1. IDENTIFICATION

GHS Product Identifier
TRUBOND

Company Name
SIBELCO NEW ZEALAND LIMITED

Address
Company No: 68136
5 Lockhart Place Mt Wellington
Auckland 1060 New Zealand

Telephone/Fax Number
Tel: 64 (09) 9147010
Fax: 64 (09) 9147014

Emergency phone number
0800 154 666 (24hrs)

Recommended use of the chemical and restrictions on use
Oil well drilling fluids; cement slurries for oil well casings; bonding agent in foundry sands and pelletising of iron ores; sealant for canal walls and dams; thickener in lubricating greases and fire proofing compositions; cosmetics; decolourising agent; filler in ceramics; refractories; paper coatings; asphalt modifier; polishes and abrasives; food additive; catalyst support; pelletising additive for stock food preparations.

Other Names

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>BENTONITE NZ GROUP 1</td>
<td></td>
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<tr>
<td>TRUBEN</td>
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</tbody>
</table>

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture
Classified as Hazardous according to the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001, New Zealand.
HSNO Classification:
6.7A - Substance that is known or presumed to be a human carcinogen
6.9B (Repeated exposure) - Substance that is toxic to human target organs or systems

Signal Word (s)
DANGER

Hazard Statement (s)
H350  May cause cancer by inhalation.
H373  May cause damage to organs through prolonged or repeated exposure by inhalation.
Precautionary statement – 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/fume/gas/mist/vapours/spray.
P281 Use personal protective equipment as required.

Precautionary statement – Response
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.

Precautionary statement – Storage
P405 Store locked up.

Precautionary statement – Disposal
P501 In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided. See Section 13 for disposal details.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smectite</td>
<td>12199-37-0</td>
<td>&gt;74-100 %</td>
<td></td>
</tr>
<tr>
<td>Quartz/Cristobalite</td>
<td>14808-60-7 &amp; 14464-46-1</td>
<td>0-&lt;18 %</td>
<td></td>
</tr>
<tr>
<td>Plagioclase Feldspar/Kaolinite</td>
<td>Mixture</td>
<td>0-&lt;8 %</td>
<td></td>
</tr>
<tr>
<td>Ingredients determined not to be hazardous.</td>
<td>Balance</td>
<td>Balance</td>
<td></td>
</tr>
</tbody>
</table>

Other Information
Contains <6% respirable free crystalline silica in the form of quartz/cristobalite.

4. FIRST-AID MEASURES

Inhalation
If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

Ingestion
Do not induce vomiting. Wash out mouth with water. If symptoms develop seek medical attention.

Skin
Wash affected area thoroughly with soap and water. If symptoms develop seek medical attention.

Eye contact
If dust in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and persist seek medical attention.

First Aid Facilities
Eye wash and normal washroom facilities.
Advice to Doctor
Treat symptomatically.

Other Information
For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (0800 764 766)

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use appropriate fire extinguisher for surrounding environment.

Hazards from Combustion Products
Non combustible material.

Specific Hazards Arising From The Chemical
The product is not combustible, however the packaging will burn under fire conditions.

Decomposition Temperature
Not available

Precautions in connection with Fire
Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures
Increase ventilation. Evacuate all unprotected personnel. Wear sufficient respiratory protection and full protective clothing to prevent exposure. Sweep up material avoiding dust generation or dampen spilled material with water to avoid airborne dust, then transfer material to a suitable container. Wash surfaces well with soap and water. Seal all wastes in labelled plastic containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Avoid inhalation of dust, and skin or eye contact. Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of dust in the work atmosphere. Maintain high standards of personal hygiene i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities.

Conditions for safe storage, including any incompatabilities
Store in a cool, dry, well-ventilated area, out of direct sunlight and moisture. Store in suitable, labelled containers. Keep containers tightly closed. Store away from incompatible materials. Ensure that storage conditions comply with applicable local and national regulations.

8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Occupational exposure limit values
No exposure value assigned for this material by the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour. However, the available exposure limits for ingredients are listed below:

New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards:

- Crystalline silica (Quartz): TWA 0.2 mg/m³ (Respirable dust); Notice: 6.7A
- Crystalline silica (Cristobalite): TWA 0.1 mg/m³ (Respirable dust) Notice: 6.7A
- Particulates (not otherwise classified): 10 mg/m³ inhalable, 3 mg/m³ respirable

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.
6.7A: Confirmed carcinogen
Biological Limit Values
No biological limits allocated.

Appropriate Engineering Controls
This substance is hazardous and should be used with a local exhaust ventilation system, drawing solid/dust away from workers' breathing zone.

Respiratory Protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable dust/particulate filter should be used. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection
Safety glasses with side shields or chemical goggles should be worn. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection
Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection
Suitable protective workwear should be worn when working with this material, e.g. cotton overalls buttoned at neck and wrist.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Light pink or off white powder or granules

Colour
Light pink or off white

Odour
Odourless.

Decomposition Temperature
Not available

Melting Point
Not available

Boiling Point
Not applicable

Solubility in Water
Insoluble. Forms colloidal suspensions in water, with strong thixotropic properties.

Specific Gravity
3.3

pH
7-9(20% aqueous slurry)

Vapour Pressure
Not applicable

Vapour Density (Air=1)
Not applicable

Evaporation Rate
Not applicable

Odour Threshold
Not available

Viscosity
Not available
Partition Coefficient: n-octanol/water
Not available

Flash Point
Not applicable

Flammability
Non-combustible

Auto-Ignition Temperature
Not applicable

Explosion Limit - Upper
Not applicable

Explosion Limit - Lower
Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions of storage and handling.

Conditions to Avoid
Moisture. Dust accumulation. Extremes of temperature and direct sunlight.

Incompatible materials
Not available

Hazardous Decomposition Products
Thermal decomposition may result in the release of toxic and/or irritating fumes.

Possibility of hazardous reactions
Reacts with incompatibles

Hazardous Polymerization
Will not occur

11. TOXICOLOGICAL INFORMATION

Toxicology Information
No toxicity data available for this product.

Ingestion
Ingestion of large amounts may irritate the gastric tract causing nausea and vomiting.

Inhalation
Inhalation of dusts may irritate the respiratory system.

Skin
Skin contact may cause mechanical irritation resulting in redness and itching. When ingested, can swell several times in volume and can produce intestinal obstruction.

Eye
Eye contact may cause mechanical irritation. May result in mild abrasion.

Respiratory sensitisation
Not expected to be a respiratory sensitiser.

Skin Sensitisation
Not expected to be a skin sensitiser.

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
May cause cancer by inhalation. The product contains respirable crystalline silica. Crystalline Silica (respirable size <= 7 µm) has been classified by the International Agency for Research on Cancer (IARC) as Carcinogenic to Humans (Group 1).
Reproductive Toxicity
Not considered to be toxic to reproduction.

STOT-single exposure
Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure
May cause damage to organs through prolonged or repeated exposure by inhalation. The product contains respirable free
crystalline silica. Repeated, prolonged or concentrated inhalation of respirable crystalline silica dust may lead to silicosis, a serious
lung disease. The onset of silicosis is usually slow and lung damage may occur even when no symptoms or signs of ill-health have
occurred. Silicosis can develop to a more serious degree even after exposure has ceased, and may also lead to other diseases
including heart disease and scleroderma.

Aspiration Hazard
Not expected to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
No ecological data available for this material.

Persistence and degradability
Not available

Mobility
Not available

Bioaccumulative Potential
Not available

Other Adverse Effects
Not available

Environmental Protection
Prevent this material entering waterways, drains and sewers.

13. DISPOSAL CONSIDERATIONS

Disposal considerations
Product Disposal:
Product wastes are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.
This product can be disposed through a licensed commercial waste collection service. The product should be rendered non-
hazardous before being sent to a licensed landfill facility.
Do not dispose directly into the sewerage system. Do not discharge into drains or watercourses or dispose where ground or
surface waters may be affected.
Personal protective clothing and equipment as specified in Section 8 of this SDS must be worn during handling and disposal of this
product. The ventilation requirements as specified in the same section must also be followed, and the precautions given in Section
7 of this SDS regarding handling must also be followed.
In New Zealand, the disposal agency or contractor must comply with the New Zealand Hazardous Substances (Disposal)
Regulations 2001. Further details regarding disposal can be obtained on the EPA New Zealand website under specific group
standards.

Container Disposal:
The container or packaging must be cleaned and rendered incapable of holding any substance. It can then be disposed of in a
manner consistent with that of the substance it contained. In this instance the packaging can be disposed through a commercial
waste collection service.
Alternatively, the container or packaging can be recycled if the hazardous residues have been thoroughly cleaned or rendered non-
hazardous.
In New Zealand, the packaging (that may or may not hold any residual substance) that is lawfully disposed of by householders or
other consumers through a public or commercial waste collection service is a means of compliance with regulations.

14. TRANSPORT INFORMATION
Transport Information

Road and Rail Transport:

Marine Transport (IMO/IMDG):
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Air Transport (ICAO/IATA):
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

U.N. Number
None Allocated

UN proper shipping name
None Allocated

Transport hazard class(es)
None Allocated

IMDG Marine pollutant
No

15. REGULATORY INFORMATION

National and or International Regulatory Information
Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
HSNO Approval Number
HSR002512

16. OTHER INFORMATION

Date of preparation or last revision of SDS
SDS Created: October 2013

References
Workplace Exposure Standards and Biological Exposure Indices , Department of Labour, Health & Safety.
Transport of Dangerous goods on land NZS 5433.
Preparation of Safety Data Sheets - Approved Code of Practice Under the HSNO Act 1996 (HSNO CoP 8-1 09-06).
Assigning a hazardous substance to a group standard.
American Conference of Industrial Hygienists (ACGIH).

END OF SDS