

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** POZMIX A FLYASH-San Juan

**Revision Date:** 20-Jan-2015

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Statement of Hazardous Nature** Hazardous according to the criteria of NOHSC, Non-Dangerous Goods according to the criteria of ADG.

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia

ACN Number: 009 000 775  
Telephone Number: 61 (08) 9455 8300  
Fax Number: 61 (08) 9455 5300

**Product Emergency Telephone**

Australia: 08-64244950  
Papua New Guinea: 05 1 281 575 5000  
NewZealand: 06-7559274

**Fire, Police & Ambulance - Emergency Telephone**

Australia: 000  
Papua New Guinea: 000  
New Zealand: 111

### Identification of Substances or Preparation

**Product Trade Name:** POZMIX A FLYASH-San Juan  
**Synonyms:** None  
**Chemical Family:** Mineral  
**Dangerous Goods Class:** None  
**Subsidiary Risk:** None  
**Hazchem Code:** None Allocated  
**Poisons Schedule:** None Allocated  
**Application:** Cement Additive

**Prepared By** Chemical Compliance  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com

### 2. HAZARDS IDENTIFICATION

**Statement of Hazardous Nature** Hazardous according to the criteria of NOHSC, Non-Dangerous Goods according to the criteria of ADG.

## Hazard Overview

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposures below recommended exposure limits. Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715, or equivalent respirator when using this product. Review the Safety Data Sheet (SDS) for this product, which has been provided to your employer.

## Classification

T - Toxic.

## Risk Phrases

R49 May cause cancer by inhalation.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

## Safety Phrases

S22 Do not breathe dust.

## HSNO Classification

6.7A Known or presumed human carcinogens  
6.9A Toxic to human target organs or systems

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	Australia	NOHSC	New Zealand	ACGIH TLV-TWA
			WES			
Fly ash	68131-74-8	60 - 100%	Not applicable	Not applicable	Not applicable	TWA: 1 mg/m <sup>3</sup>
Crystalline silica, quartz	14808-60-7	5 - 10%	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>
Crystalline silica, cristobalite	14464-46-1	1 - 5%	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>

**Non-Hazardous Substance to Total of 100%**

## 4. FIRST AID MEASURES

### Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

### Skin

Wash with soap and water.

### Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

### Ingestion

Under normal conditions, first aid procedures are not required.

### Notes to Physician

Not Applicable

## 5. FIRE FIGHTING MEASURES

### Suitable Extinguishing Media

None - does not burn.

### Extinguishing media which must not be used for safety reasons

None known.

**Special Exposure Hazards** Not applicable.

**Special Protective Equipment for Fire-Fighters** Not applicable.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures** Use appropriate protective equipment. Avoid creating and breathing dust.

**Environmental Precautionary Measures** None known.

**Procedure for Cleaning / Absorption** Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

## 7. HANDLING AND STORAGE

**Handling Precautions** This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

**Storage Information** Product has a shelf life of 36 months. Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls** Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Respiratory Protection** Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

**Hand Protection** Normal work gloves.

**Skin Protection** Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** None known.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Powder

**Color:** Gray to black

**Odor:** Odorless

**pH:** Not Determined

**Specific Gravity @ 20 C (Water=1):** 2.3

Density @ 20 C (kg/l):	Not Determined
Bulk Density @ 20 C (kg/M3):	Not Determined
Boiling Point/Range (C):	Not Determined
Freezing Point/Range (C):	Not Determined
Pour Point/Range (C):	Not Determined
Flash Point/Range (C):	Not Determined
Flash Point Method:	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (g/m <sup>3</sup> ):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (g/m <sup>3</sup> ):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined
Vapor Pressure @ 20 C (mmHg):	Not Determined
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Insoluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (g/l):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined
Decomposition Temperature (C):	Not Determined

## 10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Hydrofluoric acid.
Hazardous Decomposition Products	Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).
Additional Guidelines	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure Eye or skin contact, inhalation.

### Symptoms related to exposure

#### Acute Toxicity

##### Inhalation

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

##### Eye Contact

May cause mechanical irritation to eye.

##### Skin Contact

None known.

##### Ingestion

None known

## Chronic Effects/Carcinogenicity

Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

## Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Fly ash	68131-74-8	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rat) (similar substance)	> 5.38 mg/L (Rat) 4h
Crystalline silica, quartz	14808-60-7	> 5000 mg/kg (Rat)	No data available	No data available
Crystalline silica, cristobalite	14464-46-1	> 5000 mg/kg (Rat)	No data available	No data available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicological Information

#### Ecotoxicity Product

Acute Fish Toxicity:	Not determined
Acute Crustaceans Toxicity:	Not determined
Acute Algae Toxicity:	Not determined

#### Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Fly ash	68131-74-8	EC50: 1400 - 2000 mg/L (Scenedesmus subspicatus) EbC50(72h): 81.1 mg/L (biomass, Desmodesmus subspicatus) ErC50(72h): > 100 mg/L (growth rate, Desmodesmus subspicatus)	LC50: 700 - 2000 mg/L (Leuciscus idus) LC50(96h): > 100 mg/L (Poecilia reticulata)	EC50(3h): > 1000 mg/L (activated sludge)	TLM96: > 1000 ppm (Crangon crangon) EC50: 140 - 2000 mg/L (Daphnia magna) LC50(48h) > 100 mg/L (Daphnia magna)
Crystalline silica, quartz	14808-60-7	No information available	LL0(96h): 10000 mg/L (Danio rerio) (similar substance)	No information available	LL50(24h): > 10000 mg/L (Daphnia magna) (similar substance)
Crystalline silica, cristobalite	14464-46-1	No information available	LL0(96h): 10000 mg/L (Danio rerio) (similar substance)	No information available	LL50(24h): > 10000 mg/L (Daphnia magna) (similar substance)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Fly ash	68131-74-8	The methods for determining biodegradability are not applicable to inorganic substances.
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.
Crystalline silica, cristobalite	14464-46-1	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Fly ash	68131-74-8	No information available
Crystalline silica, quartz	14808-60-7	No information available
Crystalline silica, cristobalite	14464-46-1	No information available

### 12.4. Mobility in soil

No information available

### 12.5. Results of PBT and vPvB assessment

No information available.

Substances	PBT and vPvB assessment
Fly ash	Not PBT/vPvB
Crystalline silica, quartz	Not PBT/vPvB
Crystalline silica, cristobalite	No data available

### 12.6. Other adverse effects

No information available

## **13. DISPOSAL CONSIDERATIONS**

**Disposal Method** Bury in a licensed landfill according to federal, state, and local regulations.

**Contaminated Packaging** Follow all applicable national or local regulations.

## **14. TRANSPORT INFORMATION**

### Australia Dangerous Goods

**UN Number:** Not restricted  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable

### IMDG/IMO

**UN Number:** Not restricted  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

### IATA/ICAO

**UN Number:** Not restricted  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable

**Special Precautions for User:** None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

## 15. REGULATORY INFORMATION

### Chemical Inventories

<b>Australian AICS Inventory</b>	All components listed on inventory or are exempt.
<b>New Zealand Inventory of Chemicals</b>	All components listed on inventory or are exempt.
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>EINECS Inventory</b>	This product, and all its components, complies with EINECS

**Classification** T - Toxic.

**Risk Phrases** R49 May cause cancer by inhalation.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**Safety Phrases** S22 Do not breathe dust.

## 16. OTHER INFORMATION

**The following sections have been revised since the last issue of this SDS**  
Not applicable

### Contact

#### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### **New Zealand National Poisons Centre**

0800 764 766

**Additional information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

### **Disclaimer Statement**

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\*\*\*END OF MSDS\*\*\*