

SAFETY DATA SHEET



Section 1:

IDENTIFICATION

Product Name	Fly Ash		
Synonyms	Blue Circle Flyash; CCP (Coal Combustion By-Products); Flyash		
Product Use	Asphalt Additive; Cement Additive; Concrete Additive; Construction; Filler; Industrial Applications; Raw Material; Soil Stabilisation		
Manufacturer	Boral Australia Level 3, 39 Delhi Road North Ryde, NSW, 2113, Australia	Telephone	(02) 9220 6300
		Emergency Telephone	13 11 26 (Poisons Information Centre)

Section 2:

HAZARD(S) IDENTIFICATION

Classification of the substance or mixture:

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Hazard Summary

Physical hazards	Not classified as a Physical Hazard.
Health hazards	Serious Eye Damage / Eye Irritation: Category 2A Carcinogenicity: Category 1 Specific Target Organ Toxicity (Repeated Exposure): Category 2
Environmental hazards	Not classified for environmental hazards.

GHS Label Elements

Signal Word	DANGER
Symbol	
Hazard statements	H319: Causes serious eye irritation H350i: May cause cancer by inhalation H373: May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

- Prevention**
 - 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.
 - P264: Wash thoroughly after handling.
 - P280: Wear protective gloves & clothing, eye, face & hearing protection.
- Response**
 - P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P308 + P313: If exposed or concerned: Get medical advice/attention.
- Storage**
 - P405: Store locked up.
- Disposal**
 - P501: Dispose of contents/container in accordance with relevant regulations.

Other Hazards

No other information provided.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances / Mixtures

Ingredient name	CAS #	EC #	Content
Silicon Dioxide (Silica, Amorphous)	7631-86-9	231-545-4	30-80 %
Quartz (Crystalline Silica)	14808-60-7	238-878-4	5-10%

Ingredient Notes Crystalline silica is present in fly ash as an impurity. The crystalline silica content in the respirable dust proportion depends on the crystalline silica content of the source coal. Most fly ash will contain % RCS above 0.1%, and is often found at 1.0-2.0%.



Section 4:

EMERGENCY & FIRST AID PROCEDURES

Description of first aid measures

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Rinse mouth with water.

First aid facilities Eye wash facilities and safety shower should be available.

Most important symptoms and effects, both acute and delayed

Repeated exposure to crystalline silica may result in lung fibrosis (silicosis). Principal symptoms of silicosis are coughing and breathlessness. Crystalline silica is classified as carcinogenic to humans (IARC Group 1).

Immediate medical attention and special treatment needed

Treat symptomatically

Section 5:

FIRE & EXPLOSION DATA

<u>Extinguishing media</u>	Use extinguishing media suitable for surrounding materials.
<u>Special exposure hazards</u>	Non flammable. May evolve toxic gases if strongly heated.
<u>Advice for firefighters</u>	No fire or explosion hazard exists.
<u>Hazchem code</u>	None allocated.



Section 6:

ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

Environmental precautions

Prevent product from entering drains and waterways.

Methods for cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

Section 7:

HANDLING AND STORAGE

Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

Conditions for safe storage, including any incompatibilities

Store tightly sealed in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

Specific end uses

No information provided.

Section 8:

CONTROL MEASURES

Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	(mg/m ³)	ppm	(mg/m ³)
Fumed silica (respirable dust)	SWA [AUS]	--	2	--	--
Quartz (respirable dust)	SWA [AUS]	--	0.05	--	--
Quartz (respirable dust) (Precautionary advice)	WorkSafe VIC	--	0.02	--	--



Biological limits

No biological limit values have been entered for this product.

Exposure controls

Engineering controls

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Wet where possible.

PPE

Eye / Face	Wear dust-proof goggles.
Hands	Wear PVC or rubber gloves.
Body	Wear coveralls.
Respiratory	Where an inhalation risk exists, wear a Class P2 (Particulate) respirator.

Section 9:

PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	FINE GREY POWDER
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	> 1560°C
Evaporation rate	NOT AVAILABLE
pH	< 11 (Varies between production sites)
Vapour density	NOT AVAILABLE
Relative density	2.0 to 2.5
Solubility (water)	< 10 g/L
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

Other information

Bulk density	800 kg/m ³ to 1000 kg/m ³
---------------------	---



Section 10: STABILITY AND REACTIVITY

- Reactivity** Carefully review all information provided in sections 10.2 to 10.6.
- Chemical stability** Stable under recommended conditions of storage.
- Possibility of hazardous reactions** Polymerization is not expected to occur.
- Conditions to avoid** Avoid heat, sparks, open flames and other ignition sources.
- Incompatible materials** Incompatible with acids (e.g. nitric acid) and alkalis (e.g. sodium hydroxide).
- Hazardous decomposition products** May evolve toxic gases if heated to decomposition.

Section 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
Silicon Dioxide (silica, amorphous)	3160 mg/kg (rat)	--	--

- Skin** Contact may result in irritation, redness, pain and rash.
- Eye** Contact may result in irritation, lacrimation, pain and redness.
- Sensitisation** Not classified as causing skin or respiratory sensitisation.
- Mutagenicity** Insufficient data available to classify as a mutagen.
- Carcinogenicity** Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. May contain trace quantities of metals classified as confirmed human carcinogens, such as nickel, cadmium, and arsenic, at levels below those expected to cause adverse health effects.
- Reproductive** Insufficient data available to classify as a reproductive toxin.
- STOT - single exposure** Over exposure may result in irritation of the nose and throat, with coughing.
- STOT - repeated** Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused by deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness. Long term exposure to fly ash may also cause chronic bronchitis.
- Aspiration** Not classified as causing aspiration.



Section 12: ECOLOGICAL INFORMATION

- Toxicity** The main component/s of this product are not anticipated to cause any adverse effects to the environment.
- Persistence and degradability** Product is persistent and non-degradable.
- Bioaccumulative potential** This product is not expected to bioaccumulate.
- Mobility in soil** No information provided.
- Other adverse effects** Avoid contamination of drains and waterways.

Section 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

- Waste Disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).
- Legislation** Dispose of in accordance with relevant local legislation.

Section 14: TRANSPORTATION INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG/IMO)	AIR TRANSPORT (IATA/ICAO)
UN Number	None allocated.	None allocated.	None allocated.
Proper Shipping Name	None allocated.	None allocated.	None allocated.
Transport hazard class	None allocated.	None allocated.	None allocated.
Packing Group	None allocated.	None allocated.	None allocated.

Environmental hazards Not a marine pollutant.

Special precautions for user

Hazchem code None allocated.



Section 15:

REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications	Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).
Inventory listings	AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals) All components are listed on AIIC, or are exempt.

Section 16:

OTHER INFORMATION

Additional information

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit



Abbreviations

STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

Prepared by Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmtglobal.com



Revision Information

Revision History

Revision	Date	Description
4.0	01/07/2020	Scheduled Update, Change in Classification
3.0	Jan 2020	Standard SDS Review
2.0	Jan 2014	Converted to GHS
1.0	Jan 2015	Initial SDS creation

Review Team

SME Reviewers	Subject Matter
National Technical Manager - Cement	Quality
WHS Advisor, QLD Office	Safety
Environmental Sustainability Manager, Cement	Environment & Community
National Compliance Officer, Heavy Vehicles, Logistics	Transport & Dangerous Goods
National Health & Hygiene Manager	Health & Hygiene
National Technical Manager - Cement	Product Custodian