



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

RISK ASSESSMENT IN TERMS OF REGULATION 8 OF THE WASTE EXCLUSION REGULATIONS

APPLICANT	Sappi Southern Africa Limited – Saiccor Mill
WASTE STREAM OR PORTION OF A WASTE STREAM	Gypsum from flue-gas desulfurisation
BENEFICIAL USE/S	Fertiliser
	Production of cement
WASTE GENERATING FACILITY	Sappi Saiccor Mill
PHYSICAL ADDRESS OF FACILITY	1 Umkomanzi Drift, Umkomaas, 4170
GPS CO-ORDINATES OF WASTE GENERATING FACILITY	Latitude: 30° 10' 52.1616"S
	Longitude: 30° 46' 18.069"E
CONTACT PERSON	
NAME	Jurie Marx

ADDRESS	PO Box 62, Umkomaas, 4170		
EMAIL ADDRESS	Jurie.marx@sappi.com		
TELEPHONE	039 973 8430		
* DETAILED DESCRIPTION OF WASTE GENERATING PROCESS	Synthetic gypsum is generated as a by-product of flue-gas desulfurisation (FGD) systems used to reduce sulphur dioxide emissions from coal-fired powerplants. Sulphur dioxide emissions from combustion gases are removed using "scrubbers." One particular type of scrubber that uses lime or limestone reagent and a forced oxidation system produces FGD gypsum, which is chemically nearly identical to mined natural gypsum and provides a wide-range of environmentally friendly applications.		
PRODUCTION PROCESS FLOW CHART ATTACHED	YES	X	NO
IDENTIFICATION OF HAZARDS	Environmental hazards: Dust, leachate		
WASTE CLASSIFICATION	HAZARDOUS		
*A process flow chart must be attached to the process description .	GENERAL X		

RISK ASSESSEMENT WITHOUT MITIGATION

Activity	Risk Description	Environmental receptors	Impact	Assessment of the risk				
				Probability	Magnitude	Duration	Scale	Significance
Storage	Leachate from stockpiled material during rainfall	Soil	Soil contamination	4	6	3	1	40
		Surface water	Contamination transported to surface water	3	4	3	2	27
		Groundwater	Percolation to groundwater	4	4	3	2	36
Transportation	Airborne material	Air	Deterioration of local air quality	5	4	1	2	35
		Air	Deterioration of local air quality	5	4	1	2	35
		Soil	Soil contamination	2	4	2	1	14
Processing	Accidental spillage into the environment	Surface water	Contamination transported to surface water	2	4	2	2	16
		Groundwater	Percolation to groundwater	2	4	2	2	16
		Soil	Soil contamination	2	4	2	1	14
		Surface water	Contamination transported to surface water	2	4	2	2	16

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Activity	Risk Description	Environmental receptors	Impact	Assessment of the risk				
				Probability	Magnitude	Duration	Scale	Significance
Land Application	Leachate generation	Groundwater	Percolation to groundwater	2	4	2	2	16
		Soil	Soil contamination	4	6	3	1	40
		Surface water	Contamination transported to surface water	3	4	3	2	27
	Air borne material	Groundwater	Percolation to groundwater	4	4	3	2	36
		Air	Deterioration of local air quality	3	4	2	2	24
		Soil	Soil contamination	4	6	3	1	40
Concentration of contaminants due to incorrect application rates	Surface water	Contamination transported to surface water	3	4	3	2	27	
	Groundwater	Percolation to groundwater	4	4	3	2	36	

The following factors and criteria must be used to assess the impacts of the activities:

Criteria	
MAGNITUDE (Severity)	DURATION
10 - Very high	5 - Permanent (longer than 10 years)
8 - High	4 - Long-term (5 to 10 years)
6 - Moderate	3 - Medium-term (12 months to 5 years)
4 - Low	2 - Short-term (0 to 12 months)
2 - Minor	1 - Immediate
SCALE	PROBABILITY (Likelihood)
5 - International	5 - Definite
4 - National	4 - Highly probable
3 - Regional	3 - Medium probability
2 - Local	2 - Low probability
1 - Site only	1 - Improbable
0 - None	0 - None

Magnitude
Magnitude measures the size of the impact

Duration
Duration refers to the lifetime of the impact i.e. how long it will last

Scale
The scale refers to the extent of the impact

Probability
The probability refers to the chance of impact to occur. The potential impact could be most likely to occur, unlikely, etc.

Assessment of Significance of Impact

Significance rating of the potential impacts illustrates the importance of the impact itself. The size of area affected by pollution may be extremely high but the significance of this effect is dependent on the concentration or level of pollution in that area. In order to determine the significance of impact, the following method was used:

Significance Points (SP) = (Magnitude + Duration + Scale) x Probability

The values of SP are then ranged as follows:

Rating	Description
SP >60	An impact which could influence the decision about whether or not to proceed with the activities regardless of any possible mitigation.
SP 30 – 60	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated.
SP <30	Impacts with little real effect and which will not have an influence on or require modification of the activities.
+	An impact that is likely to result in positive consequences/effects

50P
I, Mark hereby declare that I have read the completed the Risk Assessment form and hereby confirm that the information is to the best of my knowledge true and correct.

Furthermore, I declare that I am fully aware of my responsibilities in terms of the Waste Exclusion Regulations, and that failure to comply with these Regulations may constitute an offence in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008).

Applicant (Full names) Jurie Francois Mark

Designation Shop owner/manager

Signature 

Date 20/8/13 Place Ukhoamas

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Date Received			
Decision Taken	Authorised	Not Authorised(provide reasons)	
Reference Number			