, dizziness, drowsiness, tinnitus, blurred or double vision, vomiting and sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness and respiratory depression and arrest. Cardiac arrest may result from cardiovascular collapse. Bradycardia, and hypotension may also be produced. Inhaled alkylbenzene vapours cause death in animals at air levels that are relatively similar (typically LC50s are in the range 5000 -8000 ppm for 4 to 8 hour exposures). It is likely that acute inhalation exposure to alkylbenzenes resembles that to general anaesthetics. Alkylbenzenes are not generally toxic other than at high levels of exposure. This may be because their metabolites have a low order of toxicity and are easily excreted. There is little or no evidence to suggest that metabolic pathways can become saturated leading to spillover to alternate pathways. Nor is there evidence that toxic reactive intermediates, which may produce subsequent toxic or mutagenic effects, are formed. 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. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. |
| Oral | There is strong evidence to suggest that this material can cause, if swallowed once, very serious, irreversible damage of organs. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. |
| Dermal | This material can cause inflammation of the skin on contact in some persons. There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs. The material may accentuate any pre-existing dermatitis condition. Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Toxic effects may result from skin absorption. 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. Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed |

| | |
|---------|--|
| | through intact skin. Absorption by skin may readily exceed vapour inhalation exposure. |
| Eye | This material can cause eye irritation and damage in some persons. |
| Chronic | Substance accumulation, in the human body, is likely and may cause some concern following repeated or long-term occupational exposure. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. 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. Intentional abuse (glue sniffing) or occupational exposure to toluene can result in chronic habituation. Chronic abuse has caused incoordination, tremors of the extremities (due to widespread cerebrum withering), headache, abnormal speech, temporary memory loss, convulsions, coma, drowsiness, reduced colour perception, blindness, nystagmus (rapid, involuntary eye movements), hearing loss leading to deafness and mild dementia. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Chronic inhalation or skin exposure to n-hexane may cause damage to nerve ends in extremities, e.g. finger, toes with loss of sensation. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. Workers exposed to acetone for long periods showed inflammation of the airways, stomach and small bowel, attacks of giddiness and loss of strength. Exposure to acetone may enhance the liver toxicity of chlorinated solvents. |

| | | |
|---------|---------------------------------|----------------|
| Toluene | LD ₅₀ Rat oral | 636 mg/kg |
| | LD ₅₀ Rabbit dermal | 12124 mg/kg |
| | LC ₅₀ Rat inhalation | 49 mg/Lt/4hr |
| Acetone | LD ₅₀ Rat oral | 5800 mg/kg |
| | LD ₅₀ Rabbit dermal | 20000 mg/kg |
| | LC ₅₀ Rat inhalation | 50.1 mg/Lt/4hr |
| Hexane | LD ₅₀ Rat oral | 15847 mg/kg |
| | LD ₅₀ Rabbit dermal | 3301 mg/kg |
| | LC ₅₀ Rat inhalation | 48000 ppm/4hr |

Section 12 - Ecological Information

Harmful to aquatic life. May cause long-term adverse effects in the aquatic environment. 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. **DO NOT discharge into sewer or waterways.**

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. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: Reduction Reuse Recycling Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. **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. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material). Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed. Ensure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

Section 14 - Transport Information



HAZCHEM

3YE

Land Transport UNDG

| | |
|--------------------|--|
| Class or division | 3 |
| Subsidiary Risk | |
| UN Number | 1133 |
| UN Packing Group | II |
| Shipping Name | ADHESIVES containing flammable liquid |
| Special Provisions | |
| Limited Quantities | 5 L |

Air Transport IATA

| | |
|------------------------------------|--|
| ICAO/IATA Class | 3 |
| ICAO/IATA Subrisk | |
| UN/ID Number | 1133 |
| Packing Group | II |
| Special provision | A3 |
| Cargo only | |
| Packing instructions | 364 |
| Maximum Qty/pack | 60 L |
| Passenger and Cargo | |
| Packing instructions | 353 |
| Maximum Qty/pack | 5 L |
| Passenger & Cargo Limited Quantity | |
| Packing instructions | Y341 |
| Maximum Qty/pack | 1 L |
| Shipping Name | ADHESIVES containing flammable liquid |

Marine Transport IMDG

| | |
|--------------------|--|
| IMDG Class | 3 |
| IMDG Subrisk | |
| UN Number | 1133 |
| UN Packing Group | II |
| EmS Number | F-E S-D |
| Special provisions | |
| Limited quantities | 5L |
| Marine pollutant | No |
| Shipping Name | ADHESIVES containing flammable liquid |

Section 15 - Regulatory Information
HSNO approval number and Group Standard:

HSR002662 Surface Coatings & Colourants (Flammable)

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 100 L |
| Approved handler | Class 3.1B when quantities exceed 250 L in containers of greater than 5Lt capacity, else quantities exceeding 500 L in containers of less than 5L capacity |
| Tracking | Not applicable |
| Bundling and secondary containment | Required, based on quantity and pack size |
| Signage | Required when present in quantity 1,000 L. |
| Test certificate | Class 3.1B when quantities exceed 100 L in closed containers of greater than 5L capacity, else quantities exceeding 250 Lt in closed container of less than 5L capacity else quantities exceeding 50Lt in open containers |
| Hazardous Atmosphere zone | Required |

| | |
|-------------------|--|
| Fire extinguisher | 2x required when quantities exceed 250 L |
|-------------------|--|

Toluene (CAS 108-88-3) is found on the following regulatory lists

- New Zealand Inventory of Chemicals (NZIoC)
- New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
- New Zealand Workplace Exposure Standards WES

Acetone (CAS 67-64-1) is found on the following regulatory lists

- New Zealand Inventory of Chemicals (NZIoC)
- New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
- New Zealand Workplace Exposure Standards WES

Hexane (CAS 110-54-3) is found on the following regulatory lists

- New Zealand Inventory of Chemicals (NZIoC)
- New Zealand Workplace Exposure Standards WES

Section 16 – Other Information

Revision History

March 2017

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) |
| 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 7th Edition. www.mbie.govt.nz.

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 in accord with the EPA "Code of Practice for the Preparation of Safety Data Sheets" [HSNOCOP 8-1 (2006)]
<http://www.collievale.com> Phone +64 7 5432428

End of MSDS