environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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

APPLICANT	Sasol South Africa (Ltd)
WASTE STREAM OR PORTION OF A WASTE STREAM	Press filter cake
BENEFICIAL USE/S	Press filter cake be beneficially utilised in the carbon and Alternative Fuels & Resources (AFR) sectors. Its uses may include but are not limited to: (a) AFR (b) Raw material substitute for specialty carbon products
WASTE GENERATING FACILITY OR FACILITIES	
PHYSICAL ADDRESS OF FACILITY OR FACILITIES	Bergius Road, Sasolburg, 1947
GPS CO-ORDINATES OF WASTE GENERATING FACILITY OR FACILITIES	Cyanide plant, Midlands site 26°49'53.51"S: 27°52'03.76"E 26°49'57.08"S: 27°52'07.16"E 26°50'0.58"S: 27°52'03.60"E 26°49'57.79"S: 27°51'58.71"E 26°49'57.22"S: 27°52'03.44"E (centre point)
CONTACT PERSON	
NAME	Koos Fourie (Sasolburg Operations (SO): Senior Manager Production, Poly2,3/Cyanide)
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*** DETAILED DESCRIPTION OF WASTE GENERATING PROCESS**	Current Sasolburg Operations (SO) process: Press filter sludge is removed from the plant when either Cyanide or effluent water is filtered through a press filter. When the press filter starts to block up the plates are opened up and the cake is scraped off from the individual plates with a scrapper before being closed up and rinsed. This "dry" sludge cake is then discarded into a bulk bags	
PRODUCTION PROCESS FLOW CHART ATTACHED	**YES X**	**NO**
IDENTIFICATION OF HAZARDS		
WASTE CLASSIFICATION	**HAZARDOUS**	**GENERAL**
	X	
IF WASTE IS HAZARDOUS LIST THE HAZARDS OF THE WASTE	**Health hazards due to the presence of cyanide**	
***A process flow chart must be attached to the process description**		

RISK ASSESSEMENT WITHOUT MITIGATION

Beneficial use of press filter cake in the carbon and Alternative Fuels & Resources (AFR) sectors (Raw material substitute for specialty carbon products & AFR)

Activity	Risk Description	Environmental receptors	Impact	Assessment of the risk				Significance
				Probability	Magnitude	Duration	Scale	
1. Loading of press filter cake onto trucks	Loss of containment of press filter cake	Air	• Localised dust generation • Air pollution	Inherent: Definite: 5	Inherent: Minor: 2	Inherent: Immediate: 1	Inherent: Site only: 1	Inherent: 20, low environmental significance
2. Transportation of press filter cake	Loss of containment of press filter cake	Air	• Dust generation along transportation route • Air pollution	Inherent: Definite: 5	Inherent: Minor: 2	Inherent: Immediate: 1	Inherent: Local: 2	Inherent: 25, low environmental significance
		Land	• Load of press filter cake deposited on land in the vicinity of the road • Land pollution	Inherent: Medium probability: 3	Inherent: Low: 4	Inherent: Short term (0 to 12 months): 2	Inherent: Site only: 1	Inherent: 21, low environmental significance
		Water	• Load of press filter cake deposited in water body in the vicinity of the road • Water pollution	Inherent: Medium probability: 3	Inherent: Moderate: 6	Inherent: Short term (0 to 12 months): 2	Inherent: Site only: 1	Inherent: 27, low environmental significance
3. Off-loading of press filter cake	Loss of containment of press filter cake	Air	• Localised dust generation • Air pollution	Inherent: Definite: 5	Inherent: Minor: 2	Inherent: Immediate: 1	Inherent: Site only: 1	Inherent: 20, low environmental significance
4. Storage of press filter cake	Loss of containment of press filter cake	Air	• Localised dust generation • Air pollution	Inherent: Highly probable: 4	Inherent: Minor: 2	Inherent: Immediate: 1	Inherent: Site only: 1	Inherent: 16, low environmental significance
		Land	• Press filter cake carried by run-off deposited on land in the vicinity of the press filter cake storage area • Land degradation	Inherent: Medium probability: 3	Inherent: Minor: 2	Inherent: Short term (0 to 12 months): 2	Inherent: Site only: 1	Inherent: 15, low environmental significance
		Water	• Press filter cake carried by run-off deposited in storm	Inherent:	Inherent: Low: 4	Inherent:	Residual: Local: 2	Inherent:

			water channels and water body in the vicinity of the press filter cake storage area	Low probability: 2		Short term (0 to 12 months): 2		**16, low environmental significance**
5. Handling of press filter cake (i.e. screening, crushing, blending etc.)	Loss of containment of press filter cake	Air	• Localised dust generation • Air pollution	Inherent: Definite: 5	Inherent: Minor:2	Inherent: Immediate: 1	Inherent: Site only: 1	Inherent: **20, low environmental significance**
a. AFR b. Raw material substitute for specialty carbon products	The point at which press filter cake enters the production process for specialised carbon products & AFR to the actual products is outside the scope of this risk assessment. The incorporation of press filter cake into these existing production processes is matured. The quality of the products from these processes is regulated by relevant standards.							
6. Disposal of press filter cake and press filter cake containing products	Loss of containment of press filter cake	Air	• Localised dust generation • Air pollution	Residual: Medium probability: 3	Inherent: Minor: 2	Inherent: Short term (0 to 12 months): 2	Inherent: Site only: 1	Inherent: **15, low environmental significance**
		Land	• Load of press filter cake disposed illegally on land • Land degradation	Inherent: Medium probability: 3	Inherent: Low: 4	Inherent: Short term (0 to 12 months): 2	Inherent: Site only: 1	Inherent: **21, low environmental significance**
		Water	• Illegally disposed press filter cake reaching water body in the vicinity of the dumping area • Water pollution	Inherent: Medium probability: 3	Inherent: Low: 4	Inherent: Short term (0 to 12 months): 2	Inherent: Site only: 1	Inherent: **21, low environmental significance**
7. Residual press filter cake stockpiled after closure, decommissioning or change of ownership of user facility	Loss of containment of press filter cake	Air	• Localised dust generation • Air pollution	Inherent: Medium probability: 3	Inherent: Minor: 2	Inherent: Immediate: 1	Inherent: Site only: 1	Inherent: **12, low environmental significance**
		Land	• Press filter cake carried by run-off deposited on land in the vicinity of the press filter cake storage area • Land degradation	Inherent: Medium probability: 3	Inherent: Low: 4	Inherent: Short term (0 to 12 months): 2	Inherent: Site only: 1	Inherent: **21, low environmental significance**
		Water	• Press filter cake carried by run-off deposited in storm water channels and water body in the vicinity of the press filter cake storage area	Inherent: Low probability: 2	Inherent: Low: 4	Inherent: Short term (0 to 12 months): 2	Residual: Local: 2	Inherent: **16, low environmental significance**

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
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	Indicates high environmental significance	An impact which could influence the decision about whether or not to proceed with the activities regardless of any possible mitigation.
SP 30 – 60	Indicates moderate environmental significance	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	Indicates low environmental significance	Impacts with little real effect and which will not have an influence on or require modification of the activities.
+	Positive impact	An impact that is likely to result in positive consequences/effects

I, Koos Fourie 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) Eduard Hermanus Jacobus Fourie

Designation Sasolburg Operations (SO): Senior Manager Production, Poly 2,3/Cyanide

Signature

Date 16/10/2019 Place Sasolburg

16 -10- 2019

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