Fertilizer Handling Code of Practice

1. Introduction
The purpose of this code of practice is to promote best practice for operators and service providers within the fertilizer industry when handling fertilizer products in public areas and company storages. The fertilizer industry recognises its obligations to comply with legislative requirements and to eliminate as far as practicable the hazards resulting from the transport, storage and associated handling of fertilizer products.

Industry participants also need to be aware of other obligations and associated Fertilizer Australia codes of practice including Department of Agriculture Biosecurity requirements, Fertilizer Australia Security code of practice and Fertilizer Australia Purchasing code of practice which may be applicable to a particular operation.

Fertilizer Australia members are committed to complying with the codes of practice as a condition of membership. Members who store, transport or physically handle fertilizer products should implement this code of practice. Where members use third parties to store, transport, or physically handle fertilizer products, then implementation of the codes of practice by the third party should be part of the contractual arrangements.

Where applicable, members should ensure that the code of practice is adopted by their supply chain partners.

The code of practice is publicly available so that all participants in the industry can have access to this resource. Fertilizer Australia provides this information in good faith but does not guarantee that complying with the code will ensure that all regulatory obligations will be met by the user. Ultimately responsibility for compliance with all legislation and licensing sits with the user of the code of practice.

2. Scope
The code of practice covers all types of fertilizers, including solids and liquid formulations, and both bulk and packaged products.

The primary focus of the code of practice is management of product loss and the associated environmental hazards; it should be used in addition to procedures to manage cross contamination (i.e. contamination of agricultural produce resulting from fertilizer treatments eg. flutriafol and occupational health and safety issues).
This code covers workplaces that transport, store and handle fertilizers, including bulk port facilities, major supply warehouses and up country storages.

3. Interpretations
3.1. This document is drafted to establish a risk assessment approach which will help achieve the required standards of applicable legislation, and should not be construed in any way to circumvent or replace these laws.
3.2. The code has been written with specific reference to the fertilizer industry, but may also be applicable to other industries with similar storage hazards.

4. Implementation
The code of practice provides a risk assessment and treatment approach to managing issues associated with loss of product containment. As each worksite is different, the code of practice should be used to develop a risk management plan appropriate to the worksite.

The risk management plan should be documented and include procedures to manage and monitor consistent implementation.

Each section of the code includes:
- A summary of the activity;
- An outline of factors that will influence the objective of zero product loss;
- ‘Musts’, being required outcomes; and
- Recommended industry best practice.

The ‘must’ requirements throughout this code of practice are generally designed to establish an optimum outcome with an ‘or’ alternative that provides for an assessment of risk of the activity being performed and subsequent flexibility in determining the method of control used. Methods for reducing risk are outlined as ‘should’ and are, therefore, only recommended practices. Fertilizer Australia encourages operators to devise their own methods for their particular circumstances.

Fertilizer Australia cannot prescribe how every operator handles every situation. Fertilizer Australia is primarily concerned with ensuring every industry participant is aware of the environmental outcomes and in their best efforts, implements procedures for achieving such outcomes. Operators are encouraged to use their experience, knowledge and ingenuity within their own industry to develop structural and operational tools to avoid pollution, provided environment protection standards are retained. The use of this code of practice as a reference tool in devising risk management plans for each circumstance is encouraged.

5.0 Fertilizer Handling Operations
Summary
Many bulk products including fertilizers are imported/exported or moved domestically either in bulk cargo ships or shipping containers. These load/dispatch and cargo operations result in the movement of large volumes of product in short periods of time. As part of these activities, fertilizer importers/exporters and their contractors have obligations to control and monitor their operations to ensure compliance to applicable legislation.

The type and standard of vessel chartered, the integrity of shore-based equipment and the competencies of handlers often determine whether materials-handling operations contribute to minimising product released to the environment. Therefore, contract negotiations are a critical step
in the process for avoiding pollution. It is in the materials owner’s and/or charterer’s best interests to
demonstrate that every effort was made to ensure an environmentally sound materials-handling
operation can be undertaken.

Stevedores, some vessel crew members and transport agents handle the majority of materials and
are the most likely to witness or be involved in incidents that may cause environmental harm on
wharves. They also depend on, and are governed by, other parties involved in the materials handling
process and can be bound by contractual agreements. It is, therefore, important for materials
handlers to establish environmental management operating procedures from the outset and be
vigilant in their implementation to ensure the performance of their general environmental duty.

Fertilizers are also stored at many sites across the country in bulk and / or various sized packages.
Storage operations include receiving product, any associated handling and dispatch of the product.

Due to the nature of the storage method, bulk fertilizer storage facilities generally involve greater
potential for loss of product containment compared to packaged fertilizer storages. For this reason,
bulk fertilizer storage will be given particular focus. However, the same principles and approach to
product handling apply to packaged materials.

The fertilizer industry does not support the storage of solid fertilizer in silos or field bins. Where
customers choose to use these storage methods, silos and field bins must be designed to
accommodate the physical properties of the fertilizer being stored (refer to Australian Standards AS
3773 – Bulk Solids Containers Safety Requirements and AS 3774 - Loads on Bulk Solids
Containers).

Issues of product segregation can be greater with packaged fertilizers particularly when fertilizer is
placed in a warehouse with other products e.g. agricultural chemicals. Site managers need to be
aware of potential risks, any regulatory compliance issues and implement sound operating practices.

As part of these activities, fertilizer organizations and their contractors have obligations to control
and monitor their operations to ensure compliance to applicable legislation and minimal off site
impact.

5.1 Pre Vessel arrival – Bulk Solids Activity Summary
The working relationship between wharf owner, materials owner, vessel charterer, materials handler
and vessel operator/master is critical to the successful conduct of a materials-handling operation
and can affect the environmental management of such an operation. All parties have a role to play,
and there should be ongoing commitment to actively communicate and enter into negotiations when
issues arise.

The general procedure for planning and preparing a bulk fertiliser vessel load or discharge will vary
depending on a number of factors including; product type, berth, weather conditions and vessel
characteristic. In general, stevedores will be notified of vessels pending arrival. At this time,
stevedores or responsible parties: develop a loading or discharge operation plan to facilitate the
activity that best manages the loss of product and provides a risk assessment and treatment
approach to managing issues with loss of product containment; set up cranes and bulk handling
equipment; and coordinates product load/discharge sequence.
Factors affecting the objective of the activity - zero loss of product:
Each site should make an assessment of where risks of product loss could occur
- Product specification and condition
- Berth conditions /constraints
- Weather conditions and potential changes
- Discharge sequence and hatch configuration
- Vessel berthing and positioning instructions
- Regulatory bodies compliance requirements – e.g Department of Agriculture
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<tr>
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| Pre Vessel Arrival - Musts                    | - Ensure environmental authorisations (e.g. EPA license) for prescribed activities of environmental significance under their control is valid;  
|                                              | - Ensure, prior to use, all equipment being used in the load/discharge operation are fit for purpose and avoids, as far as possible and practicable, the release of product to the surrounding environment;  
|                                              | - Capture, contain, treat, and reuse or dispose of to a waste transporter all pollutants (to the most reasonable and practical extent) from vessel decks (and other areas) deposited during materials-handling operations, OR  
|                                              | - Advise responsible party / ies of the lack of authorisation or the lack of equipment suitability to handle the required activity. |
| Materials Owner or Charterer - Recommended industry best practise | - Charter vessel(s) that are ‘suitable for the trade’ and comply with all industrial and Australian regulations;  
|                                              | - Use wharves that have infrastructure to support pollution avoidance;  
|                                              | - Contract materials handlers who have developed environmental management systems and who use resources such as trained personnel and materials-handling equipment that is environmentally sound;  
|                                              | - Collaborate with materials handlers to complete a materials-handling incident report and provide access to the recorded information. |
| Materials Handling – Musts                    | - Use of preventative measures, such as bunding to enclose work areas and prevent surface water runoff;  
|                                              | - Develop and communicate to all identifiable material handlers emergency management procedures for the wharf, including those for stormwater management;  
|                                              | - Locate emergency management equipment where materials are loaded, unloaded and stored;  
|                                              | - After materials-handling operations have ceased, recover product from the wharf and wharf support devices (including materials contained within sumps, recovery bins, stormwater drains, and so on). Where permitted by legislative requirements relating to waste handling and disposal, consign these materials to the owner, if such person/organisation is known;  
|                                              | - Not handle materials during adverse weather conditions unless equipment and wharf support devices can minimise the release of pollutants to the environment;  
|                                              | - Develop a traffic management route between port and store that minimizes sharp turns, round-abouts and stop / starts;  
|                                              | - Cover all loads during transportation unless it is not reasonable and practical to do so. |
## ACTIVITY

### Materials Handling – Recommended Industry Best Practise

- Restrict materials-handling operations on wharves that are not fit for the purpose which may result in the release of pollutants to the environment;
- Cooperate with materials owners and handlers to develop structural mechanism(s) and operational strategies to be employed when materials handling is permitted on wharves;
- Provide purpose-built work areas with structural pollution control mechanisms that are located away from the wharf apron and stormwater drains for activities relating to materials-handling operations (such as equipment cleaning and storage);
- Request that materials handlers complete a materials-handling report card for each handling operation and provide access to the recorded information;
- Ensure contractual arrangements with the materials owner include the necessary environmental management resources (human and structural) to conduct the materials handling operation;
- Combine the use of handling equipment with wharf support devices: this may include devices that bridge the gap between the vessel and the wharf, as well as catchment sumps, and so on;
- Identify materials-handling equipment and wharf support devices that are not suitable for use and notify the responsible person or entity;
- Attend to materials-handling equipment and associated wharf support devices that require maintenance and/or repairs as soon as practicable;
- Minimise equipment idling;
- Collaborate with materials owners to complete a materials-handling incident report at the conclusion of the handling operation and provide access to the recorded information.

### Pre Vessel Arrival

5.2 Port Operations – Bulk Solids Activity Summary

The working relationship between wharf owner, materials owner, vessel charterer, materials handler and vessel operator/master is critical to the successful conduct of a materials-handling operation and can affect the environmental management of such an operation. All parties have a role to play, and there should be ongoing commitment to actively communicate and enter into negotiations when issues arise.

General Port operations for bulk fertiliser products involve receiving or delivering from/to bulk ships using ships grabs, shore based grabs, conveyors or other loading/unloading device as may be available at each port. Prior to the commencement of load or discharge, develop a discharge operation plan to facilitate the activity that best manages the loss of product and provides a risk assessment and treatment approach to managing issues with loss of product containment; set up cranes and bulk handling equipment; and coordinates product load/discharge sequence.

**Factors affecting the objective of the activity - zero loss of product:**

Each site should make an assessment of where risks of product loss could occur

- Berth conditions / constraints
- Weather conditions and potential changes
- Discharge sequence and hatch configuration
- Crane operation/operator - Grabbing fertilizer from ship.
- Handling of excavator / bobcats when lifted into / out of ship hatches.
- Hopper operation/operator and truck loading.
- Damaged equipment, not limited to grabs, hoppers, trucks, and tarps.
- Clean up of wharf, handling equipment, tarps / deflectors.
- Storage of equipment/plant.
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<th>Port Operations</th>
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| Port Operations - Musts                 | - Capture, contain, treat, and reuse or dispose of all pollutants (to the most reasonable and practical extent) from vessel decks (and other areas) deposited during materials-handling operations. Where permitted by legislative requirements, consign these materials to the materials owner;  
- Inspect the wharf area and all discharge / load equipment prior to use to ensure it is clean, fit for purpose and report to responsible party / ies if there is an issue;  
- Use well maintained equipment – grabs and hoppers suitable to the task;  
- During operations and on completion, clean down wharf area, roadways and equipment. Inspect at completion to ensure areas are left clean;  
- Not overfill grabs or trucks;  
- Ensure vehicles are in fit condition to be loaded and are loaded within legal weight requirements;  
- Confirm tailgates are fastened prior to truck departure;  
- When rainfall occurs during discharge, consider storm water containment, recovery and disposal in an approved manner;  
- Ensure trucks follow the traffic management route between port and store;  
- Truck tarps secured before leaving Port;  
- Clean up spills quickly. Report relevant incidents to authorities as required;  
- Use trained and competent operators to prevent over flow and over filling of equipment / trucks. |
| Port Operations - Recommended Industry Best Practise | - Use of spill plates to cover gaps between vessel and hopper;  
- Use calibrated equipment;  
- Have loads fully secured and covered/tarped;  
- Ensure rumble grids are positioned for trucks to travel over before they leave the port;  
- Prevention of vehicles driving through fertilizer residues  
- Collaborate with materials handlers to complete a materials-handling incident report and provide access to the recorded information. |

5.3 Receiving Bulk Solid Product – Activity Summary
The procedure for receival of bulk solid fertilizer varies from site to site depending on factors such as type of bulk storage and the materials handling equipment available (i.e. multiveyors v front end loaders). In general, the process follows that the driver receives delivery instructions including weighing if appropriate and follows approved internal route within store. Truck tarps removed, documents checked, load checked for cleanliness, and load is tipped. Site bulk handling equipment moves product to the storage space. Where practical, loose fertilizer is to be removed from truck prior leaving the tipping point. Where rumble strips / wheel washes are available, this equipment is used to remove any residual fertilizer from the truck.
Factors affecting the objective of the activity - zero loss of product:
Each site should make an assessment of where risks of product loss could occur.

- Equipment/truck selection
- Spill from tarp, body of truck, rough road surfaces, corners and roundabouts on route
- Truck tipping with axles covered by fertilizer pile
- Sufficient capacity in the bulk storage space to take the load
- Cross contamination issues in handling equipment and bulk storage space
- Tailgates not closed and sealed
- Driving through spilled fertilizer
- Shed floor and site hard stand / roads not kept clean
- Bulk handling equipment loss of containment
- Residual fertilizer on chassis
- Driver fatigue and training

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<th>Receiving Bulk Solid Product</th>
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| Receiving Bulk Solid Product - Must | - Quarantine status of consignment is established and appropriate controls put in place (e.g. segregation and signage per quarantine direction);
|                                  | - Develop a traffic management route between port and store that minimizes sharp turns, round-abouts and stop / starts;
|                                  | - Storage area and internal traffic route cleaned and inspected prior to receival and maintained during receival;
|                                  | - Site bulk handling equipment undergoes cleanliness, safety and reliability inspections;
|                                  | - Fatigue is managed for operators taking part in the receiving process per relevant legislation and industry standards. Operator competency is assessed against appropriate licencing requirements (e.g. Workcover);
|                                  | - Driver receives induction per site operating procedures and emergency management plan;
|                                  | - This includes delivery instructions, site specific hazards and controls, approved internal route within store, incident reporting procedure, communication method (e.g. UHF radio channel), weighing (as appropriate), required environmental controls, spill management and recovery procedures;
<p>|                                  | - Do not clean out truck bins on the side of public roads. |</p>
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<thead>
<tr>
<th>Receiving Bulk Solid Product - Recommended Industry Best Practise</th>
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<tr>
<td>- Environmental engineering controls checked for function and cleaned (e.g. wheel washes, rumble grates, blow down compressed air) as required;</td>
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<td>- Staffing and subcontract controls engaged, trained and in place;</td>
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<td>- On arrival in storage area load documents are checked, truck tarp is removed, load checked for cleanliness, tailgate opened and load is tipped in designated bay;</td>
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<td>- Loose fertilizer is removed from the truck at the tipping point where practical. If this is not possible, compressed air &amp; / or brooms are used to remove loose fertilizer at a blow-down point prior to shed exit;</td>
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<td>- Dust management is conducted as practicable for specific bulk handling operation. Mechanical sweeping of traffic path in shed (e.g. Vacuum truck, bobcat sweeper);</td>
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<td>- Visual inspection of truck cleanliness by blow down operator prior to exit;</td>
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<td>- Grain locks to be used when fitted;</td>
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<tr>
<td>- Truck drives over onsite environmental controls including but not limited to rumble grids, wheel wash (where installed) to remove any residual fertilizer;</td>
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<tr>
<td>- Regular audits of roadways, shed floors and environmental controls / performance throughout receival;</td>
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<tr>
<td>- Site bulk handling equipment is also cleaned down prior to exiting the storage area (as applicable);</td>
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<tr>
<td>- Staff and contractors engaged for 12 months or longer are Fertcare Level A (Product Knowledge and Storage) trained and competent depot staff;</td>
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<tr>
<td>- Staff and contractors engaged for 12 months or longer are Fertcare Level A trained (Product Knowledge and Transport), licensed and competent truck drivers.</td>
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### 5.4 Dispatching Bulk Solid Product – Activity Summary

Warehouse Managers or site controller coordinates product to be available for trucks loading as per order requirements. In general, an empty truck will arrive with paperwork identifying the load required. Trucks are checked for cleanliness / cross contamination prior to loading. Handling equipment is then used to load product e.g. front end loader, bins, screens, conveyor, multiveyors & augers. The loaded truck is then tarped, weighed and documentation completed. Where rumble strips / wheel washes are available, this equipment is used to remove any residual fertilizer from the truck.

**Factors affecting the objective of the activity - zero loss of product:**
Each site should make an assessment of where risks of product loss could occur

- Cross contamination issues
- Tarpaulin damaged, not in place or leaking
- Spill from tarp or truck body
- Screen chokes / blocks
- Bulk handling equipment loss of containment
- Overfilled truck
- Driving through spilled fertilizer
- General site handling area hygiene
- Tailgates not closed and sealed or faulty
- Residual fertilizer on wheels
- Driver fatigue and training
<table>
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<tr>
<th>ACTIVITY</th>
<th>Dispatching Bulk Solid Product</th>
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</table>
| **Dispatching Bulk Solid Product - Musts** | - Truck size is checked for suitability of requested load;  
- Vehicle and tarpaulins inspected for leaks;  
- Spills are contained and cleaned up;  
- Fatigue is managed for operators per relevant legislation and industry standards. Operator competency is assessed against appropriate licencing requirements (e.g. Workcover);  
- Driver receives induction per site operating procedures and emergency management plan. This includes delivery instructions, site specific hazards and controls, approved internal route within store, incident reporting procedure, communication method (e.g. UHF radio channel), weighing (as appropriate), required environmental controls, spill management and recovery procedures;  
- Truck checked for cleanliness before leaving the facility;  
- Truck tailgate locks checked;  
- Cleanliness of roadways and trafficable areas maintained. |
| **Dispatching Bulk Solid Product - Recommended Industry Best Practise** | - Environmental engineering controls checked for function (e.g. wheel washes, rumble grates, blow down compressed air). Site bulk handling equipment undergoes cleanliness, safety and reliability inspections;  
- Use calibrated equipment;  
- Inspect equipment prior to use and take appropriate action;  
- Trained and competent operators to prevent over flow and over filling equipment;  
- Regular cleaning of screens;  
- Approved site weighing methodology followed;  
- Choose appropriate equipment to minimize dust generation;  
- Regular use of street sweeper to ensure site roadways are clean;  
- Truck inspection prior to loading and take appropriate action.  
- Truck drives over onsite environmental controls including but not limited to rumble strips, wheel wash (where installed) to remove any residual fertilizer;  
- Regular audits of environmental controls and performance;  
- Site bulk handling equipment is also cleaned down prior to exiting the storage area (as applicable);  
- Staff and contractors engaged for 12 months or longer are Fertcare Level A (Product Knowledge and Storage) trained and competent depot staff;  
- Staff and contractors engaged for 12 months or longer are Fertcare Level A trained (Product Knowledge and Transport), licensed and competent truck drivers;  
- Clean edges to stockpiles;  
- Use of mechanical cleaning equipment – front end loader, skid steer or sweeper;  
- Bulk and packaged goods handling equipment suited for the task;  
- Well maintained bulk storage space e.g. sheds, bays, and packaged solids storage suitable for the products / task are located and constructed to avoid loss of fertilizer to waterways, groundwater and minimize dust generation and drift;  
- Cross contaminated product and housekeeping waste disposed of in an approved manner;  
- Site truck bin cleaning waste and empty package waste is contained and disposed of in an approved manner. |
5.5 Bulk Solids Warehouse and Site Management

The warehouse is managed in a manner that aims for zero loss of product. A site management strategy should:
- Minimise and manage the generation of dust e.g. dust is contained within sheds and doors enclosed wherever possible;
- Ensure fertilizer is not placed in a position where it can be dissolved in stormwater or discharge from the site e.g. vehicle tracking of product outside of the warehouse is minimised e.g. vehicles do not run over stock piles, regular cleaning / housekeeping of shed traffic areas and hardstand, consider need for storm water first flush capture from uncovered hard stand & truck wheel wash systems to help remove product from the wheels and underbody of trucks before leaving the site;
- Shed and site drains are regularly cleaned and maintained.

5.6 Receiving / Dispatch of Bulk Liquid Product

The procedure for receival / dispatch of bulk liquid fertilizer varies from site to site. In general, the process follows that the driver presents paperwork identifying the load required and receives delivery instructions including weighing if appropriate and follows approved internal route within store. Tanker vents are opened, discharge hoses connected at the designated spot. Site bulk handling equipment moves product to / from the storage tank. Hoses are drained in an approved manner. Valves and tanker vents closed, discharge hoses re disconnected. Truck exits the site following approved internal route.

Factors affecting the objective of the activity - zero loss of product:
Each site should make an assessment of where risks of product loss could occur.
- Sufficient capacity in the bulk storage vessel to take the load.
- Ventilation of bulk tank and road tanker during discharge and filling.
- Cross contamination issues in unloading equipment and bulk storage space.
- Containment of liquid in discharge hose when making and breaking connections.
- Hose / connection loss of containment.
- Pump loss of containment.
- Bulk storage vessel loss of containment.
- Valves not closed and sealed.
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<tr>
<td>Receiving / Dispatching Bulk Liquid Product - Must</td>
<td>- Appropriate tank bunding;</td>
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<td>- Site bulk handling equipment undergoes cleanliness, safety and reliability inspections;</td>
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<td>- Loading / unloading of road tankers and transfers are conducted in an appropriate bunded area;</td>
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<td>- Inspect storage vessels / road tankers prior to use and take appropriate action;</td>
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<td>- Driver receives induction per site operating procedures and emergency management plan;</td>
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<td>- This includes delivery instructions, site specific hazards and controls, approved internal route within store, incident reporting procedure, communication method (e.g. UHF radio channel), weighing (as appropriate), required environmental controls, spill management and recovery procedures;</td>
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<td>- Vents and valves correctly positioned for transfer;</td>
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<td>- Tanker rinsing operations conducted in an appropriate bunded area;</td>
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<td>- Rinse water collected and disposed of appropriately;</td>
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<td>- Spill kits available.</td>
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<tr>
<td>Receiving / Dispatching Bulk Liquid Product - Recommended Industry Best Practise</td>
<td>- Effective tank gauges operating e.g. filling monitored by level probes connected to alarm system;</td>
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<td>- Consider implications of wind direction and strength for odours;</td>
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<td>- Avoid driving through spilled liquid;</td>
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<td>- Staff and contractors engaged for 12 months or longer are Fertcare Level A trained (Product Knowledge and Transport), licensed and competent truck drivers.</td>
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### 5.7 Packaged Fertilizer

The procedure for receival / dispatch of packaged fertilizer (palletized) varies from site to site. In general, the process follows that the driver presents paperwork identifying the load required, receives delivery instructions and follows approved internal route within store. Forklifts move product to / from the warehouse. Truck exits the site following approved internal route.

**Factors affecting the objective of the activity - zero loss of product:**

Each site should make an assessment of where risks of product loss could occur.

- Ruptured packages.
- Unstable truck loads.
- Unstable pallet stacking in warehouse.
- Cross contamination.
**ACTIVITY** | Receiving / Dispatching Packaged Product
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**Receiving / Dispatching Packaged Product - Must** | - Choose an appropriate smooth and level site to unload;  
- Ruptured packages are either patched or transferred to sound packaging, labelled accordingly and / or disposed of appropriately;  
- Spills are contained and cleaned up;  
- Approved load restraints;  
- Liquid fertilizers are stored in an appropriate bunded area.

**Receiving / Dispatching Packaged Product - Recommended Industry Best Practise** | - Avoid driving through spilled fertilizer;  
- Good warehouse management e.g. appropriate stack height and product segregation;  
- Staff and contractors engaged for 12 months or longer are Fertcare Level A (Product Knowledge and Storage) trained and competent depot staff.

### 6.0 Training

The employer must ensure that workers are either sufficiently experienced to do their work safely and without harm to the environment or supervised by an experienced person. In addition, the worker must be provided with adequate information and training in the safe and appropriate use of equipment in the workplace, including hazards in the workplace, personal protective equipment and safe systems of work. Information and training on the hazards associated with the storage of fertilizer and the controls to be implemented shall be provided to workers.

### 7.0 Cross Contamination & treated fertilizer handling

#### 7.1 Transport and handling equipment

Bulk trucks, handling equipment and storage vessels are sometimes used for both food (e.g. grain) and fertilizer. Fertilizer is sometimes treated with other chemicals such as fungicides which can be a potential source of unacceptable pesticide residue in farm produce. Cross contamination events regularly occur throughout Australia and are a major risk to market access for grain growers if unacceptable residues are detected.

Dedicated transport, handling and storage equipment for treated fertilizer is ideal. If this is not achievable, attention needs to be paid to equipment hygiene when changing between product (e.g. fertilizer to grain) even for non-treated fertilizer. The goal of cleaning is to remove any fertilizer dust or chemical residues.

Please refer to the product label for specific guidance on individual pesticides or products used to treat fertilizer. In the absence of specific hygiene guidance, two methods of cleaning are suggested:

- Sweeping or using compressed air followed by washing. The addition of Truck Wash to water may assist with removal of residues. This is the preferred option for grain transport and storage equipment; otherwise
- Compressed air by itself as an absolute minimum.
- Note that just sweeping with a broom or compressed air by itself is unlikely to adequately remove fertilizer dust and chemical residues to the extent that thorough wash-down with water achieves.

When such clean down procedures are followed, take care to dispose of rinsate, dust and waste in an approved manner.
For more information refer to the GRDC Grain Marketing and Pesticide Residues Fact Sheet (July 2014).

7.2 Blending equipment
Consider potential cross contaminate issues with blending and handling equipment used to treat fertilizer with pesticides / other chemicals. Could the next non treated fertilizer batch contain the previous pesticide and be used on a non-target (off label) crop / stock feed? Are appropriate clean down and waste disposal procedures in place?