

1. Identification of Substance & Company

Product

| | |
|-----------------------------|--|
| Product name | Greywacke Products |
| Other names | Seal chip, Roading aggregates, Concrete Aggregates, General fill, General aggregates |
| HSNO approval | HSR002545 |
| Approval description | Construction Products (Carcinogen) Group Standard 2020 |
| UN number | Not allocated |
| Proper Shipping Name | NA |
| DG class | NA |
| Packaging group | NA |
| Hazchem code | NA |
| Uses | Concrete, general building, drainage and road construction materials. |

Company Details

| | |
|------------------|--|
| Company | Winstone Aggregates LTD |
| Address | 812 Great South Road Penrose Auckland New Zealand |
| Telephone | 0800 445 000 |

Emergency Telephone Number: National Poison Centre: 0800 764 766

2. Hazard Identification

Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002545, Construction Products (Carcinogen) Group Standard 2020). The aggregate in its granular form is considered non hazardous, however there may be traces of respirable dust present which may contain crystalline silica. This fraction may be classified as hazardous with the following classification.

| GHS 7 Classes | Hazard Statement |
|--|---|
| Carcinogenicity category 1 STOT RE category 1 | H350 - May cause cancer if inhaled (contains crystalline silica) H372 - Causes damage to organs through prolonged or repeated exposure if inhaled. (may cause silicosis and effects to the lungs) |

SYMBOLS

DANGER



Other Classifications

There are no other classifications that are known to apply.

Precautionary Statements

| | |
|-------------------|---|
| Prevention | P103 - Read label before use. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust. P281 - Use personal protective equipment as required. |
| Response | P308+P313 - IF exposed or concerned: Get medical advice/ attention. |
| Storage | No storage statements |

3. Composition / Information on Ingredients

| Component | CAS/ Identification | Conc (%) |
|---|---------------------|-----------|
| Greywacke aggregates which may include the following constituents | NA | 100% |
| Crystalline silica (including Quartz, Cristobalite and Tridymite) | 14808-60-7 | Up to 30% |
| Non hazardous silicates and oxides | Not known | 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

You should call the National Poisons Centre if you feel that you may have been harmed by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

If medical advice is needed, have this SDS, product container or label at hand. If exposed or concerned: Get medical advice/attention.

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

Exposure

Swallowed Do NOT induce vomiting. Give a glass of water to drink. Contact a doctor if experiencing symptoms.

Eye contact If product gets in eyes, wash material from them with running water for several minutes. If symptoms persist, seek medical advice.

Skin contact This product is non-irritating to skin. No further measures should be required.

Inhaled If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

Treat symptomatically. See Section 11 for information on potential long term health effects from exposure to very fine crystalline silica dust.

5. Firefighting Measures

Fire and explosion hazards: There are no specific risks for fire/explosion for this chemical. It is non-combustible.

Suitable extinguishing substances: Use media as needed for surrounding fire.

Unsuitable extinguishing substances: Unknown.

Products of combustion: Product does not burn. Dust may form irritating atmosphere.

Protective equipment: No special measures are required.

Hazchem code: NA

6. Accidental Release Measures

Containment Emergency plans to manage any potential spills must be in place.

Emergency procedures In the event of large spillage alert the fire brigade to location and give brief description of hazard. Wear protective equipment to prevent respiratory exposure. Clear area of any unprotected personnel. Sweep up the solid. Avoid creating dust. If appropriate, use a gentle water spray to wet material to minimise dust generation.

Clean-up method Collect and seal in properly labelled containers or drums for disposal or recycling.

Disposal Sweep up and collect recoverable material into labelled containers for recycling or salvage. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.

Precautions Wear protective equipment to prevent the inhalation of dusts. Work up wind or increase ventilation.

7. Storage & Handling

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|-------------------------|--|
| Storage Handling | Stable under normal use and storage conditions. Keep exposure to dusts to a minimum, and minimise the quantities kept in work areas. Minimise dust generation and accumulation. See section 8 with regard to personal protective equipment requirements. Avoid eye contact and inhalation of dust. |
|-------------------------|--|

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/m³ for respirable particulates (not otherwise classified) and 10mg/m³ for inhalable particulates (not otherwise classified) when limits have not otherwise been established.

| NZ Workplace Exposure Stds | Ingredient | WES-TWA | WES-STEL |
|----------------------------|---------------------------------|---|----------|
| | Crystalline Silica (all forms)* | 0.025mg/m ³ (as respirable dust) | no data |

*NOTES: carcinogen category 1; α-quartz and cristobalite are confirmed carcinogens. Significant risk to workers will remain at WES-TWA exposures of 0.025mg/m³. The US Occupational Safety and Health Administration (OSHA) has estimated the lifetime silicosis mortality risk for workers exposed at this level for 8 hours per day at between 4 and 22 deaths per 1,000 workers and the lifetime lung cancer mortality risk for workers exposed at this level for 8 hours per day at between 3 and 23 deaths per 1,000 workers. Year adopted 2023 – Worksafe NZ.

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, wet-working control measures, 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. Exposure levels of crystalline silica should be measured and evaluated by an occupational hygienist.

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 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 | Protective eyewear is not normally necessary when using this product. However, it is always prudent to use protective eyewear if dust is likely. Select eye protection in accordance with AS/NZS 1337. |
| Skin | Avoid repeated or prolonged skin contact. Wear overalls, rubber boots and impervious gloves. Replace frequently. Gloves should be checked for tears or holes before use. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking. Wash contaminated clothing before re-use. |
| Respiratory | To prevent irritation a well fitted dust mask should be used (this is not recommended when exposure is close to the WES). A fine particulate half or full face reusable respirator or a powered air purifying respirator (PAPR) with a P2/P3 filter is recommended when airborne concentrations approach or exceed 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 respirator with an organic vapour cartridge and a particulate filter. 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. If processing, grinding, crushing or cutting material containing sand, it is possible that the silica dust WES will be exceeded hence a respirator will be required. |



WES Additional Information

Air monitoring to measure the overall amount of silica dust created at various positions on the worksite and the maximum level of worker exposure (given the use of dust control methods, respirators and other measures) should be carried out on a regular basis or when new work methods or equipment is introduced. Air monitoring must be carried out by occupational hygienists or other trained personnel.

9. Physical & Chemical Properties

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|---|--|
| Appearance | powder or fine granules of varying colours |
| Odour | no odour |
| Odour Threshold | no data |
| pH | no data |
| Freezing/melting point | no data |
| Boiling Point | no data |
| Flashpoint | no data |
| Flammability | no data |
| Upper & lower flammable limits | no data |
| Vapour pressure | no data |
| Vapour density | no data |
| Specific gravity/density | no data |
| Solubility | insoluble 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 | Store covered. Avoid the creation of dust. |
| Incompatible groups | None known |
| Hazardous decomposition products | None known |
| Hazardous reactions | None known |

11. Toxicological Information

Summary

IF SWALLOWED: No adverse effects anticipated under normal use conditions.

IF IN EYES: Fine dust may cause irritation when in direct contact.

IF ON SKIN: No adverse effects anticipated under normal use conditions.

IF INHALED: Short term (acute) silicosis can occur with one-off exposures to extremely high levels of fine crystalline silica dust. Other short term effects include irritation, choking and difficulty breathing.

CHRONIC EFFECTS: This substance does contain traces fine respirable crystalline silica. Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC Group 1). The carcinogenicity of silica is related to long term (e.g., 10 years) inhalation of very fine particulate (e.g., crushing of rock, sand blasting or dry cutting of bricks/concrete). Carcinogenicity of silica appears linked to development of silicosis (see systematic below) followed by complications and, eventually lung cancer. In addition to silicosis there is some evidence that exposure to respirable crystalline silica may be linked to scleroderma and an increased risk of kidney disease.

Supporting Data

| | | |
|----------------|------------------------|--|
| Acute | Oral | Not considered acutely toxic if swallowed. |
| | Dermal | Not considered acutely toxic by dermal contact. |
| | Inhaled | The substance is not considered acutely toxic if inhaled, however there may be irritation of the respiratory tract if dust is inhaled. Short term (acute) silicosis (see "systemic" below) can also occur with one-off exposures to extremely high levels of fine crystalline silica dust. Other short term effects include irritation, choking and difficulty breathing. |
| | Eye | The mixture is not considered to be an eye irritant. Dust may be an eye irritant (mechanical irritation). |
| | Skin | The mixture is not considered to be a skin irritant. |
| Chronic | Sensitisation | No ingredient present at concentrations > 0.1% is considered a sensitizer. |
| | Mutagenicity | No ingredient present at concentrations > 0.1% is considered a mutagen. |
| | Carcinogenicity | The dust resulting from this product does contain crystalline silica. Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC Group 1). Crystalline Silica triggers Carc cat 1 classification (confirmed carcinogen). The carcinogenicity of silica is related to long term (e.g., 10 years) inhalation of very fine particulate (e.g., from sand blasting or dry cutting of quartz |

**Reproductive /
Developmental
Systemic**

containing substrates). Carcinogenicity of silica appears linked to development of silicosis (see systematic below) followed by complications and, eventually lung cancer. No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.

The dust of this product is considered to be a target organ toxicant, because of the presence of crystalline silica. Crystalline silica triggers STOT RE cat 1 classification if it is in the form of a fine respirable dust in an occupational (chronic exposure) setting. This is due to the development of silicosis which can occur following exposure to extremely high levels of fine silica dust. Silicosis is a type of pneumoconiosis – a disease of the lung that causes inflammation, scar tissue, lesions and fibrosis in the lung (alveolar). Symptoms include shortness of breath, cough, fever, loss of appetite and cyanosis (bluish skin). Silicosis can occur following prolonged exposure (e.g., 10 years) to relatively high levels of fine crystalline silica dust.

**Aggravation of
existing conditions**

Persons with existing lung conditions may be at a higher risk of further adverse health effects (as above). Smokers have an increased risk of lung cancer and silicosis.

12. Ecological Data

Summary

This mixture is not considered harmful or ecotoxic.

Supporting Data

| | |
|---------------------------------|---|
| Aquatic | No evidence of aquatic toxicity for any of the ingredients present >1%. |
| Bioaccumulation | No evidence of bioaccumulation |
| Degradability | Not applicable. |
| Soil | No evidence of soil toxicity. |
| Terrestrial vertebrate | Not considered to be toxic towards terrestrial vertebrates |
| Terrestrial invertebrate | No evidence of toxicity towards terrestrial invertebrates. |
| Biocidal | no data |

13. Disposal Considerations

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|-------------------------------|--|
| 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

There are no specific restrictions for this product (not a dangerous good).

| | | | |
|---------------------|----|------------------------------|----|
| UN number: | NA | Proper shipping name: | NA |
| Class(es): | NA | Packing group: | NA |
| Precautions: | NA | Hazchem code: | NA |

IMDG

| | | | |
|---------------------|----|------------------------------|---------------|
| UN number: | NA | Proper shipping name: | Not regulated |
| Class(es): | NA | Packing group: | NA |
| Precautions: | NA | EmS | NA |

IATA

| | | | |
|---------------------|----|------------------------------|---------------|
| UN number: | NA | Proper shipping name: | Not regulated |
| Class(es): | NA | Packing group: | NA |
| Precautions: | NA | ERG Guide | NA |

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002545: Construction Products (Carcinogen) Group Standard 2020. All ingredient appear on the 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 > 1000kg is stored. |
| Certified handler | Not required. |
| Tracking | Not required. |
| Bunding and secondary containment | Required if > 1000kg is stored. |
| Signage | Required if > 10000kg is stored. |
| Location compliance certificate | Not required. |
| Flammable zone | Not required. |
| Fire extinguisher | Not required. |

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 Construction Products (Carcinogen) Group Standard 2020, Controls, EPA. www.epa.govt.nz |
| CAS Number | Unique Chemical Abstracts Service Registry Number |
| EC₅₀ | 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, 7 th 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 |
| LD₅₀ | Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats). |
| LC₅₀ | Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats) |
| NZIoC | New Zealand Inventory of Chemicals |
| 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: | EU ECHA, ingredients SDS's, ChemIDplus, NICNAS report on crystalline silica, Worksafe report on crystalline silica |

Review

| Date | Reason for Review |
|-------------|--|
| July 2019 | NA – new SDS |
| May 2021 | Update to WES, classification and Group Standard |
| August 2024 | Update of section 8 |

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, are based on our experience, EPA Guidelines and international classifications. A compliance record is available on request. 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: 0211040951.

