forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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

	(For official use only)
File Reference Number:	12/9/11
NEAS Reference Number:	
Date Received:	

Risk Assessment for an application for exclusion of waste stream or portion of waste stream in terms of the National Environmental Management: Waste Act, 2008(Act No.59 of 2008), as amended.

Kindly note that:

1. This form is current as of 01 April 2021. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority.

2. The information must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.

3. Incomplete forms (including information as required in the application form may be returned to the applicant for revision and the inclusion of additional information.

4. Unless protected by law, all information filled in on this application will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this application on request, during any stage of the application process.

BACKGROUND INFORMATION	
APPLICANT	**Clariant Sasol Catalysts (Pty) Ltd**
CONTACT PERSON	**Priyesh Matabal**
NAME	
ADDRESS	2 Eugene Houdry Road, Sasolburg, 1947
E-MAIL ADDRESS	Priyesh.matabal@clariant.com
TELEPHONE	016 951 1210
CELL PHONE	074 583 2116

WASTE GENERATING FACILITIY OR FACILITIES						
PHYSICAL ADDRESS OF FACILITY OR FACILITIES	2 Eugene Houdry Road, Sasolburg, 1947					
GPS CO-ORDINATES AT CORNERS OF WASTE GENERATING FACILITY OR FACILITIES	**LATITUDE**			**LONGITUDE**		
	26	48	34	27	51	33
	26	48	39	27	51	40
	26	48	41	27	51	32
	26	48	44	27	51	36
WASTE STREAM OR PORTION OF A WASTE STREAM TO BE EXCLUDED FROM THE DEFINITION OF WASTE	Kieselguhr and phosphoric acid mixture which comes from waste byproduct produced under controlled conditions in the factory during the manufacturing process					
BENEFICIAL USE/S	Can be used as a raw material in the manufacture of agricultural fertiliser CalSiPhoS P16 for the agriculture industry to enhance soil fertility in the growing of all types of crops					

WASTE GENERATING PROCESS		
DETAILED DESCRIPTION OF WASTE GENERATING PROCESS[1]	Kieselguhr and phosphoric acid mixture which comes from waste byproduct produced under controlled conditions in the factory during the manufacturing process	
PRODUCTION PROCESS FLOW CHART ATTACHED	YES x	NO
WASTE CLASSIFICATION	HAZARDOUS x	GENERAL
IF HAZARDOUS LIST THE HAZARDS OF THE WASTE		

[1] A process flow chart must be attached with this form for the process description

RISK ASSESSMENT WITHOUT MITIGATION

ACTIVITY	RISK DESCRIPTION	ENVIRONMENTAL RECEPTORS	ASSESSMENT OF RISK					SIGNIFICANCE
			Impact	Probability	Magnitude	Duration	Scale	
Collecting the waste byproduct from the extruder	Spillages during bagging	None – no dust, spillages are solid and fall onto concrete surface of factory floor which is bunded	Low significance	0	2	1	0	0
Storage of waste byproduct on generator's side	Spillages flowing to storm water system	None – The waste byproduct is stored in double lined waterproof bags on a hard surface within a bunded area	Low significance	0	2	1	0	0
Transport of waste byproduct in sealed waterproof bags in enclosed panel van truck to Global Phosphate, Osizweni Community Centre Evander & Embalenhle Road, Embalenhle, 2285,150 km by road	Truck involved in a major accident resulting in spillage. Potential eutrophication only if accident occurs near a water course. There is only 1 water course between Clariant and Global phosphates (fertiliser manufacturer)	Soil, water courses	Low significance	2	6	3	2	22
Receipt and storage of waste byproduct on fertiliser maunfacturer's side	Waste byproduct is stored in a closed building under roof on hard concrete surface in double lined waterproof bags in bunded area	None	Low significance	0	2	1	0	0

ACTIVITY	RISK DESCRIPTION	ENVIRONMENTAL RECEPTORS	ASSESSMENT OF RISK					SIGNIFICANCE
			Impact	Probability	Magnitude	Duration	Scale	
Usage of CalSiPhoS P16	Excessive use of fertiliser during rainy conditions resulting in overflow into water systems with potential of eutrophication	Soil, water courses	Low significance	2	6	3	1	20

Waste classification completed by Enviroserv on 1 April 2023 (see below)

Figure 1: GHS Rev 09 Hazard Class Cut-off Values

Hazard class	Cut-off value/concentration limit
Acute toxicity	≥ 1.0 %
Skin corrosion/Irritation	≥ 1.0 %
Serious eye damage/eye irritation	≥ 1.0 %
Respiratory/Skin sensitization	≥ 0.1 %
Germ cell mutagenicity (Category 1)	≥ 0.1 %
Germ cell mutagenicity (Category 2)	≥ 1.0 %
Carcinogenicity	≥ 0.1 %
Reproductive toxicity	≥ 0.1 %
Specific target organ toxicity (single exposure)	≥ 1.0 %
Specific target organ toxicity (repeated exposure)	≥ 1.0 %
Aspiration hazard (Category 1)	≥ 1.0 %
Aspiration hazard (Category 2)	≥ 1.0 %
Hazardous to the aquatic environment	≥ 1.0 %

There were no inorganic elements or organic compounds that exceeded the above health and environmental hazards.

The pH was tested on an aqueous extract of the sample as received. The pH was determined to be 1.32. The pH value falls outside the GHS Rev.09 limit of 2 < pH < 11.5 for Skin Corrosion. This implies that the waste has the potential to cause a skin corrosion or irritation risk.

Ingredient:	Concentration	Mixture classified as: Skin
Acid with pH ≤ 2	≥ 1 %	Category 1
Base with pH ≥ 11.5	≥ 1 %	Category 1
Other corrosive (Category 1) ingredient	≥ 1 %	Category 1
Other irritant (Category 2/3) ingredient, including acids and bases	≥ 3 %	Category 2/3

Therefore, based on the potential skin corrosion or irritation risk, the waste would classify as hazardous.

Appropriate PPE must be worn when handling the material.

A Safety Data Sheet (SDS) will be required for storage, transport and disposal.

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 – 10 years)
6 – Moderate	3 – Medium term (12 months to 5 years)
4 - Low	2 – Short term (< 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 – Improbably
0 – None	0 - None

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 the impact to occur. The potential impact could be most likely to occur, unlikely, etc.

<u>Assessment of Significance of Impact</u>

Significance rating of the potential impact illustrates the importance of the impact itself. The size of the 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 an impact, the following method should be used:

Significance (S) = (Magnitude + Duration + Scale) x Probability

The values of S must then be categorised as follows:

RATING		**DESCRIPTION**
SP > 60	High significance	An impact which could influence the decision about whether or to proceed with the activities regardless of any possible mitigation
SP 30 - 60	Moderate 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	Low 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 a positive consequence/effect

I, PRIYESH MATABAL (the Applicant) hereby declare that I have read the completed 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: Waset Act, 2008 (Act 59 of 2008).

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Signature of the applicant[2]/ Signature on behalf of the applicant:

PRIYESH MATABAL

_____

Name of Applicant:

QESH MANAGER

_____

Designation

24 APRIL 2023

_____

Date:

[2] If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority.