

RED MUD SPILL - RISK REDUCTION

Closure of transport pathways

„Restoration” of the pond walls
Controlled direction of water from the soil
Wetting of soil/surfaces: to protect against wind erosion

soil/surface
secondary source

groundwater

Surface water

sediment
secondary source

air

Primary contamination source
RED MUD POND

Exposure pathways:

Reduce exposure of fish, water organisms: pH adjustment, sediment deposition

Protection of the fresh water zoobenthos: pH adjustment, dredging
Soil biota: removal of red mud ploughing and mixing red mud into the soil

Plants: removal of red mud ploughing and mixing red mud into the soil

Humans:

Avoidance of inhalation: wet cleaning, prevent wind erosion by watering, protection clothing

humans

ecosystem

decomposers

producers

consumers

Source:

Mitigation of statical risk
Establishment of a temporary pond
Mitigation of liquid phase alkalinity
Mitigation of wind erosion

Environmental elements:

Adjustment of the water pH
Precipitation of the solid red mud from the liquid phase
Prevention of wind erosion by watering
Dredging of the red mud sediment
Removal of the thick red mud layers from the soil
Mixing thin red mud layers into the soil
Prevention of wind erosion by planting

Receptors

Humans: protection against burns
Protection against dust inhalation
Protection of the water ecosystem by neutralisation, decantation
Protection of fresh water zoobenthos: removal of red mud
removal of thick layers from the soil
Soil microflora : ploughing, dilution by mixing into the soil
Plant protection: ploughing, dilution by mixing into the soil