ANNEX: HANDLING, QUALITY AND SAFETY STANDARDS

Follow the objectives of the Product Stewardship program of Fertilizers Europe:

- "*Fertilizers and their raw materials, additives and intermediate products are processed and manufactured, handled, stored, distributed and used in a safe and secure way*."
- "*We work according to the highest standards and respect applicable legislation with regard to health, occupational and public safety, environment and security*"

01. RECEIVING PRODUCTS

On receipt of a product:

(1) Verify the condition of the product immediately upon arrival.

(2) In the event of any quality concerns, take detailed photos.

(3) Prepare a short discharge report, which can be signed by the carrier if any problems are detected.

(4) If condensation, water ingress, occurrence of dust, caking, contamination or any obvious deviation from specifications is evident, operations shall be stopped and the supplier shall be notified immediately to agree on next steps, (e.g. send an independent surveyor).

(5) If the product appears unusually warm (to the best of an observer's knowledge) alert the supplier immediately to obtain further instructions. The temperature of delivered products should ideally be measured at a depth of 20–50cm.

(6) The weight of the received quantity should be verified by an independent surveyor, at least by draught survey. Any differences vs. bill of loading must be reported to the supplier.

(7) For every product, carefully check all storage and handling requirements printed on the bag — or specified in accompanying documentation — before use.

(8) Check completeness of delivery and transport documents. These shall be archived for two years.

02. UNLOADING

(1) All equipment — including crane, bobcats, payloaders and conveyor belts — should be clean and dry.

(2) Never unload on wet and/or dirty surfaces.

(3) For truck deliveries ensure that possible water from the tarpaulin is removed before unloading the fertilizer.

(4) If it starts raining, instruct the crew to stop unloading immediately and close the hatches and any other openings completely.

(5) Should any fertilizer become dirty, contaminated or wet, separate this material. Any disposal or use of the fertilizer must be agreed by the supplier in written form.

(6) Work carefully when handling bagged products. Do not attempt to empty any bag whilst stacked. Dispose of empty bags via an approved waste recycler. Use plastics recovery schemes whenever possible or commercial waste disposal.

(7) The weight of the discharged quantity should be measured by calibrated weight bridge/draught survey. Any differences vs bill of lading must be reported to the supplier.

03. STORAGE OF DRY AND LIQUID FERTILIZERS

3.1 DRY FERTILIZERS:

(1) Fertilizer products are hygroscopic and therefore require special care in storage and handling. Service provider must guarantee that the storage facilities are built accordingly to ensure completely dry storage.

(2) During product storage, regular inspections shall take place by the Service provider and in case of damages, contamination with foreign particles, product mixing and obvious deviation from specifications, supplier must be immediately notified.

(3) Products which do not harmonize with each other (e.g. urea with ammonium nitrate, see *Compatibility fertilizer chart* below) must be stored strictly in separate warehouses. If this is not possible, the supplier must agree in writing prior to storage of these products.

(4) Prior to each storage all bins, boxes and storage places must be ensured to be in a clean and dry condition. In case mobile wall elements are used to separate boxes in the warehouse it must be ensured that the sealing material which is often used to tighten the space between two elements cannot contaminate the product (e.g. prominent sealing material must be cut).

(5) All bins, boxes and piles shall be properly labelled with the type of product, product name and producer/supplier.

(6) In case the products appear unusually warm (see reference table in section 09), supplier must be immediately notified. The temperature of the products shall be measured at a depth of 20 to 50 cm and it shall be documented and monitored to prevent any fire risk.

(7) Products should ideally be inbound / outbound into or from the warehouse in the order in which they were received (FIFO method: ‘First In First Out’), in order to prevent deterioration or expiration of older stock.

(8) Windows, doors and hatches shall be airtight closed to keep rain and air humidity outside the warehouse. The aforementioned windows, doors and hatches shall not be opened for longer than absolutely necessary.

(9) Roof drainpipes should be well maintained (e.g. clean and unclogged and should not run across fertilizer bulk heaps).

(10) Bulk products shall be protected against humidity by additional cover (e. g. plastic foil) at Service provider expense. The foils must overlap and be secured against slipping. The product should always be covered within 24 hours except during removal of the product.

(11) Keep fertilizers away from combustible materials. In case of fire, chemical extinguishers are ineffective against nitrate-based fertilizers, the fitting extinguisher class (water) must be available. Adequate alarm plans, water supplies and easy access to emergency and fire-fighting equipment must be available. Special advice in case of emergency to be obtained from the local fire authorities.

(12) For storing packaged product in the outside, place the first layer on pallets to prevent damage or water ingress/absorption. The ground under the pallet must be clean and dry. Protect the stack from moisture penetration and direct exposure to sunlight by covering with white tarpaulin (sun reflector); dark tarpaulin increases product temperature. For better isolation / ventilation, it is good practice to put a single layer of pallets between the stack and the tarpaulin.

(13) Avoid mixing different products. Before loading or unloading a different product, always clean the loading equipment. Use only proper packaging and pallets.

(14) Parties shall adjust / agree on measures to achieve a physical zero stock at least once a year for each box. Deviations (timewise) from that rule need to be mutually agreed in any individual case.

3.2 LIQUID FERTILIZERS:

(1) Liquids should not be stored in an underground or lined pit container.

(2) Ensure tanks, pipework and valves are fit for purpose, i.e. resistant to corrosion.

(3) Ensure all fittings are tamperproof; all valves should be locked shut when not in use.

(4) Check the tank has sufficient capacity before delivery and avoid overfilling.

(5) All sites must be away from a watercourse (rivers, seas, lakes).

(6) All pipes, valves and sight gauges should be within the containment area.

(7) Tanks must be on solid, flat concrete on a hard-core base to support the full tank weight.

(8) For tall tanks, consider additional stabilization against high winds.

(9) Unless cleaning is scheduled, a minimum level of product should be maintained (>5 cm above outlet pipe) to help reduce risks of contamination.

(10) Temporary storage can pose a significant risk to water courses. Adequate position of the bowsers is therefore crucial before filling. Dispensing and transport to the final destinations also needs careful consideration.

(11) Do not move laden bowsers unless all hatches, lids and valves are closed and locked.

(12) To avoid product reaction, take caution not to mix certain products (calcium and/or magnesium and phosphorus).

04. BAGGING AND PACKAGING

(1) Receipt of packaging material: An incoming goods inspection should be carried out at the time of delivery. If damage is found, the packaging in question must be blocked and quarantined. The entire reel must be quarantined if a smeared or faded print image is discovered.

(2) Storage of packaging material: Packaging material must be stored in clean and dry conditions, protected from UV-light and may not be exposed to mechanical damage. Packaging materials on pallets should not be stacked directly on each other, but only on racks.

(3) Quality tests: Service provider secures proper quality tests during bagging and packaging operations to ensure constant high quality. Following recommendations are given:

   a. Before filling: Packaging material (e.g. every hose reel) must be checked for damage before it is filled, e.g. by carrying out a side seam tensile test:

      i. Cut off a piece of continuous hose equivalent to the length of a bag and split it into three equal sections. Carry out a tensile test on each section by pulling the side seam apart until it tears.

      ii. If the edge has an uneven tear, the packaging material can be used.

   b. During filling: Drop tests must be carried out on a random basis with filled bags. At least 1 bag every hour should be sampled and drop this filled fertilizer bag

from 1.5 meters. The bag must survive this drop without any damage otherwise the packaging material used must be replaced and quarantined immediately.

The tear resistance of the loop seams should be checked with Big Bags. Lift approximately 1 in 30 filled Big Bags with a forklift truck and place stress on the seams with an upward and downward movement. The Big Bag must withstand this stress without any damage. The Big Bag must be quarantined immediately if the seams tear. In such a case, all Big Bags from the same delivery batch (filled or still empty) should be checked immediately for any damage and quarantined if necessary.

c. After filling: When stacking bags on pallets, ensure they are placed fully within the pallet's edges and remain evenly balanced to avoid any overhang or uneven appearance.

(4) The traceability code must be according to EUROCHEM instructions, and it must be printed on the 1000kg Big bags and for the 25-50kg bags, the code must be fixed on each pallet.

(5) Filled bags (Big Bags and 25-50 kg bags) must be stored in an area protected from rain and sunshine. They may not be exposed to mechanical damage and must be stored on a dry and clean surface.

(6) The filled bags must be checked once per one hour as regards their exact weight. Always five bags should be measured in sequence. The weight dosing of the filling machine must be adjusted immediately with tolerances according to legal requirements.

(7) Arrange for the reuse, recycling, recovery and/or correct waste disposal of packaging material.

(8) Bags should be clearly labelled to indicate their contents. National and international regulations should be complied with. Clear labelling helps with easy identification and facilitates the safe movement of material in an emergency.

(9) In addition, it is important to check that the product to be filled matches the product name printed on the bags before starting the filling process.

05. LOADING AND TRANSPORT

(1) Keep the vehicle routes as clean and dry as possible to prevent contamination of the fertilizer.

(2) Before transporting a product, clean your transport equipment. Work carefully when handling bagged products. Inform your customers and end users how to handle fertilizers correctly.

(3) When using conveyor belts to fill the storage space, constantly shift the drop point of the last belt (no accumulation of small granules in the center of the pile and no bigger granules at the periphery).

(4) Reduce transporting the products while being in storage to a minimum because each transport might cause mechanical damage to the products.

(5) Products to be loaded must be ensured by the Service provider to the best of knowledge to be in good condition, e. g. free from dust and lumps, free flowing, dry, free from foreign particles and according to the obvious specifications. Before loading bagged products check package material condition, e. g. printing colors, foil condition etc. (especially after a long storage period). Any obvious deviation from normal appearance must be reported to EUROCHEM AGRO prior to loading.

(6) Transport Service Providers are obliged to adhere to the following rules:

- Keep loading space and surfaces clean and dry.
- If a heating system is available, it must NOT be switched on during the transport of fertilizers!
- When transporting fertilizers by truck, the driver must ensure that there are no openings where rain or moisture can enter. Remove any water from the top of the tarpaulin before unloading. Ensure the tarpaulin is properly secured.
- When shipping fertilizers by rail, make sure the wagons are clean and dry. Check visually the unloading chutes are closed properly and the rubber seals are watertight.
- Before loading fertilizer onto vessels, visually inspect the hatch seals and ensure that all hatches close securely. A Load Compartment Inspection (LCI) must be carried out to confirm whether the vessel or barge is suitable for loading. If any deviations are identified, instruct the carrier to implement the necessary corrective actions without delay.

(7) If it starts raining, immediately stop loading and close the hatches and any other openings fully. Keep any accumulated water away from the hatches and close the storage room ventilation ducts.

06. SAFETY

(1) Ensure safe work conditions for all employees and always adhere to national and regional laws and regulations.

(2) Safety Data Sheets (SDS) should be readily available for responding to internal and external emergencies.

(3) Staff should be trained regularly on the safe handling, storage and transport of materials and equipment.

(4) Record and investigate all accidents and incidents promptly and implement immediate measures and long-term corrective actions to prevent recurrence.

(5) Implement a system for reporting near-miss incidents and unsafe conditions and ensure that lessons learned are communicated to all staff.

(6) Establish and maintain an up-to-date emergency response plan, including clear roles, responsibilities, and contact information for key personnel and emergency services.

(7) Maintain valid insurance coverage for occupational safety, environmental liability, and property damage at all times, and provide proof upon request.

07. SECURITY

Certain security aspects should be considered:

(1) Emergency plan including contact persons from EUROCHEM AGRO should be in place and regularly updated and known to the staff.

(2) Security Coordinator shall be nominated.

(3) Ensure that access to storage areas is restricted to authorized personnel only, with appropriate access controls in place (e.g., key cards, visitor logs). The complete site must be fenced, and these shall be inspected regularly.

(4) Doors, ground-floor windows, and other windows that can be easily reached should remain locked whenever feasible.

(5) Security measures must be in place outside of operating hours — for example, by installing an intruder alarm system or using video surveillance for storage areas.

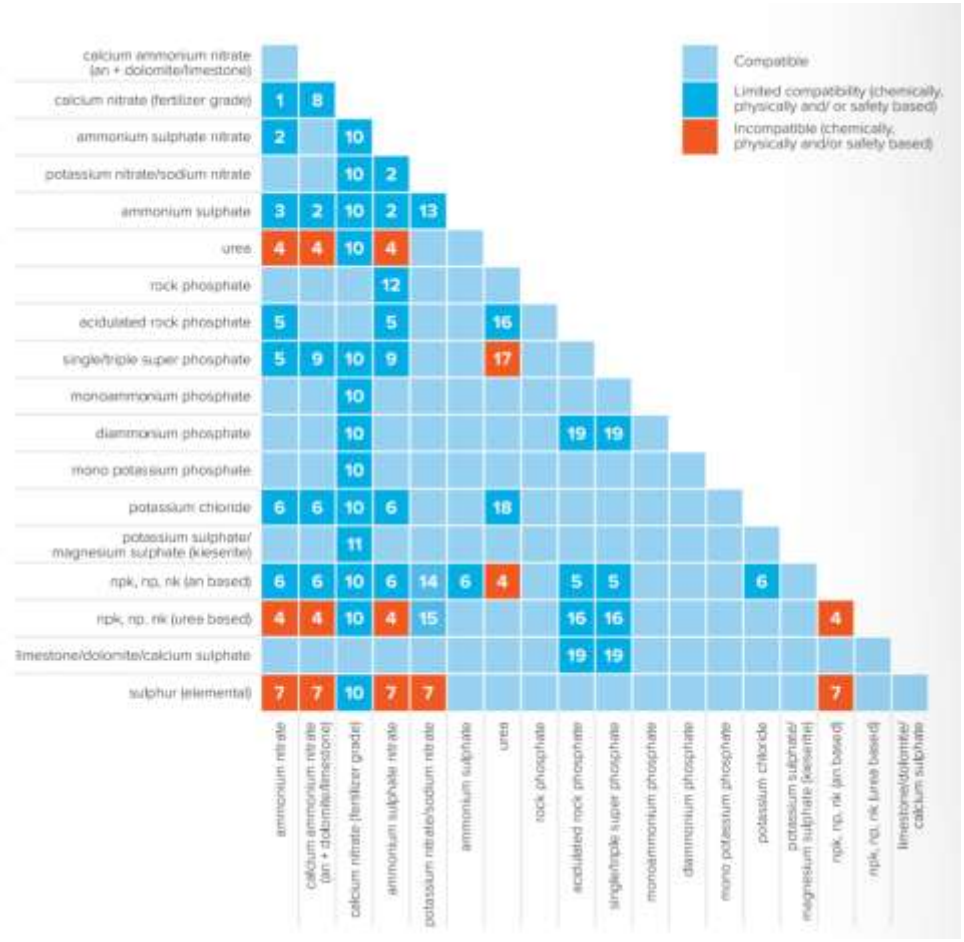
(6) Stock levels must be checked regularly to detect any loss or theft. Inspections should also be carried out to identify signs of actual or attempted break-ins.

(7) A reporting system for suspicious activities and thefts must be established. Any significant losses or thefts of products covered by Regulation (EU) 2019/1148 on the marketing and use of explosives precursors (refer to Annex: EuroChem Products under Reg EU 2019/1148) must be reported within 24 hours of discovery to EuroChem Agro and the relevant national contact point.

(8) Comply with EUROCHEM AGRO specific security requirements for storage and handling of regulated or sensitive products, including explosives precursors covered under Regulation (EU) 2019/1148.

08. COMPATIBILITY OF VARIOUS FERTILIZERS MATERIALS

Source: Guidance for the compatibility of fertilizer blending materials, EFMA, June 2006.



Box number references:

1. The hygroscopic behavior of both products means the type of stabilization of the ammonium nitrate grade could influence the storage properties.
2. Consider the safety implications regarding the detonability of the blend (AN/AS mixtures) and legislative implications.
3. Consider the safety implications regarding the detonability of the blend (AN/AS mixtures), the impact of free acid and organic impurities, if present, and legislative implications.
4. Mixture will quickly become wet and absorb moisture resulting in the formation of liquid or slurry. There could also be safety implications.
5. If free acid is present, it could cause a very slow decomposition of AN, affecting — for example — the packaging.
6. Consider the possibility of self-sustaining decomposition and the overall level of oil coating.
7. Sulfur is combustible and can react with nitrates (e.g. AN, KNO_3 and $NaNO_3$).
8. The hygroscopic behavior of both products means the type of stabilization of the ammonium nitrate-based fertilizer could influence the storage properties.
9. Consider the moisture content of the SSP/TSP.
10. Consider the relative humidity during blending.
11. Risk of gypsum formation.
12. Expected to be compatible but confirm by test and/or analysis.
13. Consider impurities in AS and the drop in the critical relative humidity of the blend.
14. Consider the likely impact of additional nitrate.
15. Consider the possibility of ammonium phosphate/potassium nitrate reaction with urea and the relative humidity during blending, to avoid caking.
16. If free acid is present, there is a possibility of hydrolysis of urea giving ammonia and carbon dioxide.
17. Formation of very sticky urea phosphate.
18. Potential caking due to moisture.
19. If free acid is present, consider the risk of a reaction (e.g. neutralization with ammonia and acid attack with carbonates).

09. GENERAL RECOMMENDED STORAGE TEMPERATURES

Source: Food and Agriculture Organization of the United Nations, 2001. Fertilizer manual (FAO Fertilizer and Plant Nutrition Bulletin No. 9).

Fertilizer Type	Recommended Storage Temperature	Notes
Urea	0–30 °C	Keep dry; avoid high humidity and temperatures above 30°C to prevent ammonia loss.
Ammonium Nitrate	0–25 °C	Store below 30°C; keep away from heat sources to avoid decomposition. Good ventilation is important.
NPK Blends	0–30 °C	Keep dry and shaded; protect from temperature fluctuations.
Potash (KCl)	0–35 °C	Stable but still best in dry, moderate temperatures.
Phosphate Fertilizers	0–30 °C	Superphosphates and MAP/DAP are stable; keep dry to avoid caking.
Calcium Ammonium Nitrate (CAN)	0–25 °C	Store cool and dry to reduce hygroscopicity and caking.
Liquid Fertilizers	5–25 °C	Store in frost-free conditions; avoid freezing.