## 1. Identification of Substance & Company

### Product

| | |
|---|---|
| **Product name** | Expanding foam |
| **Product code** | not assigned |
| **HSNO approval** | HSR002517 |
| **Approval description** | Aerosols (Flammable, Carcinogenic) Group Standard 2020 |
| **UN number** | 1950 |
| **DG class** | 2.1 |
| **Proper Shipping Name** | AEROSOL |
| **Packaging group** | NA |
| **Hazchem code** | NA |
| **Uses** | Expanding foam |

### Company Details

| | | |
|---|---|---|
| **Company** | **Viking Roofspec** | |
| **Physical Address** | 80 Alexander Crescent<br>Otara<br>Auckland<br>New Zealand | PO Box 14 451<br>Panmure<br>Auckland 1741<br>New Zealand |
| **Telephone** | 0800 729 799 | |
| **Fax** | 0800 729 788 | |
| **Website** | www.vikingroofspec.co.nz | |

## Emergency Telephone Number: 0800 764 766

## 2. Hazard Identification

### Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002517, Aerosols (Flammable, Carcinogenic) Group Standard 2020). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

| GHS 7 Classes | Hazard Statements |
|---|---|
| Flammable aerosol category 1 | H222 - Extremely flammable aerosol.<br>H280 - Contains gas under pressure; may explode if heated. |
| Acute toxicity category 4 (inhalation) | H332 - Harmful if inhaled. |
| Eye irritant category 2 | H319 - Causes serious eye irritation. |
| Skin irritant category 2 | H315 - Causes skin irritation. |
| STOT* repeated exposure category 1 | H372 - Causes damage to organs through prolonged or repeated exposure. |
| Carcinogen category 2 | H341 - Suspected of causing cancer. |
| Skin sensitiser category 1 | H317 - May cause an allergic skin reaction. |
| Respiratory sensitiser category 1 | H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Lactation category 1 | H362 - May cause harm to breast-fed children. |
| STOT* single exposure category 3 | H335 - May cause respiratory irritation. |
| Acute aquatic category 1 | H400 - Very toxic to aquatic life. |
| Chronic aquatic category 1 | H410 - Very toxic to aquatic life with long lasting effects. |

**SYMBOLS**

**DANGER**

### Other Classification

There are no other classifications that are known to apply.

### Precautionary Statements

**Prevention**

P102 - Keep out of reach of children.
P103 - Read label before use.
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P251 - Pressurized container: Do not pierce or burn, even after use.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P263 - Avoid contact during pregnancy/while nursing.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P285 - In case of inadequate ventilation wear respiratory protection.

**Response**

P101 - If medical advice is needed, have product container or label at hand.
P307+P311 - IF exposed: Call a POISON CENTRE or doctor/physician.
P304+P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before re-use.
P314 - Get medical advice/attention if you feel unwell.
P391 - Collect spillage.

**Storage**

P410 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.

**Disposal**

P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

## 3. Composition / Information on Ingredients

| Component | CAS/ Identification | Concentration |
|---|---|---|
| Diphenylmethanediisocyanate, isomers and homologues | 9016-87-9 | 30-40% |
| Alkanes, C14-17 | mixture | 10-20% |
| Isobutane | 75-28-5 | 1-10% |
| Propane | 74-98-6 | 1-10% |
| Ingredients not contributing to GHS classes | mixture | balance |

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

## 4. First Aid

### General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

**Recommended first aid facilities** Ready access to running water is required. Accessible eyewash is required.

### Exposure

| | |
|---|---|
| **Swallowed** | IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Give a glass of water to drink. |
| **Eye contact** | 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. |
| **Skin contact** | IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before re-use. |
| **Inhaled** | IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician. |

### Advice to Doctor

Treat symptomatically

## 5. Firefighting Measures

| | |
|---|---|
| **Fire and explosion hazards:** | This product is a flammable aerosol. Containers can build up pressure if exposed to heat and/or fire and may explode. Vapours may form an explosive mixture with air. Vapours can travel to a source of ignition and flash back. Will float and can be re-ignited on surface water. Will burn if involved in a fire. |
| **Suitable extinguishing substances:** | Carbon dioxide, extinguishing powder or water jet. Fight larger fires with water jet or alcohol resistant foam. |
| **Unsuitable extinguishing substances:** | Unknown. |
| **Products of combustion:** | Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. |
| **Protective equipment:** | Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection. |
| **Hazchem code:** | NA |

## 6. Accidental Release Measures

| | |
|---|---|
| **Containment** | If greater than 3000L is stored, secondary containment and emergency plans to manage any potential spills must be in place. Prevent product from entering environment. |
| **Emergency procedures** | In the event of a large spillage alert the fire brigade to location and give brief description of hazard. Shut off all possible sources of ignition.<br>Wear protective equipment to prevent skin, eye and respiratory exposure.<br>Clear area of any unprotected personnel. Contain spill. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses.<br>If spray or gas escapes, increase ventilation. |
| **Clean-up method** | Collect product and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services. |
| **Disposal** | Mop up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations. |
| **Precautions** | Wear protective equipment to prevent skin and eye contamination and the inhalation of vapour. Work up wind or increase ventilation. |

## 7. Storage & Handling

| | |
|---|---|
| **Storage** | Keep out of reach of children. Protect from sunlight. Do not expose to temperatures exceeding 50°C. Store in a well ventilated, cool, dry place. Keep away from heat, sparks, and flame. Store locked up. |
| **Handling** | Read product label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.<br>This product is highly flammable. Do not use near open flame, or sources of ignition. No smoking. Pressurized container: Do not pierce or burn, even after use. Use outdoors or in well-ventilated area. Wear protective gloves and eye protection. Wash hands with soap and water after handling. Contaminated work clothing should not be allowed out of the workplace. Wash protective clothing before reuse and separate to household laundry. |

## 8. Exposure Controls / Personal Protective Equipment

### Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m$^3$ for respirable particulates and 10mg/m$^3$ for inhalable particulates when limits have not otherwise been established.

| NZ Workplace Exposure Stds | Ingredient | WES-TWA* | WES-STEL |
|---|---|---|---|
| | Diphenylmethanediisocyanate, isomers and homologues | 0.02mg/m$^3$ (for isocyanates) | 0.07mg/m$^3$ (for Isocyanates) |
| | isobutane | 800ppm 1900mg/m$^3$ | - |
| | propane | simple asphyxiant | - |

### Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

### Personal Protective Equipment

**General**

Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate.
Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.

**Eyes**

Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible. Select eye protection in accordance with AS/NZS 1337.

**Skin**

Avoid any skin contact. Wear overalls, rubber boots and impervious gloves. PVC gloves are recommended. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking.

**Respiratory**

A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. Use a repirator with an organic vapour cartridge. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

### WES Additional Information

Not applicable

## 9. Physical & Chemical Properties

| | |
|---|---|
| **Appearance** | champagne coloured liquid |
| **Odour** | no odour |
| **Odour Threshold** | no data |
| **pH** | no data |
| **Freezing/melting point** | no data |
| **Boiling Point** | no data |
| **Flashpoint** | no data |
| **Flammability** | flammable aerosol |

| | |
|---|---|
| **Upper & lower flammable limits** | no LEL or UEL |
| **Vapour pressure** | no data |
| **Vapour density** | >1 (heavier than air) |
| **Specific gravity/density** | 0.95g/cm$^3$ |
| **Solubility** | miscible in water |
| **Partition coefficient** | no data |
| **Auto-ignition temperature** | no data |
| **Decomposition temperature** | no data |
| **Viscosity** | no data |
| **Particle Characteristics** | no data |

## 10. Stability & Reactivity

| | |
|---|---|
| **Stability** | Stable |
| **Conditions to be avoided** | Flammable substance. Keep away from sources of ignition at all times. Containers should be kept closed in order to avoid contamination. |
| **Incompatible groups** | Oxidising agents, acids. |
| **Substance Specific Incompatibility** | none known |
| **Hazardous decomposition products** | Combustion products include oxides of carbon, silicon dioxide and pyrolysis products of organic burning material. |
| **Hazardous reactions** | none known |

## 11. Toxicological Information

### Summary

IF SWALLOWED: unlikely route of exposure. May cause lethargy, weakness, incoordination and diarrhoea.
IF IN EYES: may cause eye irritation, with redness. Prolonged exposure may cause conjunctivities. If the substance is not washed out of eye, this may result in eye damage.
IF ON SKIN: may cause skin irritation. Sensitised individuals may experience an allergic skin reaction.
IF INHALED: sensitised individuals may experience an allergic reaction, such as asthma.
CHRONIC TOXICITY: this mixture is suspected of causing cancer (isocyanates). It may affect the lungs through prolonged or repeated exposure. May affect nursing infants

### Supporting Data

| | | |
|---|---|---|
| **Acute** | **Oral** | Using $LD_{50}$'s for ingredients, the Acute Toxicity Estimate (ATE) (oral) for the mixture is >2,000 mg/kg. Data considered includes: Diphenylmethanediisocyanate, isomers and homologues >5000mg/kg (rat), Alkanes, C14-17 2000-4000mg/kg. |
| | **Dermal** | Using $LD_{50}$'s for ingredients, the Acute Toxicity Estimate (ATE) (dermal) for the mixture is >2,000 mg/kg. Data considered includes: Diphenylmethanediisocyanate, isomers and homologues 9400mg/kg. |
| | **Inhaled** | Using $LD_{50}$'s for ingredients, the Acute Toxicity Estimate (ATE) (inhalation) for the mixture is >5mg/L/4h. Data considered includes: Diphenylmethanediisocyanate, isomers and homologues 0.49mg/L (rat). |
| | **Eye** | The mixture is considered to be an eye irritant, because some of the ingredients present are considered eye irritants in more concentrated form. |
| | **Skin** | The mixture is considered to be a skin irritant, because some of the ingredients present are considered skin irritants in more concentrated form. |
| **Chronic** | **Sensitisation** | The mixture is considered to be a contact and respiratory sensitizer, because at least one of the ingredients present in greater than 0.1% is known to be a contact and respiratory sensitizer. |
| | **Mutagenicity** | No ingredient present at concentrations > 0.1% is considered a mutagen. |
| | **Carcinogenicity** | The mixture is considered to be a suspected carcinogen, because at least one of the ingredients present in greater than 0.1% is suspected to be a carcinogen. |
| | **Reproductive / Developmental** | The mixture is considered to be a reproductive or developmental toxicant, because at least one of the ingredients present in greater than 0.1% is known or suspected to have an effect on or via lactation. |
| | **Systemic** | The mixture is considered to be a known or presumed target organ toxicant, because at least one of the ingredients present in greater than 1% is known or presumed to be a target organ toxicant. This product may affect Not applicable. |
| | **Aggravation of existing conditions** | None known. |

## 12. Ecological Data

### Summary

This mixture is considered very toxic towards aquatic organisms with long lasting effects. In all cases prevent run-off to drains, sewers and waterways.

### Supporting Data

| | |
|---|---|
| **Aquatic** | Using $EC_{50}$'s for ingredients, the calculated $EC_{50}$ for the mixture is > 100 mg/L. Data considered includes: Alkanes, C14-17 $LC_{50}$: >5mgL (96h, fish), NOEC: 0.001-0.6mg/L (48h, fish), $EC_{50}$: 0.006mg/L (48h, crustacean), $EC_{50}$ >3.27mg/L (96h, Algae). |
| **Bioaccumulation** | No data |
| **Degradability** | No data |
| **Soil** | No evidence of soil toxicity. |
| **Terrestrial vertebrate** | See acute toxicity |
| **Terrestrial invertebrate** | No evidence of toxicity towards terrestrial invertebrates. |
| **Biocidal** | no data |
| **Environmental effect levels** | No EELs are available for this mixture or ingredients |

## 13. Disposal Considerations

| | |
|---|---|
| **Restrictions** | There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents. |
| **Disposal method** | Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment. |
| **Contaminated packaging** | Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging. |

## 14. Transport Information

**Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007**
Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

| | | | |
|---|---|---|---|
| **UN number:** | 1950 | **Proper shipping name:** | AEROSOL |
| **Class(es)** | 2.1 | **Packing group:** | NA |
| **Precautions:** | Flammable aerosol | **Hazchem code:** | NA |

## 15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002517, Aerosols (Flammable, Carcinogenic) Group Standard 2020. All ingredients appear on the New Zealand Inventory of Chemicals NZIoC.

### Specific Controls

| Key workplace requirements are: | |
|---|---|
| SDS | To be available within 10 minutes in workplaces storing any quantity. |
| Inventory | An inventory of all hazardous substances must be prepared and maintained. |
| Packaging | All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied |
| Labelling | Must comply with the Hazardous Substances (Labelling) Notice 2017. |
| Emergency plan | Required if > 3000L is stored. |
| Certified handler | Not required. |
| Tracking | Not required. |
| Bunding & secondary containment | Required if > 3000L is stored. |

| | |
|---|---|
| Signage | Required if > 3000L is stored. |
| Location compliance certificate | Required if > 3000L is stored. |
| Flammable zone | Must be established if > 3000L is stored. |
| Fire extinguisher | If > 3000L present. |

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

### Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

## 16. Other Information

### Abbreviations

| | |
|---|---|
| **Approval Code** | Approval HSR002517, Aerosols (Flammable, Carcinogenic) Group Standard 2020 Controls, EPA. www.epa.govt.nz |
| **CAS Number** | Unique Chemical Abstracts Service Registry Number |
| **$EC_{50}$** | Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species) |
| **EPA** | Environmental Protection Authority (New Zealand) |
| **GHS** | Globally Harmonised System of Classification and Labelling of Chemicals, 7th revised edition, 2017, published by the United Nations. |
| **HAZCHEM Code** | Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters |
| **HSNO** | Hazardous Substances and New Organisms (Act and Regulations) |
| **IARC** | International Agency for Research on Cancer |
| **LEL** | Lower Explosive Limit |
| **$LD_{50}$** | Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats). |
| **$LC_{50}$** | Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats) |
| **NZIoC** | New Zealand Inventory of Chemicals |
| **MSDS (SDS)** | Material Safety Data Sheet (or Safety Data Sheet) |
| **STEL** | Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded |
| **STOT RE** | System Target Organ Toxicity – Repeated Exposure |
| **STOT SE** | System Target Organ Toxicity – Single Exposure |
| **TWA** | Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours) |
| **UEL** | Upper Explosive Limit |
| **UN Number** | United Nations Number |
| **WES** | Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone. |

## References

| | |
|---|---|
| **Data** | Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID). |
| **Controls** | EPA notices, www.epa.govt.nz, Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz |
| **WES** | The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz. |
| **Other References:** | Suppliers SDS, EU ECHA, ingredients SDS's, ChemIDplus |

## Review

| **Date** | **Reason for review** |
|---|---|
| July 2023 | Not applicable – new SDS |

## Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: ***+64 21 1040951.***

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