



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	VCM PACT filter cake
BENEFICIAL USE/S	VCM PACT 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	VCM plant, Midlands site 26°49'40.35"S: 27°52'20.88"E 26°49'43.04"S: 27°52'17.10"E 26°49'49.75"S: 27°52'23.58"E 26°49'42.99"S: 27°52'25.73"E 26°49'43.83"S: 27°52'51.71"E (centre point)
CONTACT PERSON	
NAME	JP Steenkamp (Sasolburg Operations (SO): Senior Manager Production, Poly2,3/Cyanide)
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* DETAILED DESCRIPTION OF WASTE GENERATING PROCESS	Current Sasolburg Operations (SO) process: The VCM process generates waste water in a number of unit operations. At the waste water treatment unit the water is treated in batches where each batch of water will be subjected to a primary and secondary PACT treatment cycle The treated water exiting the secondary PACT treatment cycle is passed through the Hydroclear filter to remove any remaining suspended solids. The settled sludge that is removed from the Waste Water Treatment unit is passed to the Filter Press where batches of sludge are pressed into filter cake.	
PRODUCTION PROCESS FLOW CHART ATTACHED	YES X	NO
IDENTIFICATION OF HAZARDS		
WASTE CLASSIFICATION	NON-HAZARDOUS	GENERAL
	X	
IF WASTE IS HAZARDOUS LIST THE HAZARDS OF THE WASTE		
*A process flow chart must be attached to the process description		

RISK ASSESSEMENT WITHOUT MITIGATION

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

Activity	Risk Description	Environmental receptors	Impact	Assessment of the risk				Significance
				Probability	Magnitude	Duration	Scale	
1. Loading of VCM PACT filter cake onto trucks	Loss of containment of VCM PACT filter cake	Air	<ul style="list-style-type: none"> 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 VCM PACT filter cake	Loss of containment of VCM PACT filter cake	Air	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Load of VCM PACT 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	<ul style="list-style-type: none"> Load of VCM PACT 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 VCM PACT filter cake	Loss of containment of VCM PACT filter cake	Air	<ul style="list-style-type: none"> 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 VCM PACT filter cake	Loss of containment of VCM PACT filter cake	Air	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> VCM PACT filter cake carried by run-off deposited on land in the vicinity of the VCM PACT 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		<ul style="list-style-type: none"> VCM PACT filter cake carried by run-off deposited in storm water channels and water body in the vicinity of the VCM PACT 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
5.	Handling of VCM PACT filter cake (i.e. screening, crushing, blending etc.)	Air	Loss of containment of VCM PACT filter cake		<ul style="list-style-type: none"> Localised dust generation Air pollution 	Inherent: Definite: 5	Inherent: Minor: 2	Inherent: Immediate: 1	Inherent: Site only: 1	Inherent: 20, low environmental significance
a.	Replacement material substitute for specialised carbon products; AFR	The point at which coal VCM PACT filter cake enters the production process of carbon products to the actual products and AFR are outside the scope of this risk assessment. The incorporation of coal VCM PACT filter cake into these existing production processes is matured. The quality of the products from these processes is regulated by relevant standards.								
b.	AFR									
6.	Disposal of VCM PACT filter cake and VCM PACT filter cake containing products	Air	Loss of containment of VCM PACT filter cake		<ul style="list-style-type: none"> 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			<ul style="list-style-type: none"> Load of VCM PACT 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			<ul style="list-style-type: none"> Illegally disposed VCM PACT 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 VCM PACT filter cake stockpiled after closure, decommissioning or change of ownership of user facility	Air	Loss of containment of VCM PACT filter cake		<ul style="list-style-type: none"> 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			<ul style="list-style-type: none"> VCM PACT filter cake carried by run-off deposited on land in the vicinity of the VCM PACT 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			<ul style="list-style-type: none"> VCM PACT filter cake carried by run-off deposited in storm water channels and water body in the vicinity of the VCM PACT 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

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:

$$\text{Significance Points (SP)} = (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability}$$

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, JP Steenkamp 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) JACOBUS PETRUS STEENKAMP

Designation Sasolburg Operations (SO): Senior Manager Production, VCM & PVC

Signature 

Date 16/10/2019 Place SASOLBURG



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

