

Material Safety Data Sheet

1. Identification of the Substance / Mixture and of the Company

- 1.1 PRODUCT IDENTIFICATION
Pervipave – Mineral Binder for Pervious Paving
- 1.2 PRODUCT USE
Pervious Paving
- 1.3 COMPANY IDENTIFICATION
Jaisons Engineering Technologies
Gat. No. 322/C, Plot No. 2
Vishwachaya Industrial Area
Pirangut, Pune – 412115
India
Tel: +91 20 2544 9985
E-mail: factory@jaisonsgroup.com
Web: constructions.jaisonsgroup.com
- 1.4 EMERGENCY TELEPHONE NUMBERS
During normal Pacific Standard Time (PST)
+91 20 2544 9985
All other times, and in times of unavailability, contact your local emergency services.

2. Hazards Identification

- 2.1 CLASSIFICATION OF THE MIXTURE
- 2.1.1 Classification In Accordance With GHS (5th Edition)
- Skin Irrit. 2: H315 Causes skin irritation.
- Eye Dam. 1: H318 Causes serious eye damage.
- Skin Sens. 1: H317 May cause an allergic skin reaction.
- STOT SE 3: H335 May cause respiratory irritation.
- STOT RE 2: H373 May cause damage to respiratory organs through prolonged or repeated exposure.
- 2.2 LABEL ELEMENTS: in Accordance with GHS (5th Edition)



- 2.3 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.
2.4	PRECAUTIONARY STATEMENTS
P280	Wear protective gloves / protective clothing / eye protection / face protection & approved duct masks.
P260	Do not breathe dust
P264	Wash thoroughly after handling.
2.5	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 CENTER or doctor / physician.
P304 +P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

3. **Composition / Information on Ingredients**

Hazardous Ingredients	%	CAS. No.	Hazard Statement (GHS)
Portland Cement	35% - 60%	65997-15-1	Skin Irrit. 2: H315 Skin Sens. 1: H317 Eye Dam. 1: H318 STOT SE 3: H335
Alkaline Earth Compounds	5% - 20%	1305-62-0	Skin Irrit. 2: H315 Eye Dam. 1: H318 STOT SE 3: H335
Silica Sand	30% - 40%	14808-60-7	STOT RE 3: H373

4. **First Aid Measures**

4.1 DESCRIPTION OF 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 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 a poison center.

4.2 **MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

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.

4.3 **IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT**

Move person to fresh air and away from exposure. Wash and clean eyes or skin as described in 4.1. Ensure eyewash facilities are available.

5. Firefighting Measures

5.1 **EXTINGUISHING MEDIA**

Not flammable and is not subject to explosion.

5.2 **SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE**

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.

5.3 **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.

6. Accidental Release Measures

6.1 **PERSONAL PROTECTIVE MEASURES**

Always wear full protective equipment as referred to under Section 8.2.2 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

6.2 **ENVIRONMENT PROTECTION MEASURES**

Do not allow product into drains or water courses. Any spillages into

watercourses must be alerted to the Environment Agency or other regulatory body.

6.3

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 cleanup 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 & Storage

7.1

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 health and safety body for further guidance on annual 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 air borne 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.

7.2

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.

8. Exposure Control / Personal Protection

8.1 CONTROL PARAMETERS

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

8.2 EXPOSURE CONTROLS

8.2.1 Appropriate Engineering Controls

Provide adequate and suitable ventilation / ventilation equipment when handling product. 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.

8.2.2 Personal Protection Equipment

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. It is good practice to conduct fit-testing when selecting respiratory protective equipment.

8.2.3 Environmental Exposure Controls

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

9. Physical & Chemical Properties

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grey particulate powder
Odour	None
pH	pH 9.1 – 9.8 (EPA method 2 parts water to 1 part powder by volume weight)
Flash Point	Not applicable
Flammability Upper	Not applicable
Solubility	Powder forms slurry with water, hardens over time
Decomposition Temperature	Alkaline earth compounds: 580°C

10. Stability & Reactivity

- 10.1 **REACTIVITY**
- Alkaline earth compounds react vigorously with strong acids. They also attack aluminum, 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.
- 10.2 **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.
- 10.3 **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.
- 10.4 **CONDITIONS TO AVOID**
- Avoid humid and drafty environments during storage. Also avoid storage temperatures below 7°C.
- 10.5 **INCOMPATIBLE MATERIALS**
- Products are incompatible with strong acids. It should be noted that the uncontrolled use of aluminum powder in wet cement should be avoided as hydrogen is produced.
- 10.6 **HAZARDOUS DECOMPOSITION PRODUCTS**
- None known.

11. Toxicological Information

11.1 **INFORMATION ON TOXICOLOGICAL EFFECTS**

- 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 (eg. 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.

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.

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.

11.2 ASPIRATION HAZARD

No data available.

11.3 LIKELY ROUTES OF EXPOSURE

Inhalation: YES

Skin – Eyes: YES

Ingestion: NO – except in accidental cases

11.4 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).

11.5 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

12.1 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. The following toxicity values are available for calcium dihydroxide:

LC50 (96h) for freshwater / marine fish: 50.6 mg/l and 457 mg/l

EC50 (48h) for freshwater invertebrates: 49.1 mg/l

LD50 (96h) for marine water invertebrates: 158 mg/l

EC50 (72h) for freshwater algae: 184.57 mg/l and the NOEC is 48 mg/l

NOEC (14d) for marine water invertebrates: 32 mg/l

EC10/LC10 or NOEC for soil macro-organisms: 2,000 mg/kg soil dw and for micro-organisms is 12,000 mg/kg/ soil dw

NOEC (21d) for terrestrial plants: 1,080 mg/kg

12.2 PERSISTENCE AND BIODEGRADABILITY

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

12.3 BIO ACCUMULATIVE POTENTIAL

None of the substances in this mixture are known to bioaccumulate.

12.4 MOBILITY IN SOIL

Not known.

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS

void 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.

13.2

PACKAGING

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

14.

Transportation Information

The product is not classified as hazardous for transport purposes.

15.

Regulatory Information

Xi Irritant

R phrases

37/38 Irritating respiratory system and skin.

41 Risk of serious damage to eyes.

43 May cause sensitization by skin contact.

S phrases

23 Do not breathe gas/fumes/vapour/spray

24 Avoid contact with skin.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

37/39 Wear suitable gloves and eye/face protection.

38 In case of insufficient ventilation, wear suitable respiratory equipment.

16.

Other Information

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. The details of this data sheet must be passed on to all personnel handling the product. Please consult the Technical Data Sheet prior to any use and processing.