Visit: The Pebble Mill, Unit 2, South Bradford Trading Estate, Brighouse Road, Bradford, BD12 0NQ
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SAFETY DATA SHEET
STONE BINDER-AL (PU4844 UNPIGMENTED ALIPHATIC STONE BINDER PART B)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name: The Pebble Mill STONE BINDER-AL (PU4844 UNPIGMENTED ALIPHATIC STONE BINDER PART B)

CAS-No.: 28182-81-2

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Hardener.

1.3. Details of the supplier of the safety data sheet

Supplier:

The Pebble Mill,
Unit 2,
South Bradford Trading Estate,
Brighouse Road,
Bradford, BD12 0NQ

t: 01274 699 233
e: enquiries@thepebblemill.co.uk

1.4. Emergency telephone number

+44 (0)1926 833367

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health	Acute Tox. 4 - H332;Skin Sens. 1 - H317;STOT SE 3 - H335
Environment	Not classified.

Classification (1999/45/EEC): R43.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health

May irritate eyes.

Environment

The product is not expected to be hazardous to the environment.

2.2. Label elements

Contains: HEXAMETHYLENE DIISOCYANATE OLIGOMERS

Label In Accordance With (EC) No. 1272/2008

Signal Word: Warning

Hazard Statements

H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Precautionary Statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P370	In case of fire:
P378	Use alcohol-resistant foam, carbon dioxide or dry powder for extinction.
P403+233	Store in a well-ventilated place. Keep container tightly closed.
P501A	This material and its container must be disposed of as hazardous waste.

2.3. Other hazards

Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

HEXAMETHYLENE DIISOCYANATE OLIGOMERS — 60-100%

CAS-No.: 28182-81-2 EC No.: 500-060-2

Classification (EC 1272/2008)	Classification (67/548/EEC)
Acute Tox. 4 - H332	Xi;
Skin Sens. 1 - H317	R43
STOT SE 3 - H335	

HEXAMETHYLENE-DI-ISOCYANATE — < 1%

CAS-No.: 822-06-0 EC No.: 212-485-8

Classification (EC 1272/2008)	Classification (67/548/EEC)
Acute Tox. 4 - H302	T;R23
Acute Tox. 3 - H331	R42/43
Skin Irrit. 2 - H315	Xi;R36/37/38
Eye Irrit. 2 - H319	
Resp. Sens. 1 - H334	
Skin Sens. 1 - H317	
STOT SE 3 - H335	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

CAS-No. 28182-81-2

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

Immediately remove contaminated clothing.

Inhalation

Provide rest, warmth and fresh air. Difficulty in breathing. Get medical attention.

Ingestion

DO NOT INDUCE VOMITING! Get medical attention.

Skin contact

Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.

Eye contact

Hold eyelids apart. Immediately rinse with water. Continue to rinse for at least 15 minutes. Contact physician if irritation persists.

4.2. Most important symptoms and effects, both acute and delayed

General information

Not applicable.

4.3. Indication of any immediate medical attention and special treatment needed

No specific first aid measures noted.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Foam. Powder. Carbon dioxide (CO2). Water spray.

Unsuitable extinguishing media

Unsuitable extinguishing media: Water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards

Burning releases: Carbon monoxide (CO). Carbon dioxide (CO2). Oxides of: Nitrogen. Isocyanates. Hydrogen cyanide (HCN). Do not breathe fumes/gas/vapour/spray.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Do not allow run-off from fire-fighting to enter drains or water courses. or Soil

Protective equipment for fire-fighters

Suitable respiratory protection with full face piece and positive air supply. Air tight garment is required

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate general and local exhaust ventilation. Evacuate the area of all non-essential personnel.

6.2. Environmental precautions

Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up

Remove mechanically; cover the remainder with wet, absorbant material (e.g sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO2!). Keep damp in a safe ventilated area for several days.

6.4. Reference to other sections

For waste disposal, see section 13. Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Provide adequate general and local exhaust ventilation. When spraying use suitable air-supplied respirator. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin and eyes. Avoid inhalation of vapours. Keep away from food, drink and animal feeding stuffs. When using do not smoke. Wash hands after handling. Use appropriate skin cream to prevent drying of skin. Keep working clothes separate. Immediately remove contaminated clothing. The threshold limit values noted in Chapter 8 must be monitored. In all areas where isocyanate aerosols and/or vapour concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the workplace exposure limits (WEL) is not exceeded. The air should be drawn away from the personnel handling the product. The precautions required in the handling of isocyanates must be taken.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
HEXAMETHYLENE DIISOCYANATE OLIGOMERS	OEL		0.02 mg/m3		0.07 mg/m3	as NCO
HEXAMETHYLENE-DI-ISOCYANATE	OEL		0.02 mg/m3		0.07 mg/m3	Sen, as NCO

OEL = Occupational Exposure Limit.
Sen = Capable of causing occupational asthma.

8.2. Exposure controls

Respiratory equipment

If product is applied by spraying, wear self-contained breathing apparatus. If ventilation is insufficient, suitable respiratory protection must be provided. Personnel with a history of asthma-type conditions, bronchitis or skin sensitisation conditions should not work with this product

Hand protection

Use protective gloves made of: Butyl rubber. Polyethylene/Ethylene Vinyl Alcohol (PE/EVAL). Contaminated clothing and shoes must be discarded. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection

Wear goggles/face shield.

Skin protection

Wear suitable protective clothing as protection against splashing or contamination.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless.
Odour	No characteristic odour.
Solubility	Immiscible at 15'C
Initial boiling point and boiling range (°C)	Not applicable, Decomposition
Melting point (°C)	ca. -51°C
Relative density	ca. 1, 17g/cm3 @ 20°C DIN 53217
Vapour density (air=1)	
Not determined.	
Vapour pressure	< 0, 0001 hPa @ 20°C (Vapour pressure of Hexamethylene-di-isocyanate: ca 0, 007 hPa @ 20°C)
Evaporation rate	
Not determined.	
pH-Value, Conc. Solution	
Not applicable.	
Viscosity	ca. 3.000 mPa.s @ 23°C DIN EN ISO 3219/A.3
Decomposition temperature (°C)	ca. 250°C
Odour Threshold, Lower	
Not determined.	
Odour Threshold, Upper	
Not determined.	
Flash point (°C)	ca. 228°C DIN EN 22719
Auto Ignition Temperature (°C)	
Not applicable.	
Flammability Limit - Lower(%)	
Not applicable.	
Flammability Limit - Upper(%)	
Not applicable.	
Partition Coefficient (N-Octanol/Water)	log Pow@ ca. 9, 81 (value calculated)
Explosive properties	
Not determined.	
Oxidising properties	
Not determined.	

9.2. Other information

Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Exothermic reaction with: Amines. Alcohol The product reacts slowly with water resulting in the evolution of carbon dioxide.

10.2. Chemical stability

Avoid contact with: Amines. Alcohol Water

10.3. Possibility of hazardous reactions

Exothermic reaction with: Amines. Alcohol The product reacts slowly with water resulting in the evolution of carbon dioxide. In closed containers, pressure build up can result in distortion, blowing and in extreme cases, bursting of the container.

10.4. Conditions to avoid

Avoid contact with: Amines. Alcohol Water

10.5. Incompatible materials

Materials To Avoid
Amines. Alcohol Water

10.6. Hazardous decomposition products

None under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity:
Acute Toxicity (Oral LD50)
> 2.500 mg/kg Rat

Acute Toxicity (Dermal LD50)
> 2000 mg/kg Rat

Acute Toxicity (Inhalation LC50)
390 mg/l (dust/mist) Rat 4 hours

Respiratory or skin sensitisation:
Respiratory sensitisation
Not applicable.
Guinea Pig
Skin sensitisation
Guinea pig maximization test (GPMT): Guinea Pig
Sensitising.

Carcinogenicity:
Carcinogenicity
Not determined.

Reproductive Toxicity:
Reproductive Toxicity - Fertility
Not applicable.

Aspiration hazard:

Viscosity
Based on available data the classification criteria are not met.

General information

Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of concentration-dependent irritating effects on eyes, nose, throat and respiratory tracts. Delayed appearance of the complaints and development of hypersensitivity (difficulty breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from those effects even at low isocyanate concentrations, including concentrations below the UK Workplace Exposure Limit (WEL). Prolonged contact with the skin my cause tanning and irritant effects. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyante sensitisation and respiratory reaction. Harmful if inhaled. May cause sensitisation by skin contact.

Inhalation

Irritating to respiratory system. Rabbit

Skin contact

Slightly irritating. to Rabbit

Eye contact

Slightly irritating. to Rabbit Mucous membranes

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Do not allow to enter soil, waterways or waste water channels.

12.1. Toxicity

Acute Toxicity - Fish

LC0 96 hours > 100 mg/l Brachydanio rerio (Zebra Fish)

Acute Toxicity - Aquatic Invertebrates

EC0 48 hours > 100 mg/l Daphnia magna

EC50 72 hours > 1.000 mg/l Scenedesmus subspicatus

Acute Toxicity - Microorganisms

EC50 3 hours 3.828 mg/l Activated sludge

12.2. Persistence and degradability

Degradability

The product is not readily biodegradable.

Stability (Hydrolysis)

Half-life: 7.7 hours 23°C

12.3. Bioaccumulative potential

Bioaccumulative potential

Will not bio-accumulate.

Partition coefficient log Pow@ ca. 9, 81 (value calculated)

12.4. Mobility in soil

Adsorption/Desorption Coefficient

Not applicable.

Soil

Henry's Law Constant

< 0000001 Pa m3/mol 25

Surface tension

Not applicable.

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Reacts with water.

SECTION 13: DISPOSAL CONSIDERATIONS

General information

Do not allow to enter drains, sewers or water courses.

13.1. Waste treatment methods

Dispose of in accordance with local and national regulations. The packaging must be empty (drop-free, when inverted). Where practical, containers and packaging should be recycled by a licensed contractor. Do not discharge onto the ground or into water courses.

SECTION 14: TRANSPORT INFORMATION

General	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant
Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

Environmental Listing
No listing noted.

15.2. Chemical Safety Assessment

Not applicable.

SECTION 16: OTHER INFORMATION

Revision Date	03/10/2011
Risk Phrases In Full	
R36/37/38	Irritating to eyes, respiratory system and skin.
R42/43	May cause sensitisation by inhalation and skin contact.
R43	May cause sensitisation by skin contact.
R23	Toxic by inhalation.
Hazard Statements In Full	
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.