

**DRAFT ENVIRONMENTAL MANAGEMENT
PROGRAMME
PREPARED AS PART OF A BASIC ASSESSMENT
PROCESS**

**PRODUCTION AND STORAGE OF CHEMICAL FERTILISERS AT A
PROPOSED FACILITY NEAR VILJOENSKROON,
FREE STATE PROVINCE
(REF No: EMB/13/14/24)**

Prepared for:
AMSOL Fertilizers
16 Mosquito Road
Pierre van Rynveld,
Centurion
0157



Prepared by:
Savannah Environmental Pty Ltd

FIRST FLOOR, BLOCK 2,
5 WOODLANDS DRIVE OFFICE PARK
CNR WOODLANDS DRIVE &
WESTERN SERVICE ROAD,
WOODMEAD, GAUTENG
P.O. BOX 148, SUNNINGHILL, 2157
TELEPHONE : +27 (0)11 656 3237
FACSIMILE : +27 (0)86 684 0547
EMAIL : INFO@SAVANNAHSA.COM
WWW.SAVANNAHSA.COM



PROJECT DETAILS

Reference No : EMB/13/14/24

Title : PRODUCTION AND STORAGE OF CHEMICAL FERTILISERS AT A PROPOSED FACILITY NEAR VILJOENSKROON, FREE STATE PROVINCE

Authors : Savannah Environmental
Steven Ingle

Client : AMSOL Fertilizers

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1. Introduction

AMSOL Fertilizers therefore proposes to extend an existing chemical liquid fertiliser mixing facility for commercial agricultural application on Portion 451 of the Farm Rietpan, approximately 4km north of the farming town of Viljoenskroon in the Free State Province. The proposed establishment of the fertilizer manufacturing facility will comprise of:

- » Concrete hard-standing and bunding around acid tanks;
- » Aboveground HDPE storage, mixing and product tanks;
- » A urea hopper and cooling tower.

2. Environmental assessment

Up to 211m³ of hazardous chemicals including phosphoric acid, sulphuric acid and ammoniated water will be stored on the site at any one time for the production of the fertilizer product. The listed activity requiring environmental authorisation under the EIA Regulations is Activity 13 of GN R 544:

"Construction of facilities or infrastructure for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres"

The expansion of the existing facility by 80 cubic metres or more is listed as Activity 42 of GN R 546 and also requires authorisation:

"The expansion of facilities for the storage and handling, of a dangerous good, where the capacity of such storage facility will be expanded by 80 cubic metres or more"

No sensitive environmental or social receptors were identified on the site which could potentially be negatively impacted by the proposed facility and the facility was assessed to have a low overall environmental impact. However the following specific conditions/mitigation measures were specified in the Basic Assessment Report:

- » All hazardous chemical storage tanks should be appropriately bunded and the facility should be situated on concrete hard standing.
- » A hazardous chemical spill response plan should be compiled or a service provider consulted to evaluate in the event of a spill during transportation, handling or storage.
- » Appropriate signage should be placed on vehicles transporting hazardous substances and transport emergency cards carried by the vehicles in excess of the exempted quantities.
- » An emergency spill kit should be stationed at the site to address smaller spills should they occur.
- » Local labour should preferably be sourced for the construction and operation of the facility.

3. Scope

This EMPr has been developed to mitigate the impacts for the construction and operational phase identified through the Basic Assessment process and contained in the Basic Assessment Report. The EMPr shall be used as a tool for auditing environmental compliance.

The EMPr is not a static document and further consideration shall be given to:

- » Specific conditions and supplementary mitigation measures stipulated in an environmental authorisation.
- » Mitigation measures for impacts that might only become apparent during the construction and operational phases.

This draft EMPr will be updated to reflect the conditions of the Environmental Authorisation, pertaining to compliance and monitoring. It is intended that the EMPr be included with all construction and development tender documentation, such that the developer and contractor are aware of any additional costs that may be imposed as a result of the EMP, from the outset of the project. The provisions of the EMP shall be made binding on the developer and his contractors.

This EMPr was prepared by Steven Ingle who has a Bachelors degree in Environmental Management and over 8 years of experience in environmental impact assessment and planning.

4. Responsibilities

4.1 Environmental Authority

Any authorisation of commencement with the activity will reflect conditions and specific requirements contained in the Environmental Authorization issued by the Free State Department of Economic Development, Tourism and Environmental Affairs (DETEA) as appropriate. The duties of DETEA may extend to site visits during construction and operational phases as deemed appropriate.

4.2 Applicant / Operator

The applicant / operator is liable for restoring the environment in the event of negligence leading to damage to the environment and remains responsible for ensuring that the development is implemented according to the requirements of the EMPr as well as those conditions specified in the environmental authorization.

4.3 Contractor

The contractor, as the applicants agent on site for the construction phase, is bound to the EMPr conditions through his/her contract with the applicant, and is responsible for ensuring that he adheres to all the conditions of the EMPr and appoint a member of his staff to ensure day to day EMPr compliance. The contractor must thoroughly familiarise him/herself with the requirements of the EMP before construction and request clarification where unclear. The contractor must ensure that he/she has provided sufficient budget for complying with all EMPr conditions at the tender stage (if applicable).

4.4 Environmental Officer

An independent Environmental Control Officer (ECO) is not considered a mandatory appointment in order to monitor the implementation of the mitigation measures specified by this EMPr. This is due to the limited and contained environmental impact which this project is anticipated to have on the environment during the construction phase. The operator should nominate a representative of his team to monitor compliance with the EMPr; an Environmental Officer. In the event of a serious non-compliance leading to an impact on the environment, the operator will be responsible for reporting the transgression to the competent authority.

5. Management Programme: Construction Phase

The construction phase will primarily involve the construction of concrete hard-standing and the installation of industrial grade high-density polyethylene (HDPE) holding, mixing and end-product tanks on the site. Each tank will have a 10 000 liter capacity. PVC tubing between the holding, blending and product tanks will be installed. Concrete bunds will be constructed around hazardous chemical storage tanks.

Aspect	Mitigation measures / management	Responsible party	Frequency
General	All contractors and any appointed sub-contractors will be made aware of the contents of this Environmental Management Plan (EMPr) and any penalties arising from non-compliance.	Project Manager	On-going
	This EMPr must be kept on site at all times and presented to auditors, government bodies or any interested and affected parties on request.	Project Manager	On-going
	The contractor must take corrective action to mitigate an incident appropriate to the nature and scale of the incident and must also rehabilitate any residual environmental damage caused by the incident or by the mitigation measures themselves.	Contractor, Project manager	As required
Work area and facilities	A suitable work area for site preparation must be identified to include the contractors camp. All vegetation not identified for removal must be kept intact.	Contractor, Project manager	Once off
	The site camp must be identified, demarcated and all equipment and materials must be stored in the designated area and secured from public access.	Contractor, Project manager	Once off
	All site establishment components shall be positioned to limit visual intrusion on neighbouring residences and minimise the area disturbed.	Project manager, Contractor	Once off

Aspect	Mitigation measures / management	Responsible party	Frequency
	Washing and toilet facilities shall be provided on site or at a suitable .	Project manager, Contractor,	Once off
Fires	No open fires are permitted on private property, on site or in the veld, except under strictly controlled conditions and subject to the requirements of local ordinances and the National Veld and Forest Act (Act No. 101 of 1998).	Project manager, Contractor,	On-going
	In the event that equipment that might pose a fire hazard is used in the construction process, suitable fire fighting equipment is to be made available at the construction site and in the construction camp.	Project manager, Contractor,	On-going
	Emergency preparedness for different incidents e.g. fire, oil spill incidents should be in place and be implemented if and when the need arises.	Project manager, Contractor,	On-going
Equipment & maintenance	Maintenance of equipment and vehicles shall be performed off-site at a registered workshop.	Project manager, Contractor,	On-going
	Drip trays shall be provided for stationary and parked vehicles.	Project manager, Contractor,	On-going
	No washing of plant (construction vehicles) may occur on the site.	Project manager, Contractor,	On-going
	The Contractor shall ensure that if emergency plant maintenance occurs on site, that there is no contamination of the soil or vegetation (e.g. use of drip trays).	Project manager, Contractor,	On-going
	All vehicles and equipment shall be kept in good working order and serviced regularly. Leaking equipment shall be repaired immediately or removed from the site.	Project manager, Contractor,	On-going

Aspect	Mitigation measures / management	Responsible party	Frequency
Soil Erosion	Building levels and implementation of civil works should be planned to minimise erosion during construction	Project manager, Contractor	On-going
	In the event of erosion occurring, timeous repairs must be effected by the contractor	Contractor	On-going
	Where required, all topsoil must be removed and stockpiled on the site for reintegration into civil works or landscaping requirements.	Contractor	Once off
Soil Pollution	Proper storage facilities for the storage of oils, paints, grease, fuels, chemicals and any hazardous materials must be provided to prevent the migration of any accidental spillage onto the ground around the temporary storage area(s).	Contractor, Project manager	On-going
	No batching / mixing activities shall occur on a permeable surface and the batching / mixing area shall be kept neat and clean at all times.	Contractor	Once off
	All runoff from such areas shall be strictly controlled, with contaminated water collected, stored / contained and disposed of at an approved waste disposal site.	Contractor	Once off
	Unused cement bags shall be stored so as not to be affected by rain / runoff.	Contractor	On-going
	Used cement bags shall be stored so as to prevent wind blown dust and potential water contamination.	Contractor	On-going
	Concrete transportation to the site shall not result in spillage.	Contractor	On-going
	Cleaning of equipment and flushing of mixers shall not result in pollution, with all contaminated wash water entering the waste water collection system.	Contractor	On-going
To prevent spillage onto roads, ready mix trucks shall rinse off the delivery shoot into a suitable sump prior to leaving the site.	Contractor	On-going	

Aspect	Mitigation measures / management	Responsible party	Frequency
	All contaminated water from exposed aggregate finishes shall be collected and stored in sumps for disposal at an approved waste disposal site.	Contractor	On-going
	All visible remains of excess concrete shall be physically removed on completion of the plastering or concrete pouring and disposed of in an acceptable manner.	Contractor	On-going
Contamination of surface water and stormwater	Adequate management procedures must be developed for prevention and clean-up of spills/leaks of potential contaminants on site.	Contractor	On-going
	Pooling of water on the site must be prevented as far as possible.	Contractor	On-going
	Contain and prevent dirty runoff from entering the stormwater system. No discharge of pollutants such as cement, concrete, fuels or oils should be permitted in the surrounding environment.	Contractor	On-going
	Washing of vehicles, equipment and machinery must be undertaken within a designated purpose built area.	Contractor	On-going
Air pollution	Dust suppression techniques must be implemented on site.	Contractor	On-going
	Where applicable, the Contractor shall take preventative measures (e.g. screening, dust control, timing, pre-notification of affected parties) to minimise complaints regarding dust nuisances from construction activities.	Contractor	On-going
	Vehicles to be used during the construction phase are to be kept in good working condition and should not be the source of excessive fumes.	Contractor	On-going
	All materials transported to site must be transported in such a manner that they do not fly or fall off the vehicle. This may necessitate covering vehicles during transport.	Contractor	On-going

Aspect	Mitigation measures / management	Responsible party	Frequency
Noise pollution	Noise levels shall be kept within acceptable limits in accordance with the local by-laws.	Contractor	On-going
	Where possible construction work should be undertaken during normal working hours (08H00 –17H00), from Monday to Friday.	Contractor	On-going
Health and safety	It is the responsibility of the contractor to ensure that all construction and operational processes and procedures are compliant with the relevant health and safety regulations.	Project manager, Contractor	On-going
	Contractors shall take reasonable care of their own health and safety and cooperate with the employer to ensure that the requirements as set out in the Occupational Health and Safety Act and the Regulation fulfilled. Employees shall maintain each item of personal protective equipment provided to them and keep it clean and hygienic and in good state of repair.	Contractor, employees	On-going
Property damage	The contractor will be liable for repairing damages incurred to private properties to pre-development conditions.	Contractor	On-going
Security	No workers are permitted temporary or overnight residence on the site. Only security staff may have overnight quarters on the site.	Project manager, Contractor	On-going
Sourcing of labour	Ensure that job opportunities are extended to local community members where possible and specify the duration of the contract of employment.	Project manager, Contractor	On-going
Waste management	All construction-generated refuse / waste must be removed to an officially approved dumping site.	Project manager, Contractor	As required

Aspect	Mitigation measures / management	Responsible party	Frequency
	No on-site burying / dumping of waste materials, vegetation, litter or refuse shall occur. All solid waste temporarily stored on site shall be disposed of at suitable licensed disposal sites.	Project manager, Contractor	On-going
	Bins shall be provided in sufficient number and capacity to store all solid waste produced on a daily basis.	Contractor	Daily
	Waste shall be collected from site by a licensed contractor and removed to an appropriate waste disposal facility.	Project manager, Contractor	On-going
	Labelled containers must be provided to store used oils, as well as hazardous waste containers for oily rags, oil filters etc. and must be disposed of at an suitable approved register dumpsite.	Project manager, Contractor	On-going

6. Management Programme: Operational Phase

The operational phase will involve the blending of the hazardous chemicals in a mixing tank for the production of an N-P-K (Nitrogen (N), Phosphorus (P), and Potassium (K)) liquid fertilizer product for distribution to crop farmers within the region.

Aspect	Mitigation measures / management	Responsible party	Frequency
Hazardous materials management and spill protection	Hazardous materials storage areas must be bunded and hard-surfaced to protect groundwater quality.	Operator	On-going
	Storage tanks containing hazardous substances / materials must be clearly labelled.	Operator	On-going
	Material Safety Data Sheets (MSDSs) shall be readily available on site for all chemicals and hazardous substances to be used on site.	Operator	On-going
	All hazardous chemical storage areas should include a bund wall high enough to contain at least 110% of any stored volume.	Operator	On-going
	Staff dealing with these materials / substances must be aware of their potential impacts and follow the appropriate safety measures.	Operator	On-going
	The operator must ensure that its staff is made aware of the health risks associated with any hazardous substances used and has been provided with the appropriate protective clothing/equipment in case of spillages or accidents and have received the necessary training.	Operator	On-going
	In the event of a hazardous chemical spill on site, the spill must be evaluated and where necessary an appropriate service provider must be contacted to rehabilitate the affected area.	Operator	On-going

Draft EMPr - Fertilizer manufacturing facility near Viljoenskroon, Free State Province

Aspect	Mitigation measures / management	Responsible party	Frequency
	Develop and implement an emergency response plan and incident management plan for the operations.	Operator	Once off
	Train and regularly updating staff on all aspects of the incident management plan, including emergency spill response.	Operator	On-going
	An emergency spill kit should be stationed at the site to address smaller spills should they occur.	Operator	On-going
Water management	No surface water may be allowed to flow through the facility	Operator	On-going
	In the event of a major spill, the impact on the groundwater resource must be determined	Operator	On-going
	Surface storm water run-off must not be able to flow through any waste storage areas. Nor must skips/containers, or waste storage areas, be positioned where surface water may pond or flow preferentially during rainfall events	Operator	On-going
Waste management	All waste generated at the operations must be stored in an enclosed, banded purpose built receptacle for collection by a registered waste contractor prior to safe disposal.	Operator	On-going
	The disposal of waste products generated at the facility into the surrounding environment is prohibited.	Operator	On-going
	All old/faulty hazchem tanks which are replaced during operations should be disposed of appropriately at a suitable hazardous landfill facility.	Operator	On-going

Draft EMPr - Fertilizer manufacturing facility near Viljoenskroon, Free State Province

Aspect	Mitigation measures / management	Responsible party	Frequency
	Surface storm water run-off must not be able to flow through any waste storage areas. Nor must skips/containers, or waste storage areas, be positioned where surface water may pond or flow preferentially during rainfall events	Operator	On-going
	Safe disposal/management certificates must be obtained for all waste removed from site.	Operator	On-going
	Waste may only be taken to appropriately licensed/permitted waste management facilities.	Operator	On-going
	Under no circumstances must waste ever be burnt, or buried, on site.	Operator	On-going
Transport	Appropriate signage should be placed on vehicles transporting hazardous substances and transport emergency cards carried by the vehicles in excess of the exempted quantities.	Operator	On-going
	All hazardous waste must be transported and disposed of by an approved service provider at a facility registered to receive such waste and adequate records kept of disposal.	Operator	On-going
Labour	Local labour should preferably be sourced for the operation of the facility.	Operator	On-going

7. Management Programme: Decommissioning Phase

No finite operational period has been specified and it anticipated that the fertilizer manufacturing facility will continue to operate indefinitely. The following mitigation measures are specified in the event of the decommissioning of the facility.

Aspect	Mitigation measures / management	Responsible party	Frequency
Facility redundancy	Ensure that all storage tanks are made redundant and disposed of appropriately at a hazardous landfill facility.	Operator, contractor	Decommissioning
	All solid waste generated from the removal of the tanks must be handled according to the precautionary principle. This implies that waste (including soils, metals and other material) should be treated as hazardous unless proven otherwise.	Operator, contractor	
Land use	Ensure that the level of site remediation and rehabilitation is consistent with the proposed future use	Operator	