# Bentonite

## What?

- bentonite is a type of clay that swells and gels when dispersed in water
- it acts like a liquid when agitated or stirred and like a solid when left at rest
- as “mud” it is used as a lubricant when drilling or pipe pushing and as “slurry” it is used to fill and support the sides of excavations during the construction of diaphragm walls, cut off walls, or piles
- bentonite is delivered to site as a powder or as granules before being mixed with water. The mud or slurry is pumped to where it is being used and then the excess is cleaned up
- the use of bentonite can lead to spillage around operational areas and around mixing, pumping and storage equipment.

## Why?

- **avoid environmental harm:** liquid bentonite is highly polluting and if it enters watercourses or drains it can cause damage to plants and animals in watercourses
- **avoid prosecution:** if not correctly managed, bentonite in powder form can become airborne causing dust nuisance to local residents leading to legal action by the local authority
- **reduce costs:** the cost of clean up and legal proceedings far exceeds the cost of putting proper control measure in place. Bentonite is very expensive to dispose of.

## Questions

1. Where will bentonite be stored, mixed, pumped and contained on this site?
2. How will waste bentonite be stored and disposed of?
3. Where and how can bentonite cause pollution?

## Do

### *Storage*

- ✓ keep dry powder or granule containers closed so that bentonite cannot become airborne or be damaged by rain or moisture.

### *Use*

- ✓ ensure that bentonite does not spill onto the ground
- ✓ ensure that if spillages do occur they are promptly cleared up
- ✓ protect watercourses and drains from any spillage or escape of liquid bentonite
- ✓ **IMMEDIATELY** report to a line manager any incidents where bentonite is seen entering a watercourse or a drain, or is becoming airborne.

### *Disposal*

- ✓ ask a line manager what to do with waste bentonite
- ✓ have contingency plans in place in case of break out or accidental release.

## Don’t

### *Storage*

- ✗ leave containers or bags containing bentonite open to the air
- ✗ ignore spillages on the ground.

### *Use*

- ✗ intentionally allow liquid or powdered bentonite to spill onto the ground.

### *Disposal*

- ✗ pour bentonite into watercourses or drains
- ✗ give bentonite away to third parties without checking with a line manager.

*Developed from W045 Environmental Toolbox talks*
*Date issued: November 2015*



Toolbox talk – Environment

**Title:**

**Given by:** **Date:**

**Site:**

| Name | Company | Signature |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

For further information please contact a member of the Environment Team