



Product Data Sheet

Issued, August 2006

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PENTAMAX-12 Cement Grinding Aid

Description

PENTAMAX-12 is a family of products consists of specially formulated blends of glycol based and other inorganic chemicals. The product is developed for use as a grinding aid & pack set inhibitor for Portland Cement and other hydraulic cements.

PENTAMAX-12 significantly improves grinding process efficiency by reducing the surface energy forces that cause agglomeration of the newly fractured cement particles.

Characteristics

Appearance : Brown liquid.

Specific Gravity : 1.100 – 1.130

pH at 25°C : 8.0 – 11.0

Foaming Tendency : None.

Application and General Recommendations

PENTAMAX-12 should be applied in dosage rate vary from 0.02% - 0.04% by weight of cement. Suitable dispensing pumps with adjustable flow rates should be used for optimum performance. It is recommended to dilute with 2 parts of water prior spraying onto the mill feed belt to ensure greater proportioning accuracy and better grinding aid distribution.

Advantages

- Increased mill output
- Increased Cement flow ability
- Reduced grinding costs.
- Higher cement strengths.

Packaging

Normally supplied in 235-kg fixed head steel drums or in bulk by tanker truck. It contains no flammable materials.

Storage, Handling.

PENTAMAX-12 should be kept in closed container. Personal Protective Equipment (rubber gloves & safety goggles) should be used when handling this product.

Environmental, Health, Safety Data

Consult the Material Safety Data Sheet for health and safety information. For further information contact CEMAX.

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MATERIAL SAFETY DATA SHEET



PENTAMAX-12

MATERIAL SAFETY DATA SHEET

Product Name : PENTAMAX-12

IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

Identification of the substance : PENTAMAX-12
Company identification : CEMAX ENGINEERING SDN. BHD.
Emergency : Please contact CEMAX for any emergency case

INFORMATION ON INGREDIENTS

Intended use : Grinding aid for cement based on aqueous solution of polyamine salts

HAZARDS IDENTIFICATION

MAY CAUSE IRRITATION TO EYES AND SKIN ON DIRECT CONTACT

FIRST AID MEASURES

	Symptoms and effects	Action to be taken
Eye contact	Pain, watering	Irrigate eyes with water for 15 minutes. Seek medical attention
Skin contact	Redness, mild irritation	Wash with water. Remove contaminated clothing. Launder before re-use
Inhalation	Minor discomfort	Remove patient to fresh air. Seek medical attention in cases of respiratory distress
Ingestion	Abdominal pain, vomiting, nausea	Do not induce vomiting. Wash out mouth with water. Give water to drink. Seek medical attention



PENTAMAX-12

FIRE FIGHTING MEASURES

- Suitable extinguishing media : Water, carbon dioxide, powder, vaporising liquid
- Extinguishing media which must not be used for safety reasons : None
- Special exposure hazards : Do not breathe smoke. Do not allow extinguishing water to run into streams, rivers, lakes or ground water
- Special protective equipment for fire fighters : Self-contained breathing apparatus

ACCIDENTAL RELEASE MEASURES

- Personal precautions : Eye/face protection, gloves, overalls
- Environmental precautions : Do not allow to enter drains, rivers, lakes or ground water
- Methods for cleaning up : Absorb onto dry earth or sawdust. Transfer to containers. Remove to ventilated area for disposal by approved route

HANDLING AND STORAGE

- Handling : Avoid contact with skin and eye. Wear eye protection. Wear suitable protective clothing
- Storage : Store in original containers. Sealed containers

EXPOSURE CONTROLS/PERSONAL PROTECTION

- Recommended control equipment : Good ventilation or forced ventilation
- Monitoring procedures : NA
- Recommended personal protection : Eyes: Goggles/safety glasses
Skin: Overalls
Hands: Rubber gloves
Respiratory: Good ventilation



PENTAMAX-12

PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Brown liquid
Odour	:	-
pH (concentrate)	:	Min 8.0
Boiling point	:	> 100°C
Melting point	:	< 0°C
Flash point	:	NA
Flammability	:	NA
Auto flammability	:	ND
Explosive properties	:	NA
Oxidising properties	:	NA
Vapour pressure	:	ND
Relative density	:	1.100 - 1.130
Solubility - Water solubility	:	Soluble
Fat solubility	:	Insoluble
Partition coefficient	:	ND
Other data	:	None

STABILITY AND REACTIVITY

Stability	:	Stable. Keep away from moisture, excess heat. Store in closed containers
Materials to avoid	:	Nitrites, oxidising agents, reducing agents, strong acids
Hazardous decomposition products	:	Carbon dioxide, carbon monoxide, oxides of nitrogen

TOXICOLOGICAL INFORMATION

Acute LD ₅₀ oral rat	:	> 8000 mg/kg
Acute LD ₅₀ dermal rabbit	:	ND
Conditions to avoid	:	Heating to composition
Acute LC ₅₀ inhalation rat (4h)	:	ND
Effects of exposure and symptoms	:	Irritating to skin and eyes, on direct contact effect should be transient
Other data	:	-

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ECOLOGICAL INFORMATION

Aquatic toxicity - LC₅₀ (96h) rainbow trout: > 10000mg/l
EC₅₀(48h) daphnia magna: ND
Environmental effects : Not expected to bio-accumulate

DISPOSAL CONSIDERATIONS

Disposal of material : In accordance with local authority regulations
Disposal of packaging : In accordance with local authority regulations

TRANSPORT INFORMATION

Labelling for transportation : NA
Substance identification number (SIN)(UN) : NA

REGULATORY INFORMATION

Specific provisions : NA

OTHER INFORMATION

Source of information : Raw material supplier safety data was used as a key source to prepare this Safety Data Sheet