

## MATERIAL SAFETY DATA SHEET

<b>1.</b>	<b>Identification of Substance</b>	
	Manufactured / Supplied by	: Kaymac (Pty) Ltd trading as Kaytech
	Product Name	: <b>EnviroFix<sup>®</sup> X800, X1000, X2000</b>
	Product Description	: Three part composite needlepunched together used for lining and capping of landfills, catchment basins and containment ponds and secondary containment, and as barriers against liquid and gas
	Chemical Formula	: Polypropylene, bentonite
	Contact Telephone Number	: Information Contact : 021 577 2116
<b>2.</b>	<b>Composition / Information on Ingredients</b>	
	Composition	: Product consists of 3 layers, namely: Top – nonwoven, needlepunched, staple fibre, polypropylene Middle – bentonite clay (predominantly Montmorillonite) Bottom – woven tape or nonwoven staple fibre polypropylene, which is inert
	Classification	: Geotextile
<b>3.</b>	<b>Hazards Identification</b>	
	Health Effects	: Bentonite is physiologically inert
	Eyes	: Mild irritant
	Skin	: May cause drying and minor irritation
	Ingestion	: Amounts swallowed during normal handling are not likely to cause injury. Ingestion of bentonite causes swelling of a homogenous mass up to 12 times the volume of the powder. This may produce intestinal and bowel obstruction
	Inhalation	: May cause irritation to the upper respiratory tract. Inhalation of crystalline silica over a prolonged period may cause silicosis
	Signs and Symptoms of Exposure	: N/A
<b>4.</b>	<b>First Aid Measures</b>	
	Eyes	: Wash continuously with water
	Skin	: Wash continuously with water
	Ingestion	: If large quantities are swallowed, seek medical advice. Show this Technical Data Sheet to medical practitioner
	Inhalation	: Remove from exposure. If upper respiratory tract irritation persists, seek medical advice. Show this Technical Data Sheet to medical practitioner
	First Aid Facilities	: No specific facilities required

Advice to Medical Practitioner : No specific antidote. Treatment should be symptomatic, based on the judgement of the physician

#### 5. Fire Fighting Measures

Extinguishing Media : Water (as for paper fire)  
Protection for Fire Fighters : Use normal fire fighting equipment  
Wear mask against smoke inhalation

#### 6. Accidental Release Measures

Spills and Disposal : Where dust generation is likely to occur, wear respiratory protection, with particulate filter class P1 during clean-up of powder spills. Collect spills by vacuum or sweeping. Care should be taken to avoid slippery surfaces which will occur when bentonite comes in contact with water  
Fire / Explosion Hazard : Not flammable under conditions of use.

#### 7. Handling and Storage

Handling : Rolls of various sizes  
No special precautions  
Storage : Store in side-supported stacking areas or pile in pyramid style with chucks under side of base rolls  
Suitable Packaging Materials : Wrapped in polyethylene sheeting

#### 8. Exposure Controls / Personal Protection

Exposure Standards : OHSC Time Weighted Average (TWA) concentrations of respirable crystalline silica:  
Quartz 0.2 mg / m<sup>3</sup>  
Cristobalite 0.1 mg / m<sup>3</sup>  
Where legislation exists specifying lower exposure standard values for respirable crystalline silica than above, the alternative exposure standard must be retained in accordance with that legislation  
Engineering Control Measures : Where natural ventilation is inadequate use local mechanical exhaust ventilation at the point of dust generation  
Occupational Exposure Limits : None  
Personal Protection : Use high efficiency particulate air filter dust respirators whenever dust levels are likely to exceed exposure standards  
Other Protection : None required for normal handling  
Hygiene Measures : Wash hands after handling  
Personal Protective Equipment for Extreme Handling : None

#### 9. Physical and Chemical Properties

Physical State : Nonwoven and woven polypropylene geotextile cloth  
Colour : Grey, white or black  
Odour : Neutral  
Solubility : None  
Flashpoint : > 350 degrees Centigrade; open cup  
Melting Point : 165 degrees Centigrade  
Bulk Density : 903 kg / m<sup>3</sup>

##### The following relates to the bentonite layer

Appearance : Odourless, off-white to light tan powder  
Solubility in Water Suspensions : Insoluble. However, forms colloidal mass  
Specific Gravity : 2.2  
pH (5 % in water) : 10

Bulk Density (loose)	: 600 kg / m <sup>3</sup>
Bulk Density (tamped)	: 1 000 kg / m <sup>3</sup>
Fineness (passing 75 microns)	: 75 – 80 %
Water Absorbency	: 800 %

**10. Ingredients**

Typically, bentonite is composed predominantly of the clay mineral Montmorillonite, also present as impurities are Quartz and Cristobalite

<i>Ingredient</i>	<i>Chemical Name</i>	<i>CAS Number</i>	<i>Proportion</i>
Montmorillonite	Hydrated aluminium silicate	1302-78-9	70 – 75 %
Crystalline Silica	Cristobalite	14464-46-1	20 – 25 %
Crystalline Silica	Quartz	14808-60-7	0 – 5 %

**11. Toxicological Information**

Local Effects Acute Toxicity : None

**12. Ecological Information**

The product is non-biodegradable and has minimum or no impact on the environment. The nature of this product is non-toxic.

**13. Disposal Information**

This product can be disposed of as non-toxic in an approved landfill in accordance to local regulations.

**14. Transport Information**

This product is not classified as dangerous goods for transportation.

**15. Version Information**

Version 3 : 10 May 2013