


SAFETY DATA SHEET

Flyash

Section 1: Identification of the Substance and Supplier

Product name	Fly Ash Coal Fly Ash CAS # 68131-74-8
Recommended use	Cement additive, land fill, road base, filler, light-weight filler and extender in building products.
Company details	Golden Bay Cement Address: Portland Works, Portland Road, Portland, Whangarei, New Zealand Postal Address: P.O.Box 1143, Whangarei, New Zealand Phone: 0064 9 4322656 Hours 8am – 5 pm, Mon – Fri
Emergency telephone	0800 764 766 (0800 POISON) 24 hours human health 0800 243 622 (0800 CHEMCALL) 24 hours
Date of preparation	May 2011

Section 2: Hazards Identification

Hazard classifications	Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
Hazard classifications	6.1E (inhalation – dusts) May be harmful if inhaled. 6,3A Substances that are irritating to the skin 6.4A Causes serious eye irritation. 6.7A Carcinogenic 6.9A Target organ toxicant 9.1D May cause long lasting toxic effects to aquatic life.
	
Hazard Phrases	H352 May cause cancer. H362 Causes damage to respiratory organs through prolonged or repeated exposure. H304 May be harmful if swallowed. H315 Causes skin irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H402 Toxic to aquatic life.

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Warning Phrases	<p>Warning</p> <p>Keep out of reach of children.</p> <p>Read label before use.</p> <p>Avoid breathing dust</p> <p>Wash hands thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p> <p>Avoid release to the environment.</p> <p>Wear protective gloves /eye protection/face protection*</p> <p>Get medical advice/attention if you feel unwell.</p>
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Section 3: Composition/Information on Ingredients

Chemical name	CAS number	Concentration
Silicon dioxide (SiO ₂) [includes respirable silica 3 to 7%]	7631-86-9	30 to 50%
Lime (CaO)	1305-78-8	10 to 25%
Aluminium oxide (Al ₂ O ₃)	1344-28-1	10 to 30%
Titanium oxide (TiO ₂)	13463-67-7	1 to 2%
Ferric oxide (Fe ₂ O ₃)	1309-37-1	1 to 20%
Magnesium oxide (MgO)	1309-48-4	1 to 5%
Heavy Metals		Trace amounts

Section 4: First Aid Measures

Necessary first aid measures	<p>Get medical advice/attention if you feel unwell.</p> <p>If medical advice is needed, have the product container or label at hand.</p> <p>Note. Becomes corrosive if mixed with water.</p> <p>IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>INHALATION Remove exposed person from dusty area if respiratory difficulties are experienced and allow to breathe fresh air. If experiencing respiratory symptoms, call the POISON CENTER or a doctor/physician</p> <p>EYE CONTACT A high concentration in the air can irritate the eyes: In case of eye irritation, immediately rinse eyes thoroughly with plenty of water. If wearing contact lenses, remove only after initial rinse, and continue rinsing eyes for at least 15 minutes. If irritation occurs or persists, get medical advice/attention.</p> <p>SKIN CONTACT If on skin (or hair), remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.</p>
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Required instructions	For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor.
Notes for medical personnel	Becomes corrosive if mixed with water. Chronic hazard respirable dust – may cause damage to the respiratory system.
Workplace facilities	Emergency showers and eyewashes may be warranted depending on quantity and type of use.

Section 5: Fire Fighting Measures

Type of hazard	Not classified as flammable.
Fire hazard properties	This product is inert.
Regulatory requirements	N/A
Extinguishing media and methods	Water, carbon dioxide (CO ₂), foam, or dry chemical.
Hazchem code	N/A
Recommended protective clothing	Wear full protective clothing and self-contained breathing apparatus (SCBA).

Section 6: Accidental Release Measures

Emergency procedures	Wear silica approved dust masks (Class P2 or similar) and goggles. Prevent further spillage. Place product in sealable container for disposal. Wash down affected area with water plus detergent. This product is inert and no special disposal conditions apply.
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Section 7: Handling and Storage

Precautions for safe handling	Avoid inhaling dust. Keep containers adequately sealed during material transfer, transport, or when not in use. See Section 8 (Exposure Controls) for additional guidance.
Regulatory requirements	Approved handler not required Signage not required. Emergency Response Plan required where quantities greater than 1000Kg are present.
Handling practices	Avoid contact with eyes. Keep containers adequately sealed during material transfer, transport, or when not in use.
Conditions for safe storage	Store in original container in a cool, dry, ventilated place away from direct heat or direct sunlight. Keep container sealed when not in use. Store locked up when not in use.

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Store site requirements	Store in a cool, dry, well-ventilated area.
Packaging	See Part 4 of the Group Standard for Construction Products (Corrosive [8.2C]) Group Standard 2006.

Section 8: Exposure Control/Personal Protection

Workplace exposure standards	Silica-Amorphous 10mg/m ³ Crystalline Quartz 0.2mg/m ³ Respirable dust Cristobalite 0.1mg/m ³ Respirable dust
Application in the workplace	Ensure adequate ventilation. Keep container sealed when not in use.
Exposure standards outside the workplace	No TEL or EEL is set for this substance at this time
Personal protection	A silica approved face mask should be worn when handling this product. If Microsilica 600 dust is present in the workplace or during dust generating operations, the use of respiratory protection (Class P2 or similar) is recommended.
Engineering controls	Where possible ventilation should be used (with a suitable dust trap or filter) to maintain the environment below the workplace exposure standard.
References	

Section 9: Physical and Chemical Properties

Appearance	Light brown / grey fine powder.
pH	12.3+/-0.1 pH units on a 1:1 water:ash ratio.
Melting Point	1200-1400C.
Respirable dust fraction	Approx 50% (dust <7 micron in size).
Bulk Density	0.9-1.7t/m ³ .
Vapour Pressure	Inert.
Solubility in Water	Approx 0.4% @25C.
Solubility (H₂O)	Insoluble.

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Section 10: Stability and Reactivity

Stability of the substance	Stable.
Conditions to avoid	None known
Material to avoid	Keep away from acids especially hydrofluoric acid.
Hazardous decomposition products	None known.

Section 11: Toxicological Information

ORAL	LD50 (Rat) >2000 mg/kg bw [IUCLID]
DERMAL	Not determined
INHALATION	<p>TYPE OF TEST : TCLo - Lowest published toxic concentration ROUTE OF EXPOSURE : Inhalation SPECIES OBSERVED : Rodent - rat DOSE/DURATION : 30 mg/m³/6H/4W-I TOXIC EFFECTS : Liver - changes in liver weight Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels - other oxidoreductases Biochemical - Metabolism (Intermediary) - other proteins REFERENCE : INHTE5 Inhalation Toxicology. (Hemisphere Publishing Corp., c/o Taylor & Francis Inc., 1900 Frost Rd., Suite 101, Bristol, PA 19007) V.1- 1989- Volume(issue)/page/year: 2,361,1990 [http://hazard.com/msds/tox/tf/q45/q582.html]</p>
Irritancy/Corrosiveness	<p>Rabbit - not irritating / slightly irritating (irritating - EC classification) [IUCLID]</p> <p>Irritating to skin, eyes, and respiratory system http://www.humintech.com/001/pdf/calmag_msds.pdf</p>
CHRONIC	<p>Silica. The lung appears to be the major site where lesions appear. IARC have outlined that Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1). [IARC Monograph vol 68]</p> <p>In making the overall evaluation, the Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs. Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1). [IARC Vol.: 68 (1997) (p. 41)]</p>

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TEL	<p>Pulmonotoxicity (lung) Species: rat Sex: no data Strain: no data Route of admin.: inhalation Exposure period: for up to 420 days Frequency of treatment: 18hrs/day 5days/week Post. obs. period: not reported Doses: 30000 particles (40% < 0.5 microns) per ml Control Group: no data specified Method: Year: 1979 GLP: no data Test substance: as prescribed by 1.1 - 1.4 Remark: Similar findings have also been reported in rats, guinea pigs, rabbits and monkeys. After periods of exposure by inhalation varying from on to two weeks. Result: By 220 days: silicotic nodules, showing only reticulin fibrosis had developed. By 300 days: dense, rounded collagenous nodules were present. Source: SIRO S.P.A. ROBILANTE [IUCLID 2000]</p> <p>No TEL is set for this substance at this time.</p>
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Section 12: Environmental Information

Effects for active ingredient only

AQUATIC	72hr EC10 = 1400-2000 mg/l (Scenedesmus subspicatus) [IUCLID]
SOIL	Not determined
TERRESTRIAL VERTEBRATES	Not determined
TERRESTRIAL INVERTEBRATES	Not determined
EEL	No EEL is set for this substance at this time

Section 13: Disposal Considerations

Disposal information	<p>Disposal Dispose of this product only by using according to the label, or at an approved landfill, or other approved facility. Avoid contamination of any water source or the environment with product or empty container.</p> <p>Container Disposal Triple rinse empty container. Crush or puncture and bury in a suitable landfill</p>
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Section 14: Transport Information

Relevant information**Other requirements**

Not classified as hazardous under the Land Transport Rule Dangerous Goods 2005, Rule 45001/1 and NZS 5433 for land transport requirements, IMDG for sea transport, and IATA for air transport requirements.

Section 15: Regulatory Information

Regulatory status

ERMA Approval Code: HSR002544 - Group Standard for Construction Products (Subsidiary Hazard) Group Standard 2006

For full listings of controls see www.ermanz.govt.nz – Group Standards

Section 16: Other Information

Additional information

Although reasonable care has been taken in the preparation of this document, Golden Bay Cement extends no warranties and makes no representations as to the accuracy or completeness of the information contained therein, and assumes no responsibility regarding the suitability of this information for the user's intended purposes or for the consequence of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).