

1. Identification: Product Identifier and Chemical Identity

Product Name: XYPEX BIO-SAN C500
Recommended use: Waterproofing and protection of concrete.
Company Name: Concrete Waterproofing Manufacturing Pty. Ltd,
T/A Xypex Australia (ABN 96 093 161 963)
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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. |

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P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + R338 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.

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.

Hazard Statements

WARNING. Causes substantial but temporary eye injury. Harmful if swallowed, absorbed through the skin, or inhaled. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing dust. Wear appropriate protective eyewear such as goggles, face shield, or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Environmental Hazards

This pesticide is toxic to fish and aquatic organisms/invertebrates. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of an approved relevant permit and the permitting authority has been notified in writing and approved prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying and gaining approval from the local sewage treatment plant authority. For guidance contact your State or Local Water Authority and/or Regional Office of the EPA.

Other Hazards

Alkaline when wet.

3. Composition and Information on Ingredients

| Ingredients | CAS No. | Proportion |
|---------------------|------------------------|------------|
| Iron Oxide Pigments | 1317-37-1 1317-61-9 | 45-55% |
| Portland Cement | 65997-15-1 | 10-15% |
| Copper Oxide | 1317-38-0 | 5-7% |
| Aluminosilicate | 1318-02-1 | 2-3% |
| Silver | 7440-22-4 | <0.15% |

4. First-Aid Measures

When seeking medical advice take this safety data sheet with you or have the label available to provide information.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If person is not breathing, call 000, then give artificial respiration, preferably mouth-to-mouth if possible (and trained to do so). Call a Poisons Information Centre (Australia - 13 11 26, New Zealand 0800 764 766) or doctor for further treatment advice.

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: Hold eye open and rinse slowly and gently blot away any dry powder and irrigate cautiously with water for at least 15- 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Do not rub eyes as this may cause additional irritation or damage. Seek immediate professional medical attention if irritation persists.

Skin Contact: Take off contaminated clothing. Quickly and gently blot away any dry powder and rinse skin immediately with plenty of water for 15-20 minutes. If skin irritation or rash occurs, seek medical advice/ attention.

Ingestion: Call the Poisons Information Centre (Australia - 13 11 26, New Zealand 0800 764 766) or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting, unless told to by a poison control centre or doctor. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. If conscious, wash out mouth with clean water. Do not give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

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 Admix Products are not flammable and are not subject to explosion.

Special Hazards Arising From the Chemical

No hazardous combustion products.

Advice for Firefighters

No need for specialist protective equipment for firefighters. Prior to using the product liaise with local fire authority for confirmation of best and most current form of firefighting equipment for the product.

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

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.

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 Safe Work Australia, April 2013 | | | | 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 | - | - | - |
| Iron Oxide Pigments | 1309-37-1 1317-61-9 | - | 5 (as Fe) | - | - | - |

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 Workplace Exposure Standards. 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 | Brown particulate powder |
| Odour | Odourless |
| pH | pH 9.1-9.8 (EPA method 2 parts water to 1 part powder by volume) |
| Melting / Freezing Point | Not applicable |
| Initial Boiling Point and Range | Not applicable |
| 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 | 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

None known.

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

None known.

Conditions to Avoid

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

Incompatible Materials

None known.

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.)

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Acute Oral Toxicity: No data available.

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 is 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: 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: No data available

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 and cement dust materials 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 pulmonary 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

Ecotoxicity

Do not allow the material to enter water course. If water is contaminated inform the relevant authorities immediately. The addition of a significant amount of cementitious products to water may cause a rise in the pH value and therefore may be toxic to aquatic life under certain circumstances.

Alkaline conditions may also have effects on vegetation.

Acute hazardous to the aquatic environment – Rainbow trout: LC50 (96 hrs.) 0.0207 mg/L and Water Flea: LC50 (48 hrs.) 0.45 mg/L.

Persistence and Degradability

Alkaline earth material is non bio-degradable; it reacts with atmosphere and dissolved carbon dioxide to form calcium carbonate (chalk).

Bioaccumulative Potential

None of the substances in this mixture are known to bioaccumulate

Mobility in Soil

Not known.

Results of PBT And VPVB Assessment

This mixture does not contain any substances that are assessed to be PBT or vPvB

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. 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. Do not reuse or refill container. Offer for recycling if available or reconditioning if appropriate or place in trash.

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 |

SDS prepared by the Xypex Australia Technical Services Department.

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Disclaimer:

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.

Xypex Australia believes the information contained herein is accurate; however, Xypex makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein which is not intended to be and should not be construed as legal advice or as insuring compliance with any federal, state or local laws or regulations. Any party using these products should review all such laws, rules, regulations prior to use, including, but not limited to the Federal and State Regulations.