

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name CEMENT/FLY ASH BLENDS • CEMENT/FLY ASH/SLAG BLENDS • CEMENT/SLAG BLENDS
Synonym(s) 424 TRIPLE BLEND • 442 TRIPLE BLEND • 622 CEMENT T BLEND • POZZ BLEND 10 • ROAD POZZ • ROAD POZZ 20 • ROAD POZZ 50 • SSC40 • SSC50 • SSC60 • ROADPATCH C • ASH BLEND • 532 SLAG BLEND

1.2 Uses and uses advised against

Use(s) CONSTRUCTION • INDUSTRIAL APPLICATIONS • SOIL STABILISATION

1.3 Details of the supplier of the product

Supplier name BORAL CONSTRUCTION MATERIALS LTD.
Address Level 3, 40 Mount Street, Nth Sydney, NSW, 2060, AUSTRALIA
Telephone (02) 9220 6300
Email sds@rmt.com.au
Website <http://www.boral.com.au>

1.4 Emergency telephone number(s)

Emergency 1800 555 477 (8am – 5pm WST)
Emergency (A/H) 13 11 26 (Poisons Information Centre)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

GHS classification(s) Serious Eye Damage / Eye Irritation: Category 2A
Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2
Skin Corrosion/Irritation: Category 2
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3

2.2 Label elements

Signal word WARNING

Pictogram(s)



Hazard statement(s)

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

Prevention statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

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Response statement(s)

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/attention if you feel unwell.
P321 Specific treatment is advised - see first aid instructions.
P332 + P337 + P313 If skin or eye irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before re-use.

Storage statement(s)

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal statement(s)

P501 Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|-----------------------------|------------|-----------|----------|
| QUARTZ (CRYSTALLINE SILICA) | 14808-60-7 | 238-878-4 | <5% |
| CALCIUM OXIDE | 1305-78-8 | 215-138-9 | <3% |
| HEXAVALENT CHROMIUM | 18540-29-9 | - | <0.002% |
| PORTLAND CEMENT | 65997-15-1 | 266-043-4 | 5 to 95% |
| FLY ASH | 68131-74-8 | 268-627-4 | <90% |
| GROUND BLAST FURNACE SLAG | 65996-69-2 | - | <80% |
| MAGNESIUM OXIDE | 1309-48-4 | 215-171-9 | <3% |

Ingredient Notes 1. Depending upon the source material, may contain varying amounts of respirable quartz (crystalline silica).
2. Chromium VI is a trace impurity in Portland Cement (< 20 ppm).

4. FIRST AID MEASURES

4.1 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 Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

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

4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes, skin and respiratory system. Chronic over exposure to silica quartz dust may result in silicosis (lung disease). Principal symptoms of silicosis are coughing and breathlessness. Some individuals may exhibit an allergic response upon exposure to this product, possibly due to the trace amounts of chromium present. Crystalline silica and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1).

4.3 Immediate medical attention and special treatment needed

Treat as for moderate to strong alkali and symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

5.3 Advice for firefighters

No fire or explosion hazard exists.

5.4 Hazchem code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 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.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

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

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from moisture, incompatible substances and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

7.3 Specific end use(s)

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

| Ingredient | Reference | TWA | | STEL | |
|---------------------------------|-----------|-----|-------------------|------|-------------------|
| | | ppm | mg/m ³ | ppm | mg/m ³ |
| Calcium oxide | SWA (AUS) | -- | 2 | -- | -- |
| Chromium (VI) compounds (as Cr) | SWA (AUS) | -- | 0.05 | -- | -- |
| Magnesium oxide (fume) | SWA (AUS) | -- | 10 | -- | -- |
| Portland Cement | SWA (AUS) | -- | 10 | -- | -- |
| Quartz (respirable dust) | SWA (AUS) | -- | 0.1 | -- | -- |

Biological limits

No biological limit values have been entered for this product.

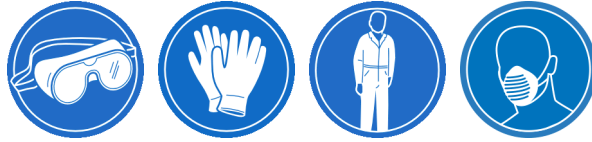
8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

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PPE

| | |
|--------------------|---|
| Eye / Face | Wear safety glasses or dust-proof goggles when handling material to avoid contact with eyes. |
| Hands | Wear PVC, rubber or cotton gloves when handling material to prevent skin contact. |
| Body | Wear long sleeved shirt and full-length trousers. |
| Respiratory | Where an inhalation risk exists wear a Class P1 (Particulate) respirator, dependent on a site specific risk assessment. |



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|----------------------------------|-------------------------------|
| Appearance | FINE OFF-WHITE TO GREY POWDER |
| Odour | SLIGHT ODOUR |
| Flammability | NON FLAMMABLE |
| Flash point | NOT RELEVANT |
| Boiling point | NOT RELEVANT |
| Melting point | > 1200°C |
| Evaporation rate | NOT AVAILABLE |
| pH | 11 to 13 |
| Vapour density | NOT AVAILABLE |
| Specific gravity | 2.1 - 3.2 |
| Solubility (water) | SLIGHTLY SOLUBLE |
| 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 |

9.2 Other information

| | |
|----------------|-------------------------------------|
| Density | 900 - 1550 kg/m ³ (Bulk) |
|----------------|-------------------------------------|

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Hazardous polymerization is not expected to occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), ethanol, acids (e.g. hydrofluoric acid) and interhalogens (e.g. chlorine trifluoride). Water contact may increase product temperature 2°C to 3°C.

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

| | |
|---------------------------------|---|
| Acute toxicity | No known toxicity data is available for this product. Based on available data, the classification criteria are not met. |
| Skin | Irritating to the skin. Contact with powder or wetted form may result in irritation, rash and dermatitis. |
| Eye | Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, corneal burns and possible permanent damage. |
| Sensitization | This product is not classified as a skin or respiratory sensitiser. However, some individuals may exhibit an allergic response upon exposure to cement, possibly due to trace amounts of chromium. |
| Mutagenicity | Insufficient data available to classify as a mutagen. |
| Carcinogenicity | This product contains crystalline silica which is classified as carcinogenic to humans (IARC Group 1). However, there is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis. Therefore, preventing the onset of silicosis will also reduce the cancer risk. Hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1), however due to the trace amounts present, the criteria for classification is not met. |
| Reproductive | Insufficient data available to classify as a reproductive toxin. |
| STOT – single exposure | Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties. |
| STOT – repeated exposure | Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness. In the wet state, the likelihood of an inhalation hazard is reduced. |
| Aspiration | This product is a solid and aspiration hazards are not expected to occur. |

12. ECOLOGICAL INFORMATION

12.1 Toxicity

May be harmful to the aquatic environment due to the alkaline nature of the product. This product is non-toxic to aquatic organisms when present as a cured solid.

12.2 Persistence and degradability

Product is persistent and would have a low degradability.

12.3 Bioaccumulative potential

This product is not expected to bioaccumulate.

12.4 Mobility in soil

A low mobility would be expected in a landfill situation.

12.5 Other adverse effects

Avoid contamination of drains and waterways.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

| | |
|-----------------------|---|
| Waste disposal | Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required). |
| Legislation | Dispose of in accordance with relevant local legislation. |

14. TRANSPORT INFORMATION

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

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| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|------------------------------------|---------------------------------|---------------------------------------|--|
| 14.1 UN Number | None Allocated | None Allocated | None Allocated |
| 14.2 Proper Shipping Name | None Allocated | None Allocated | None Allocated |
| 14.3 Transport hazard class | None Allocated | None Allocated | None Allocated |
| 14.4 Packing Group | None Allocated | None Allocated | None Allocated |

14.5 Environmental hazards No information provided

14.6 Special precautions for user

Hazchem code None Allocated

15. REGULATORY INFORMATION

15.1 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 Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Hazard codes Xi Irritant
Xn Harmful

Risk phrases R36/37/38 Irritating to eyes, respiratory system and skin.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Safety phrases S22 Do not breathe dust.
S24/25 Avoid contact with skin and eyes.
S36/37 Wear suitable protective clothing and gloves.

Inventory listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information CEMENT CONTACT DERMATITIS: Individuals using wet cement, mortar, grout or concrete could be at risk of developing cement dermatitis. Symptoms of exposure include itchy, tender, swollen, hot, cracked or blistering skin with the potential for sensitisation. The dermatitis is due to the presence of soluble (hexavalent) chromium.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as 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: 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 ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

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| | | |
|----------------------|-------------------|---|
| 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 |
| | GHS | Globally Harmonized System |
| | 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 |
| | 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 |

Revision history

| Revision | Description |
|----------|------------------|
| 2.0 | Converted to GHS |
| 1.0 | Initial Release |

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').

The information presented herein is based on data considered to be accurate as of the date of preparation of this SDS. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorisation given or implied to practice any patented invention without a licence. In addition, no responsibility can be assumed by the vendor for any damage or injury resulting from abnormal use, without a risk assessment for safe use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the products.

This Safety Data Sheet (SDS) applies only to the formulated material as supplied by Boral Cement. It does not apply where the formulation has been altered. In this case a new SDS may be required to reflect the modified material. Contact Boral Cement for further information.

Printed documents are uncontrolled. Refer to www.boral.com.au regularly for a more recent copy of the SDS where it exists.

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.rmt.com.au

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