

1. Identification: Product Identifier and Chemical Identity

Product Name: XYPEX PATCH'N PLUG
Recommended use: Waterproofing and protection of concrete.
Company Name: Concrete Waterproofing Manufacturing Pty. Ltd,
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2. Hazard(s) Identification

This material is classified as Hazardous according to the health criteria of Safe Work Australia.



Not classified as a Dangerous Goods by the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG7.4)

Signal Word

Danger

Hazard Classification

Skin Corrosion/Irritation:	Category 2
Serious Eye Damage/Irritation:	Category 1
Skin Sensitivity:	Category 1
Specific target organ toxicity – Single Exposure:	Category 3
Specific target organ toxicity – Repeated Exposure:	Category 2

Hazard Statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H373	May cause damage to respiratory organs through prolonged or repeated exposure.

Precautionary Statements

P280	Wear protective gloves / protective clothing / eye protection / face protection & approved dust masks.
P260	Do not breathe dust.
P264	Wash thoroughly after handling.

Responsive Precautionary Statements

P260	Do not breathe dust
P264	Wash thoroughly after handling
P280	Wear protective gloves / protective clothing / eye protection / face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor / physician.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

3. Composition and Information on Ingredients

Ingredients	CAS No.	Proportion
Portland Cement	65997-15-1	20-35%
Silica Sand (graded)	14808-60-7	30-50%
Calcium Aluminates	-	15-25%
Alkaline Earth Compound	1317-65-3	<10%

4. First-Aid Measures

When seeking medical advice take this safety data sheet with you.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Dust in throat and nasal passages should clear spontaneously. If not, irrigate nose and throat with clean water for at least 20 minutes. Seek immediate professional medical attention.

Eye Contact: If In Eyes: Quickly and gently blot away any dry powder. Irrigate cautiously with large amounts of water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub eyes as this may cause additional irritation or damage. Seek immediate professional medical attention if irritation persists.

Skin Contact: Quickly and gently blot away any dry powder. Under running water, remove contaminated clothing, shoes and leather goods. Continuously flush contaminated area with lukewarm, gently flowing water for at least 60 minutes. If skin irritation or rash occurs, seek medical advice / attention.

Ingestion: Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. If conscious, wash out mouth with clean water. Drink 1 cup (240 - 300 ml) of water followed by dilution with milk if available. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing. Seek immediate professional medical assistance and contact Poison Information Centre (Australia - 13 11 26, New Zealand 0800 764 766).

Symptoms Caused by Exposure

Acute: Irritation to skin and mucous membranes.

Delayed: Precautions should be taken to ensure that dust is not inhaled; however, long-term exposure to high levels of dust may result in damage to the lungs.

Medical Attention and Special Treatment

Move person to fresh air and away from exposure. Wash and clean eyes or skin as described above. Ensure eyewash facilities are available.

5. Fire-Fighting Measures

Extinguishing Media

Xypex Cementitious Products are not flammable and are not subject to explosion.

Special Hazards Arising From the Chemical

No hazardous combustion products.

Alkaline earth compounds will cause explosive decomposition of maleic anhydride, nitroalkanes and nitroparaffins, in the presence of water, form salts with inorganic salts and with inorganic bases. The dry salts are explosive.

Advice for Firefighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus.

Hazchem Code

Not Applicable

6. Accidental Release Measures

Personal Protective Measures

Always wear full protective equipment as referred to under Section 8 to prevent any contamination of skin, eyes, respiratory system and personal clothing. Ensure adequate measures are in place to prevent airborne dust. Avoid airborne dust generation.

Environment Protection Measures

Do not allow product into drains or water courses. Any spillages into watercourses must be alerted to the Environment Protection Authority (EPA) or relevant Regulatory Body.

Methods for Cleaning Up

At all times avoid inhalation of product and contact with skin and eyes. Contain the spillage. Keep the material dry if possible. Wear full personal protective equipment when cleaning up, whatever method is chosen. When the product is in a dry state, avoid airborne dust generation when cleaning up. Avoid dry sweeping. Examples of clean-up methods when in dry state are:

(A) Using a vacuum cleaner (Industrial portable units), equipped with high efficiency particulate filters (HEPA filter) or equivalent technique.

(B) Wipe up the dust by mopping, wet brushing or water sprays or hoses with a fine mist to avoid the dust becoming airborne and remove slurry. Ensure drains are covered.

If the product has become wet, clean up and place in watertight container. Allow material to dry and solidify before disposal. Check current regulations before disposing of spillage, whether in dry state or not.

7. Handling and Storage

Handling

Avoid all types of dust generation; particularly the creation of respirable dust. At all times avoid inhalation of product and contact with skin and eyes. Carrying the product may cause back injuries, strains, sprains or the like. Use correct handling techniques to avoid injury. Use handling equipment and controls if necessary to avoid injury. If in doubt, contact your local WHS Regulator for further guidance on manual handling. Always wear sufficient and full protective equipment and suitable

clothing when handling the product. General – During work avoid kneeling in the product. If kneeling is absolutely necessary then appropriate impervious waterproof personal protective equipment must be worn.

Ensure adequate ventilation and have ventilation equipment available if required due to possibility of generation of airborne dust.

Do not eat, drink or smoke when handling or applying product. Remove contaminated clothing and protective equipment before entering eating areas.

Avoid mishandling of pails or bags so as to prevent accidental bursting and creation of dust.

Storage

P402 + P232 + 233 Store in a dry place. Protect from moisture. Keep container tightly closed.

Store this product in a draught free environment, clear of the ground, avoiding humid conditions and extremes of temperature (minimum lower temperature of 7°C (45°F). The product should be used within 12 months of the date of production; product should not have been exposed to the atmosphere prior to use.

Any product that is stacked should be done so in a stable manner, and to a safe height. The stacking of product should be done in such a manner that it does not create any risk of product falling and accidentally bursting the packaging open.

This product contains Portland cement and thus Chromium (VI) and may produce an allergic reaction. The cement in this product may contain a reducing agent; the effectiveness of the reducing agent reduces with time.

8. Exposure Controls and Personal Protection

Control Parameters

P260 Do not breathe dust.
 P401 Store in original containers.

Substance	CAS No	Workplace Exposure Standards for Airborne Contaminants				Notes
		TWA (ppm)	TWA (mg/m ³)	STEL (ppm)	STEL (mg/m ³)	
Calcium Hydroxide	1305-62-0	-	5	-	-	-
Portland Cement	65997-15-1	-	10	-	-	Inhalable dust containing no asbestos and <1% crystalline silica.
Silica: Crystalline (respirable dust)	14808-60-7	-	0.1	-	-	-

Refer to Safe Work Australia website for more information

Appropriate Engineering Controls

Provide adequate and suitable ventilation / ventilation equipment when handling product, to maintain dust below recommended exposure guidelines. All ventilation systems should be filtered before discharge to atmosphere. Isolate personnel from dusty areas.

Do not eat, drink or smoke when working with the product to avoid contact with skin or mouth. Immediately after working with the product, workers should wash or shower or use skin moisturizers. Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using.

Personal Protection Equipment

- P280 Wear protective gloves / protective clothing / eye protection / face protection.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.

Skin Protection – Use impervious, abrasion and alkali resistant gloves, enclosed rubber boots that resist powder and liquid penetration, closed long-sleeved impervious protective clothing that protects skin from contact. Close all fittings at opening.

Eye Protection – Wear safety goggles / glasses at all times when handling the product. Ensure the goggles / glasses have suitable side protection, are wide vision, and that there is no risk of product particles being able to enter the eye(s).

Respiratory Protection – Always use respiratory protection. Inhalation of product dust must be avoided at all times. Use a dust mask (class P1 or P2 particulate). Respiratory protective equipment must be in compliance with relevant national legislation. It is good practice to conduct fit-testing when selecting respiratory protective equipment.

Additional safety precautions may include the provision a shower facility.

Environmental Exposure Controls

According to available technology that limit dust dispersion into the environment.

9. Physical and Chemical Properties

Appearance	Grey particulate powder
Odour	Odourless
pH	pH 10-13
Melting / Freezing Point	Not applicable
Initial Boiling Point and Range	>1200° C
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability	Upper / Lower Not applicable
Flammability / Explosive Limits	Not applicable
Vapour Pressure	Not applicable
Vapour Density	Not applicable
Solubility	2.0g/L (Powder forms slurry with water, hardens over time)
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Alkaline earth compounds: 580°C
Viscosity	Not applicable
Explosive Properties	Not applicable
Specific Gravity	2.0 to 2.8 (water = 1)

10. Stability and Reactivity

Reactivity

Alkaline earth compounds react vigorously with strong acids. They also attack aluminium, lead and brass in the presence of moisture.

In the presence of water, calcium aluminates react chemically and harden to form stable calcium aluminate hydrates. This reaction is exo-thermal and may last up to 24 hours. The total heat released is < 500 kJ/kg.

Chemical Stability

The product is chemically stable. When mixed with water it will harden, with time, into a stable mass. Products may liberate Carbon Monoxide or Carbon Dioxide.

Possibility of Hazardous Reactions

Alkaline earth compounds will cause explosive decomposition of maleic anhydride, nitroalkanes and nitroparaffins, in the presence of water, form salts with inorganic salts and with inorganic bases. The dry salts are explosive.

Alkaline earth compound is stable up to 580°C. Alkaline earth compounds decompose with loss of water at approximately 580°C to form Calcium Oxide.

Conditions to Avoid

Avoid humid and drafty environments during storage. Also avoid storage temperatures below 7°C.

Incompatible Materials

Products are incompatible with strong acids.

It should be noted that the uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen is produced.

Hazardous Decomposition Products

None known.

11. Toxicological Information

Acute Dermal Toxicity: The cement incorporated with the other ingredients in this product has been subject to a Limit test. (Limit test, rabbit, 24 hours contact, 2,000 mg/kg body weight – no lethality.) Calcium dihydroxide is not acutely toxic. Rabbit dermal LD50 > 2,500 mg/kg/bw.

Acute Oral Toxicity: May cause irritation to the gastrointestinal tract. Calcium dihydroxide is not acutely toxic. Rat oral LD50 > 2,000 mg/kg/bw.

Acute Inhalation Toxicity: The product may irritate the throat and respiratory tract. Inhalation may lead to irritation, inflammation or burns. Coughing, sneezing and shortness of breath may occur following exposures in excess of occupational exposure limits.

Skin Corrosion / Irritation: When skin is exposed to the product in its dry or wet state, thickening, cracking or fissuring of the skin may occur. Prolonged contact in combination with abrasion can cause severe burns.

Portland cement and alkaline earth compound are an irritant to skin. Ingredients are dermal irritants and dermatitis may develop following exposure.

Cement may have an irritating effect on moist skin (due to transpiration of humidity) after prolonged contact. Prolonged skin contact with wet cement or fresh concrete may cause serious burns because they develop without pain being felt. Repeated skin contact with wet cement may cause dermatitis.

This mixture contains < 2 ppm Chromium (VI), which is a skin irritant.

Serious Eye Damage/Irritation: Direct contact with product may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact either in dry or wet form may cause effects ranging from moderate eye irritation (e.g. conjunctivitis or blepharitis) to chemical burns or blindness.

Skin Sensitization: This product contains Portland cement which is classified as a skin sensitizer.

Contact Dermatitis/Sensitizing Effects: Prolonged and repeated skin contact with Alkaline earth products may cause dermatitis.

Some individuals may exhibit eczema upon exposure to wet cementitious products, caused either by the high pH which induces irritant contact dermatitis, or by an immunological reaction to soluble Cr (VI) which elicits allergic contact dermatitis. The response may appear in a variety of forms ranging from a mild rash to severe dermatitis and is a combination of those two mechanisms. An exact diagnosis is often difficult to assess.

Germ Cell Mutagenicity: With the exception of Chromium (VI) (< 2 ppm) in the Portland Cement, none of the individual substances in this mixture are classified as mutagenic.

Carcinogenicity: This product contains silica sand and this form of silica is not classified as carcinogenic due to its large particle size. However, prolonged and / or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated.

IARC (1997) has concluded that there is 'sufficient evidence for the carcinogenicity of inhaled crystalline silica in the form of quartz and cristobalite in certain industrial circumstances, but that the carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of polymorphs'.

Principle symptoms of lung fibrosis (commonly referred to as silicosis) are cough and breathlessness. Occupational exposure to respirable dust and respirable crystalline silica dust should be monitored and controlled.

Reproductive Toxicity: None of the individual substances in this mixture are classified as reproductive toxicants.

Specific Target Organ Toxicity – Single Exposure: Inhalation of dust can result in damage to the respiratory tract.

Specific Target Organ Toxicity – Repeat Exposure: Prolonged or repeated inhalation exposure may cause damage to the lungs, including chronic obstructive pulmonary disease (COPD).

Certain ingredients within these products do give potential for generation of respirable dust during handling and use. The dust may contain respirable crystalline silica.

Prolonged or frequent or excessive exposure to respirable crystalline silica dust, cement dust and alkaline earth products may cause respiratory disease, lung disease, lung and respiratory tract damage, ulceration and perforation of the nasal septum, pneumonitis and other serious bad health effects.

The excessive inhalation of crystalline silica dust may result in respiratory disease, including silicosis, pneumoconiosis and pulmonary fibrosis.

Aspiration Hazard

No data available.

Likely Routes of Exposure

Inhalation: YES
Skin – Eyes: YES
Ingestion: NO – except in accidental cases

Potential Health Effects

The product may irritate and burn the throat and respiratory tract. Coughing, sneezing and shortness of breath may occur following exposures in excess of occupational exposure limits. Causes skin irritation and is a severe eye irritant.

Chronic exposure to respirable dust in excess of occupational exposure limits may cause coughing, shortness of breath and may cause chronic obstructive lung disease (COPD).

Medical Conditions Aggravated By Exposure

Inhaling dust may aggravate existing respiratory system disease(s) and / or medical conditions such as emphysema or asthma and / or existing skin and / or eye conditions.

12. Ecological Information

Avoid contaminating waterways.

Acute aquatic hazard

This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients) : >100 mg/L

Long-term aquatic hazard

This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log Kow < 4.

Ecotoxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility: No information available.

13. Disposal Considerations

Waste Treatment Methods

Avoid creation of airborne and respirable dust when disposing of product.

Product – Unused Residue or Dry Spillage

Pick up dry and put in containers. Mark container clearly. In case of disposal, harden with water to avoid dust creation. Dispose of at a licensed waste facility accepting cementitious and alkaline earth based waste. Dispose of all materials in accordance with current local regulations / legislation.

Product – Slurries

Allow to harden. Avoid entry into sewage and drainage systems or into bodies of water and dispose of as indicated for hardened product.

Product – After Addition of Water, Hardened

Dispose of at a licensed waste facility accepting cementitious and alkaline earth based waste. Dispose of all materials in accordance with current regulations / legislation. Avoid entry into sewage and drainage systems or into bodies of water.

Packaging

Completely empty packaging and process it according to current regulations / legislation

14. Transport Information

Not classified as a Dangerous Goods by the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG7.4)

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN Number: Non allocated
UN Proper shipping name: Non allocated
Class and subsidiary risk: Not applicable
Packing Group: Not applicable
Special precautions for user: No restrictions known for transport procedures.
Hazchem Code: None allocated

15. Regulatory Information

Global Harmonisation System of Classification and Labelling
Work Health and Safety Act 2011
Work Health and Safety Regulation 2011

16. Other Information

Abbreviations

GHS Global Harmonisation System of Classification and Labelling
ADG Australian Code for the Transport of Dangerous Goods by Road & Rail
OEL Occupational Exposure Limit
TWA Time Weighted Averages
STEL Short Term Exposure Limit
PPE Personal Protective Equipment

The information in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. The information given is based on technical data that we believe to be reliable at the time of issuing the SDS. Because conditions of use are outside our control, it is the responsibility of the user to verify safety data for combinations with other materials, or for the use in specific processes, and to verify waste disposal requirements.

SDS prepared by the Xypex Australia Technical Services Department.