



forestry, fisheries
& the environment

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

**RISK MANAGEMENT PLAN IN TERMS OF REGULATION 10 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	Illovo Sugar (South Africa) (Pty) Ltd – Noodsberg Sugar Mill					
Contact person	Country SHERQ Manager					
Name	Shaun Ramsunder					
Address	PO Box 194, Durban, South Africa, 4000					
E-mail address	SRamsunder@illovo.co.za					
Telephone	031 508 4591					
Cell phone	084 554 9664					
WASTE FACILITY OR FACILITIES						
Source (s) of waste	Bagasse, coal and woodchips as supplementary fuel sources for fuel in the boiler.					
Waste to be beneficiated	Boiler Ash					
GPS co-ordinates at corners of waste generating facility or facilities	LATITUDE			LONGITUDE		
	29	21	33.84	30	41	8.29
	29	21	34.53	30	41	8.51
	29	21	34.75	30	41	7.56
<i>Please note that the co -ordinates are of the boilers</i>	29	21	34.10	30	41	7.31
GPS co-ordinates at corners of waste generating facility or facilities.	29	21	18.78	30	41	1.29
	29	21	23.23	30	41	6.87
	29	21	34.28	30	40	53.19
	29	21	32.03	30	40	52.25
<i>Please note that the co -ordinates are of the onsite ash landfill site.</i>						
Beneficial use/s	Soil enhancer on sugar cane farms; brickmaking and Landfill cover material at Eshongweni landfill site.					
WASTE GENERATING PROCESS						
MSDS attached if hazardous	YES – Please refer to Annexue 1			NO		
Waste generating facility	HAZARDOUS			GENERAL		

RISK MANAGEMENT PLAN

Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
<p>Context</p> <ul style="list-style-type: none"> • Safety data sheet for ash, as well as the other laboratory reports, for direction and management.. • The ILLOVO SHERQ system in place. <ul style="list-style-type: none"> ○ The business practice and code of conduct is the primary guidance to responsible practice. ○ Illovo has developed its own Integrated Risk Management System (IIRMS) to ensure that the standards to which the business conforms are unified under a single platform, guiding and measuring compliance. ○ IIRMS guidelines have been developed from best practices in the Illovo Group, and from best practice in their industry where necessary. ○ IIRMS assists in the 		<ul style="list-style-type: none"> • It is the responsibility of staff that will be handling, transporting, storing, or working with the filter cake waste stream, to be made aware of the safety data sheet its contents, how to read it and where to obtain it. • Each party: generator, driver/owner, and recipient of the filter cake/mixture, are to have the latest, legal copy of the safety data sheet. • Training must be held for the contents and understanding of the contents for all relevant stakeholders. • Noodsberg Mill must incorporate the safety data sheet into the waste management system and emergency management systems, and contents into the work instructions, together with training and include these into the induction program. 	<p>Noodsberg mill staff, relevant contractors, farmers their staff and all relevant stakeholders</p>

Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
<p>management of environmental risks at Illovo and ensures that these standards are implemented by the whole group.</p> <ul style="list-style-type: none"> • The GHS classification and the SSV comparison of the boiler ash give very good indications of the hazards encountered by all affected stakeholders when working with ash. It helps to identify areas which must be managed in order to minimise or eliminate risks. The intention is to maximize the intended beneficial use of the waste, while minimising any unacceptable impacts to people, environment and economic harm. • Reference MUST be made to the Safety Data Sheet (SDS) in the assessment and management of all risks. 			

Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
Ash removal on request.	<ul style="list-style-type: none"> Storage over time and running out of storage space, if demand is low. Windblown dust if ash is dry.. 	<ul style="list-style-type: none"> The monitoring of the ash removal should at minimum match the amount of ash that is stored on the platform in the mill or on the landfill site. This is to ensure that there is no build up on the landfill site or cause an overflow into the sludge dam if any is stored on the mill platform. Should there be circumstances that would reduce the removal rate of the ash then the sludge dam level must be closely monitored to ensure this facility does not overflow. The tractor trailer or the vehicle used to remove the ash must be maintained to prevent any break-downs and down-time. The farmer's request trends for the product would be co-ordinated with the season that the fertilization of the fields is happening and hence be coordinated with the supply, to prevent build-up of the material. 	<ul style="list-style-type: none"> Manager in charge of the storage area for the ash. Manager responsible for the storage area and sludge dams. SHEQ manager to ensure no pollution occurs into the outside area.
Access to ash storage area.	<p>Security and safety.</p> <ul style="list-style-type: none"> Unauthorised access to ash area and Unauthorised removal of ash. 	<ul style="list-style-type: none"> Retain security and access control at the gates. Storage area is access controlled. Key register at security. Checking for correct PPE. Site induction covers the safety and health risks and requirements for entering the site. Induction to be renewed every year. The SDS is to be given to EnviroServ, each block maker, farmer and worker. Works instructions to include the vehicle checks. Nominated contractor to ensure that all is in order for site access. Contractor's in-house safety protocols to align with Illovo Sugar - Noodsberg Sugar Mill SHERQ system. Site inductions to be adhered to. 	<p>Noodsberg Mill gate security</p>
<ul style="list-style-type: none"> Process of transferring ash from the storage area to the receiving vehicles. 	<ul style="list-style-type: none"> Dust: Windblown from the process of ash transfer with front end loader. 	<ul style="list-style-type: none"> Keep the ash moist to reduce the ash from being blown about by the wind. This can be part of the ash quenching process. Place a tarp over the waste ash when fully loaded to prevent 	<p>Manager responsible for waste and operations.</p>

Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
<ul style="list-style-type: none"> Receiving vehicle are directed to the dry/old ash. 	<ul style="list-style-type: none"> Spillage: onto area outside of bunded area. Hot ash: The quenched ash still being too hot after coming from the boilers. 	<ul style="list-style-type: none"> windblown ash on the road. Ensure the ash temperature is safe for handling for mixing with the filter cake and for loading onto the vehicles. Ensure ash is only handled by a trained Illovo employee (Ash plant Operator) Ensure that only the responsible personnel needed for the activity are in the area for the duration of the transfer. Ensure correct PPE is used in the area as per SDS. Eye protection, gloves, appropriate clothing footwear and respiratory protection is worn that is appropriate to the dust that may be generated. Eye wash station to be clearly demarcated and close by. Careful management of the transfer of ash to vehicles. Procedure very clear for limit of vehicle load, to minimise on-site and off-site spillage of ash onto the roads, fields and working areas. Clean-up of storage area with each batch of ash. Ensure the area is cleaned at the end of the working day to minimise the chance of any oil grease or other materials to contaminate the ash. 	
<p>For all users of the ash: farmers, blockmaker and EnviroServ:</p> <p>Transporting of ash by appropriate vehicle to final destination</p>	<p>Spillage:</p> <ul style="list-style-type: none"> Overfilling receiving vehicle with ash. Windblown ash. Road accidents causing spillages on the main roads.. Non –compliance to the Road Traffic Act (RTA) Soil contamination. Affects the flora and local animals, domestic and wild. 	<ul style="list-style-type: none"> Ensure the driver is trained in the contents of the SDS and appropriate actions needed should any emergency arise. Ensure vehicles are well maintained with service records available. The condition of the vehicle is to be monitored by the on site garage to include regular maintenance, driver reports for any concerns on the vehicle performance, security gate personnel to check the vehicle condition when entering the gate. Should there be any incident on the public road or on farm roads, an enquiry is to take place, to investigate whether any actions are to take place against driver. Illovo Noodsberg Sugar mill contact number clearly seen by 	<ul style="list-style-type: none"> Noodsberg mill vehicle manager. Contractor. Driver. Supervisor of driver. Security.

Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
	<ul style="list-style-type: none"> Natural water sources contamination. 	<ul style="list-style-type: none"> outside persons for reporting. of driver conduct Procedure for off-loading of ash in the designated drop-off zones. The protocol to ensure the off-loading vehicle driver knows the process for minimising the impact of the vehicle on the environment after completing the off-loading. Driver to contact mill or responsible persons to clear up any spillages that occur on public roads. Have a hotline for public complaints for ash spillage and nuisance and register these on the SHE system. <ul style="list-style-type: none"> Address these with the responsible owner/driver. Train them again. Regular training and tool-box talks for the drivers of vehicles. Emergency procedures clearly outlined with issuing of the SDS in the implications of accidents and clean-up. Spillage clean-up protocols sufficient to deal with maximum loads. Including clean-ups, barriers, fires, injuries, emergency numbers, etc. All outlined in the correct and updated SDS. Checks for correct driver emergency equipment and training to deal with the emergency. Keep ash moist, Ensure the tarp over the ash is secured. 	
Ash off-loading from transportation vehicle.	<p>Spillage:</p> <ul style="list-style-type: none"> Outside of dedicated area. If another vehicle is used to offload the ash, it may drop residual ash when travelling to other places to do work. 	<ul style="list-style-type: none"> Ensure that the ash is still moist to reduce the potential of windblown dust nuisance. Any ash run-off is not towards any natural water source. <ul style="list-style-type: none"> This can be prevented by ensuring the riparian zone on the water course is intact. If riparian vegetation is not intact then ensure that an adequate buffer area is in place to prevent the run-off from getting to the natural water course. The protocol for spreading onto the soils would be the same as any commercial fertilizer and lime additives to the soil management. 	<ul style="list-style-type: none"> Noodsberg farmers. Blockmakers. EnviroServ. Contractor. Driver. Landfill site operator.

Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
		<ul style="list-style-type: none"> • Ensure: <ul style="list-style-type: none"> ○ Correct and appropriate PPE is used. ○ Eye wash bottles to be available on the off-loading vehicle. • From a cradle to grave perspective the mill would be responsible to ensure that no such fertiliser is offloaded or spilled in non-designated areas e.g. National road or entry point intersections or traverse areas. 	
Storage at end user facilities	<ul style="list-style-type: none"> • Water run off from: <ul style="list-style-type: none"> ○ farm storage areas after rain ○ landfill site platform, ○ blockmaker storage area. • Possible windblown dust if ash is allowed to dry. 	As given above for off-loading protocols to prevent run-off contamination of natural water sources.	<ul style="list-style-type: none"> • Farmer. • Blockmaker. • Landfill site management.
<p>Farm ash management</p> <p>Ash management during distribution onto the intended farm soil as the fertilizer/soil enhancer.</p> <p>Landfill site ash management</p> <p>During the spreading of the ash over the waste body as cover in an even approximately 20cm depth or as required by the landfill site permit. This involved the careful grading of the ash.</p>	<p>Dust:</p> <ul style="list-style-type: none"> • Health. There may be health impacts from working with the possibly dried ash during the spreading of fertilizer operations. • Environment: Any ash slurry which may run-off from the ash spreading operations will affect the receiving environment if not managed correctly, especially near to natural water sources. 	<ul style="list-style-type: none"> • All staff working with the ash directly or indirectly are to be supplied with the correct PPE. • Trained/advised for application rates of the ash on the soils, • Correct placement within the area of the field away from the possibility of run-off to cause pollution in the natural water sources. • The same protocols would apply as to application of commercial fertilizer onto the fields. • The Out grower and MCP client (if they have such) or farmer designates a loading zone which the ash is off-loaded routinely each day, the grower in turn distributes over their land at their own discretion. • It is recommended strongly that any waste stream applied onto the fields be ploughed into the soil. • Landfill site manager to have protocols aligned with ash sds for safety. 	<ul style="list-style-type: none"> • Farmer - property owner. • Field staff. • Field supervisors. • Contractor. • Blockmaker, • Landfill site operator/ management

Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
<p>Blockmaker ash management</p> <p>The process of transferring the ash into the concrete mixer machine or by being manually mixed in the dedicated area.</p>		<ul style="list-style-type: none"> Blockmakers trained how to manage ash from storage to transferring ash to mixing process with minimal spillages and dust creation. Bunded areas for storage on hard impervious surfaces at blockmakers to prevent ground ingress of leachate and to capture any water run-off. 	
<p>Farm ash management</p> <p>Repeat application onto the same fields.</p>	<p>Environment: The soils may have salinity build up if the soils are not monitored</p>	<p>Ensure that the work is conducted with the inputs of a qualified agronomist that the soil viability is retained. To prevent salinity build up and correct pH management, as well as other specific soil requirements to keep the crop healthy.</p>	<ul style="list-style-type: none"> Farmer. Property owner. Field staff.
<p>Secondary waste generation</p>	<p>Environment:</p> <ul style="list-style-type: none"> Secondary waste generation would involve ash with a multitude of other items like oils, grease, as well as other items if the storage sites are not managed. The ash could also contaminate other items like water, and any oils/greases stored on site rendering them useless. 	<ul style="list-style-type: none"> The management of the ash platform includes the monitoring of any oil, grease, other waste stream spillages that may contaminate the ash and filter cake waste, thus rendering them unusable on the farm field. Should there be a spill on this area, to immediately isolate the spill and to clean it up, together with the contaminated ash, filter cake and ash as per the systems and SDS procedures. Ensure any item that may be contaminated by the ash is kept secured with lids on containers. These contaminated streams are to be isolated and managed for disposal as per SHEQ protocol. Disposal is to be safe and legal. 	<ul style="list-style-type: none"> Noodsberg mill waste manager. SHEQ manager. Noodsberg staff. contractors working on site. Farmers, Blockmakers, Landfill site operators.
<p>Emergency responders</p>		<ul style="list-style-type: none"> The SDS MUST be made available to these personnel, to be able to understand the requirements for their own protection and the management of any spill. The drivers of the vehicles too, are to be trained in how to respond SAFELY to any incident involving the load and who to 	<ul style="list-style-type: none"> NOODSBERG mill waste manager. SHEQ manager. Affected staff. Drivers,

Activity	Risk Description	Action(s) to minimise/manage the risk	Responsibility (Who is responsible to carry out the action(s))
		<p>contact in the case of any emergency.</p> <ul style="list-style-type: none"> • The driver must know the protocol to manage the incident: and who to contact: Owner, emergency responders – fire, and medical. <ul style="list-style-type: none"> ○ First aid skill, as required at the level of the driver too. 	<ul style="list-style-type: none"> • Enviroserv. • Blockmakers.

I, S. Ransunder (the Applicant) hereby declare that I have read the completed Risk Management Plan 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).



Signature of the applicant¹/ Signature on behalf of the applicant:

S. RANSUNDER

Name of Applicant:

COUNTRY SIMERQ

Designation

26/06/2023

Date:

¹ If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority.

Annexure 1:

Safety Data Sheet

Safety Data Sheet

Waste handling and transport, RSA. No OELs / BLVs.

by: **TALBOT**
talbot.co.za | talbot@talbot.co.za 

Conforms to SANS 10234:2019, SANS 11014:2010
SDS compiled: 2022/11/21. Valid until: 2027/11/20
unless the applicable substance or mixture is altered
Version: 1

SDS Compiler v20.09.10.05.1

WASTE MIXTURE: SOLID
ILLOVO NOODSBERG: BOILER ASH

1. Identification

GHS product identifier

Trade name(s) : ILLOVO NOODSBERG: BOILER ASH

Supplier product code : No data available.

Other means of identification

Other synonym(s) : No data available.

Road & Rail PSN : NOT REGULATED

Relevant use(s) of the Mixture and restrictions on use

Identified use(s) : WASTE - intended for transport by road or rail, and disposal.

Uses advised against : WASTE - if a commercial product residue, not intended for original use. KEEP AWAY FROM clothing. DO NOT eat, drink or smoke when using this product. AVOID release to the environment. Collect spillage.

Generator details

Generator name : Illovo Sugar South Africa (Pty) Ltd - Noodsberg Mill

Generator address : 1 Oliver Pearce Avenue

Contact title, name : Keegan Naidoo

Phone number(s) : +27 84 805 7588

Alternative contact(s) : keenaidoo@illovo.co.za

Emergency contacts

Contact title, name : Keegan Naidoo

Emergency number(s) : +27 84 805 7588

After-hours number(s) : +27 84 805 7588

2. Hazards identification

Classification of the Mixture per SANS 10234:2019

GHS hazard category : GHS hazard statements

- 2 : SKIN IRRITATION
- 1 : SERIOUS EYE DAMAGE

Hazards not otherwise classified : In the event that the waste is utilised in a manner that results in significant dust generation, potential health hazards may arise from dust exposure via inhalation. In the current form (wet ash), the waste is not expected to carry any significant inhalation hazards.

Inhalation (acute): Inhalation of dust may cause irritation to the respiratory tract and/or chest pain.

Inhalation (chronic): Repeated inhalation of dust containing respirable crystalline silica is associated with silicosis, lung cancer and autoimmune disorders. Long term exposure to aluminium oxide dust can lead to lung damage, long term exposure to iron oxide dust can lead to pneumoconiosis (siderosis) and long term exposure to titanium oxide dust can cause lung fibrosis (potential occupational carcinogen).

GHS hazard label elements

Symbol(s) :



Exclamation mark
(GHS07)



Corrosive
(GHS05)

Signal word : **DANGER**

GHS hazard statements

Physical

No data available.

Health

H315 : Causes skin irritation

H318 : Causes serious eye damage

Environmental

No data available.

Precautionary measures label elements

General

Prevention

- P220 : KEEP AWAY FROM clothing.
- P261 : AVOID breathing dust, fume, gas, mist, vapours, spray.
- P262 : DO NOT get in eyes, on skin, or on clothing.
- P264 : Wash skin thoroughly after handling.
- P270 : DO NOT eat, drink or smoke when using this product.
- P273 : AVOID release to the environment.

Response

- P314 : Get medical advice / attention if you feel unwell.
- P374 : Fight fire with normal precautions from a reasonable distance.
- P391 : Collect spillage.
- P301+P312 : IF SWALLOWED: Call a POISON CENTRE or doctor /physician if you feel unwell.
- P302+P352 : IF ON SKIN: Wash with plenty of water.
- P304+P312 : IF INHALED: Call a POISON CENTRE or doctor/physician if you feel unwell.
- P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P311 : If exposed or concerned: Call a POISON CENTRE or doctor/physician.
- P362+P364 : Take off contaminated clothing and wash it before reuse.

Storage

Disposal

- P501 : Dispose of contents/container to an approved facility in accordance with all applicable regulations and landfill requirements per this safety data sheet's Section 13.

Other

3. Composition or information on ingredients

Substance/mixture : Mixture

Ingredient(s)	CAS/IUPAC/Other Name(s)	[C/I/SA] %	Classification (Regulation)
<u>Chemical composition</u>			
Silicon dioxide (SiO ₂)	7631-86-9	68.00%[NS]	-
Aluminium oxide (Al ₂ O ₃)	1344-28-1	11.32%[NS]	-
Calcium oxide (CaO)	1305-78-8	2.30%[NS]	H315 H318
Iron oxide (Fe ₂ O ₃)	1309-37-1	4.68%[NS]	-
Potassium oxide (K ₂ O)	12136-45-7	1.48%[NS]	H315 H318
Sodium oxide (Na ₂ O)	1313-59-3	0.93%[NS]	H315 H318
Phosphorous pentoxide (P ₂ O ₅)	1314-56-3	0.19%[NS]	H315 H318
Titanium dioxide (TiO ₂)	13463-67-7	0.72%[NS]	-
Magnesium oxide (MgO)	1309-48-4	0.69%[NS]	-
<u>Mineral composition</u>			
Quartz (SiO ₂)	14808-60-7	72%[NS]	-
Plagioclase ((Na,Ca)(Si,Al) ₄ O ₈)	68476-25-5	16%[NS]	-
Microcline (KAlSi ₃ O ₈)	-	6.1%[NS]	-
Mullite (Al _{4.5} Si _{1.5} O _{9.75})	1302-93-8	5.4%[NS]	-

Notes to above table: [C] Constituent component; [I] Impurity; [SA] Stabilising Additive; [NS] Not Specified; [O]

Hazardous ingredients : Refer to above table.
above cut-off levels

Other identifier(s) : 1. Elemental oxides were used to represent chemical composition and assist with hazard assignments.
2. Amorphous phases, if present, were not taken into consideration during quantification.
3. Mineral names may not reflect the actual compositions of minerals identified, but rather the mineral group. Ideal mineral formulae are represented above.
4. Traces of additional phases may be present. Amounts below 0.5 weight % may be unreliable.

4. First-aid measures

Where the manufacturer/supplier/generator was unable to specify relevant measures, SANS 10234:2019 precautionary statements have been used.

Immediate actions : If exposed or concerned: Call a POISON CENTRE or doctor/physician.

Actions to be avoided : DO NOT eat, drink or smoke when using this product. AVOID release to the environment.

First-aid measures

Inhalation : AVOID breathing dust, fume, gas, mist, vapours, spray. IF INHALED: Call a POISON CENTRE or doctor/physician if you feel unwell. Take off contaminated clothing and wash it before reuse.

Skin Contact	: KEEP AWAY FROM clothing. DO NOT get in eyes, on skin, or on clothing. Wash skin thoroughly after handling. IF ON SKIN: Wash with plenty of water.
Eye Contact	: DO NOT get in eyes, on skin, or on clothing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	: DO NOT get in eyes, on skin, or on clothing. IF SWALLOWED: Call a POISON CENTRE or doctor /physician if you feel unwell.

Anticipated effects and symptoms summaries - see Section 11 for full explanations

Acute effects	: On contact is expected to cause skin irritation and serious eye damage. Inhalation of dust may cause irritation to the respiratory tract.
Delayed effects	: Repeated exposure to dust can result in lung damage or disease.
Symptoms / effects	: No data available.

Protection of first-aiders and notes for attending physicians

First-aider protection	: No data available.
Physician notes	: Get medical advice / attention if you feel unwell.

5. Fire-fighting measures

Where the manufacturer/supplier/generator was unable to specify relevant measures, SANS 10234:2019 precautionary statements have been used.

Unsuitable extinguishing media	: No data available.
Extinguishing media and methods	: Use extinguishing media suitable to the surrounding fire.
Specific hazards arising from the Mixture	: No data available.
Protection of fire-fighters	: KEEP AWAY FROM clothing. AVOID breathing dust, fume, gas, mist, vapours, spray. Fight fire with normal precautions from a reasonable distance.

6. Accidental release measures

Where the manufacturer/supplier/generator was unable to specify relevant measures, SANS 10234:2019 precautionary statements have been used.

Personal precautions, protective equipment, and emergency procedures	: KEEP AWAY FROM clothing.
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Environmental precautions : AVOID release to the environment. Collect spillage.

Methods and materials for containment and for clean-up : Contain and collect as any solid. Avoid actions that cause dust to become airborne. Do not breathe dust, and do not allow large quantities of dust or wetted material to contact skin or eyes.

Secondary disaster prevention measures : No data available.

Additional information : No data available.

7. Handling and storage

Safe handling : DO NOT get in eyes, on skin, or on clothing. DO NOT eat, drink or smoke when using this product. AVOID release to the environment.

Safe storage : No data available.

Technical measures : No data available.

Incompatible materials : No data available.

Packaging : No data available.

Additional information : Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment, and wash hands after use and before entering eating areas.

8. Exposure controls and personal protection

Concentration and exposure limits

Permissible concentration : No data available.

Exposure controls and Personal Protective Equipment (PPE)

Engineered controls : Activities that generate dust require the use of general ventilation and/or wet suppression methods to maintain exposure.

Respiratory PPE : Use respiratory protection approved under appropriate government standards.

Hand / arm PPE : Handle with gloves approved under appropriate government standards.

Eye / face PPE : Use equipment for eye protection tested and approved under appropriate government standards.

Skin / body PPE : Wear protective clothing.

Hygiene measures : Handle in accordance with good hygiene and safety practice. Wash hands before and after handling.

Special conditions posing a hazard

Hazardous conditions : KEEP AWAY FROM clothing.

Additional information : No data available.

9. Physical and chemical properties (whole waste mixture)

Appearance : Damp black solid

Odour : Odourless

Odour threshold : No data available.

pH, concentration : 9.3

Melting point : No data available.

Freezing point : No data available.

Initial boiling point : No data available.

Boiling point : No data available.

Boiling range : No data available.

Flashpoint : No data available.

Flammability : No data available.

Auto-ignition point : No data available.

Decomposition point : No data available.

Lower explosion limit : No data available.

Upper explosion limit : No data available.

Vapour pressure : No data available.

Evaporation rate : No data available.

Vapour density : No data available.

Density : No data available.

Bulk density : No data available.

Relative density, SG : No data available.

Solubility : No data available.

Partition coeff. (n-oct) : No data available.

Partition coeff. (water) : No data available.

Dynamic viscosity : No data available.

Kinematic viscosity : No data available.

Radioactivity : No data available.

10. Stability and reactivity

Conditions to avoid : Avoid dust generation.

Incompatible materials : No data available.

Hazardous decomposition : No data available.

Additional information : No data available.

11. Toxicological information

GHS Classification of Health Hazards

Acute toxicity : No data available.

Skin irritation/corrosion : Causes skin irritation

Eye damage/irritation : Causes serious eye damage

Respiratory or skin sensitization : No data available.

Germ cell mutagenicity : No data available.

Carcinogenicity : No data available.

Reproductive toxicity : No data available.

Specific target organ toxicity - single exp. : No data available.

Specific target organ toxicity - repeated exp. : No data available.

Aspiration hazard : No data available.

Hazard	Ingredient	Result	Species	Dose	Time
Skin irritation	CaO, Na ₂ O, K ₂ O, P ₂ O ₅	H315(2)	-	-	-
Eye damage	CaO, Na ₂ O, K ₂ O, P ₂ O ₅	H318(1)	-	-	-

Additional information : Inhalation (acute): Inhalation of dust may cause irritation to the respiratory tract and/or chest pain.

Inhalation (chronic): Repeated inhalation of dust containing respirable crystalline silica is associated with silicosis, lung cancer and autoimmune disorders. Long term exposure to aluminium oxide dust can lead to lung damage, long term exposure to iron oxide dust can lead to pneumoconiosis (siderosis) and long term exposure to titanium oxide dust can cause lung fibrosis (potential occupational carcinogen).

12. Ecological information

GHS Classification of Aquatic Environment Hazards

Acute aquatic toxicity : No data available.

Chronic aquatic toxicity : No data available.

Hazard to the ozone layer : No data available.

Hazard	Ingredient	Result	Species	Dose	Time

Persistence and degradability : No data available.

Bioaccumulation potential : No data available.

Mobility in soil : No data available.

PBT, vPvB summary : No data available.

Other adverse effects : No data available.

Additional information : Generic hazard data used above.

13. Disposal considerations

Current disposal prohibition/restrictions : Type 0, Prohibited Waste per GN R636 (5)(1)(q)(ii) Waste with a moisture content >40% or that liberates moisture under pressure in landfill conditions, and which has not been stabilised by treatment. Analytical value of: 43 %.

Landfill Class (RSA) (subject to treatment) : Type 3 Waste: Class C Landfill (GLB+) per: GN R635 (7)(2)(d) - strictly subject to treatment due to GN R636 (5)(1) prohibited disposal: see above.

Future disposal prohibition/restrictions : Future Prohibited Waste per GN R636 (5)(1)(r)(iv) >6% Total Organic Carbon (TOC). Hazardous waste with analytical value of: 24 %. (Prohibited from: Aug 2028)

Safe, environmentally preferred disposal : Dispose of contents/container to an approved facility in accordance with all applicable regulations and landfill requirements per this safety data sheet's Section 13.

Additional information : Do not fly tip. Do not dispose into sewer, stormwater, or environment. Do not burn unless by means of compliant incineration practices.

14. Transport information

Proper Shipping Name (PSN) for: Road & Rail (SANS 10228) | Air (IATA) | Sea Freight (IMO/IMDG)

Road & Rail PSN : NOT REGULATED

IATA PSN : NOT REGULATED

IMO/IMDG PSN : NOT REGULATED

Dangerous Goods Transportation: Road & Rail Requirements (SANS 10228:2012)

UN number : -

Dangerous goods class (& Subsidiary) : -

Packing group : -

Special provisions : -

Packaging codes : -

Marine pollutant : No data available.

Transport in bulk according to MARPOL 73/78 Annex II and the IBC Code

Regulation : Not intended for sea freight.

Shipment approved : Not intended for sea freight.

Pollution name : Not intended for sea freight.

Pollution category : Not intended for sea freight.

Ship type : Not intended for sea freight.

Additional information

Additional information : No data available.

15. Regulatory information

Occupational H&S	: Occupational Health and Safety Act (Act No. 85 of 1993)
Environment & Disposal	: National Environmental Management: Waste Act (Act No. 59 of 2008) : GN R634 Waste Classification and Management Regulations : GN R635 National Norms & Standards for the Assessment of Waste for Landfill Disposal : GN R636 National Norms and Standards for Disposal of Waste to Landfill
Other (domestic)	: National Road Traffic Act, 1996 (Act No. 93 of 1996)
Other (international)	: No data available.
Classification & Hazard communication	: SANS 10228:2012 The identification and classification of dangerous goods for transport by road and rail modes : SANS 10234:2008 List of classification and labelling of chemicals in accordance with the Globally Harmonized System (GHS) : SANS 10234:2019 Globally Harmonized System of classification and labelling of chemicals (GHS)

16. Other information

Compilation & version : 2022/11/21, Version: 1, Revision: -

Revision(s) : Not applicable

Summary of Mixture Hazard Classification and Categories

2 : SKIN IRRITATION
1 : SERIOUS EYE DAMAGE

Summary of Mixture Hazard Statements

H315 : Causes skin irritation
H318 : Causes serious eye damage

Signal word : **DANGER**

Other : No data available.

Disclaimer & Use

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