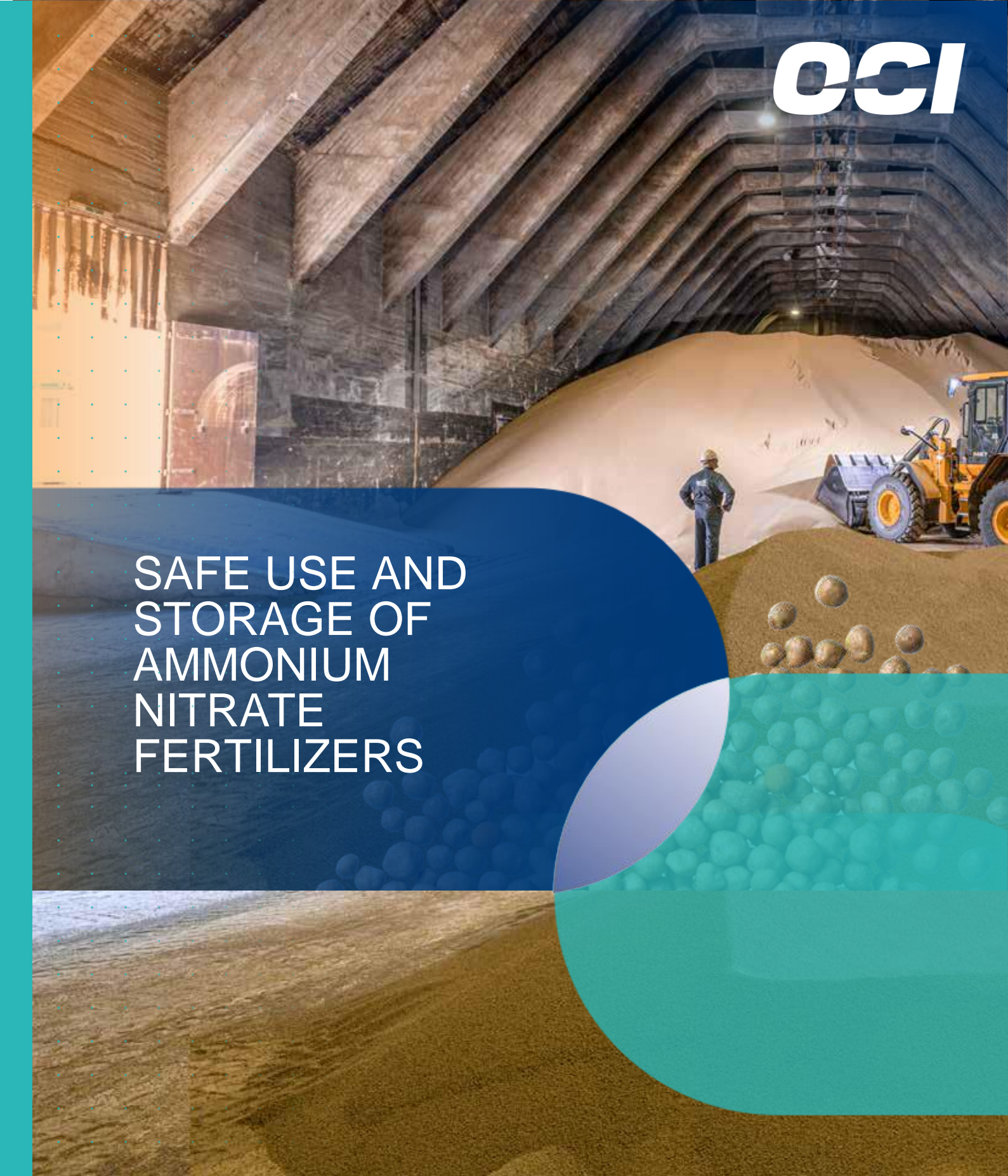


The logo for CCI (Canadian Council of Ministers of the Environment) is located in the top right corner. It consists of the letters 'CCI' in a bold, white, sans-serif font, with a stylized white swoosh or underline beneath the letters.The background image shows a large industrial storage facility for ammonium nitrate fertilizers. The structure is made of dark, heavy-duty metal beams and supports, with a high, vaulted ceiling. In the foreground, there are large, conical piles of white granular fertilizer. A worker in a blue uniform and a yellow hard hat stands near the base of one of the piles. To the right, a yellow front-end loader is parked. The lighting is industrial, with some bright spots from overhead lights. A large, semi-transparent blue and teal graphic overlay is positioned in the lower half of the image, containing the title text.

# SAFE USE AND STORAGE OF AMMONIUM NITRATE FERTILIZERS



At OCI, we take fertilizer safety and quality very seriously. This means that not only our fertilizers, but also all our ingredients, additives and intermediate products are manufactured, handled, stored, distributed and used in a safe and high quality manner, in accordance with strict health, safety and environmental requirements.

This brochure provides you and your customers with information about the correct method for storing fertilizers, with safety and quality as the most important considerations.

At OCI, we focus on both safety and security. "Safety" relates to the product itself, i.e. the handling, storage and mixing of ammonium nitrate fertilizers. "Security" relates to any measures taken to prevent theft and/or terrorism.

# SAFETY



Ammonium nitrate fertilizers such as Nutramon CAN are safe, provided the following guidelines are observed. Our AN fertilizers are non-toxic, and do not spontaneously ignite, burn or explode. However, exposure to heat or fire may cause them to decompose and produce toxic fumes.

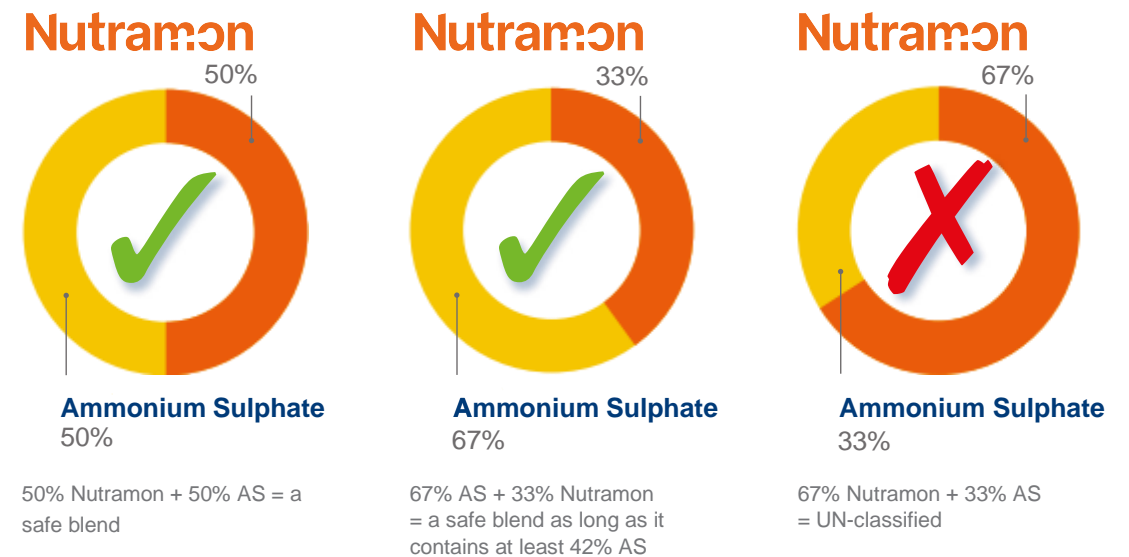
## GUIDELINES FOR SAFE USE AND STORAGE

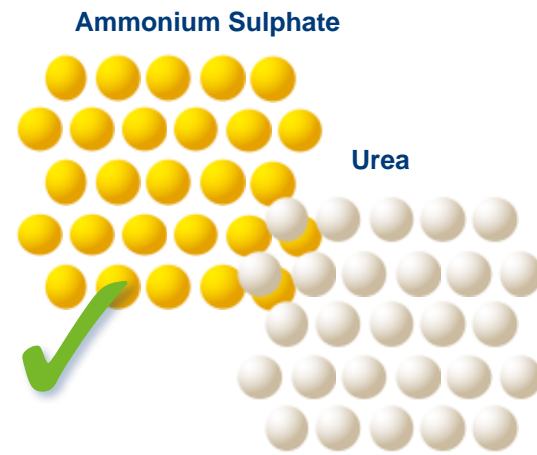
- Nutramon CAN cannot ignite, but nitrate-based substances can intensify a fire. Keep fertilizers away from flammable, organic matter (such as oil, grease, sawdust, grain and hay), building materials, etc.
- Do not allow the product to come into contact with acids, such as hydrochloric or sulfuric acid.
- Do not mix the product with other fertilizers. Dissolve any spilt or nonconforming product in water or mix with inert material, such as sand. Keep the amount of this non conforming product limited to a maximum of 25 tonnes.
- Do not mix Nutramon CAN with other substances or add other substances to it, as this may alter its properties and make the product dangerous.
- Keep different fertilizers well apart during storage.
- Do not store flammable substances near fertilizers.
- Toxic fumes may be released in the event of fire. Extinguish the fire using plenty of water. Do not use any other extinguishing agents. Make sure that the extinguishing water does not enter the groundwater or surface water.
- Make sure the product does not come into contact with hot objects and surfaces, such as lamps or the warm running parts of conveyor belts (check the rollers of the conveyor belts regularly, especially the lubricated parts).
- Smoking and naked flames are not permitted in storage areas.
- Before maintenance can be carried out on installations, all fertilizers must first be removed (flush regularly). This also applies to enclosed spaces in construction materials.

## BLENDING (SAFE MIXING) OF OCI FERTILIZERS

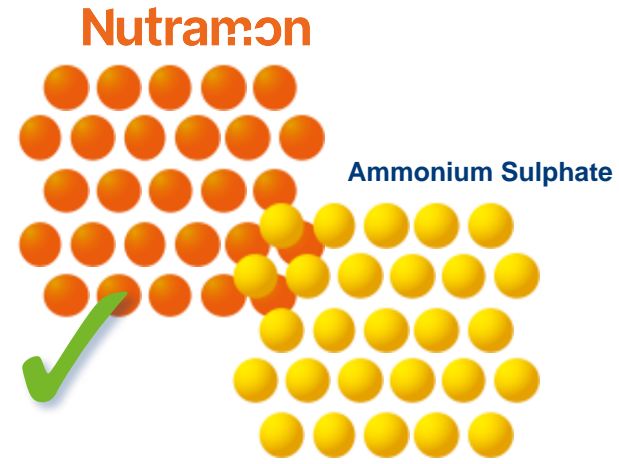
OCI's Nutramon and AS are high-quality ingredients used in the production of blends. Due to the even granular size distribution, homogeneous blends are produced with good spreading characteristics. When blending, however, it is important to take into account the safety characteristics of the ingredients, as they can change with blending. Mixing two non-UN-classified fertilizers can create a fertilizer that is UN-classified.

Almost all mixtures of Nutramon CAN with ASN (Ammonium Sulfate Nitrate) are classified as hazardous substances. These mixtures are UN-classified. Our advice is not to blend these fertilizers.

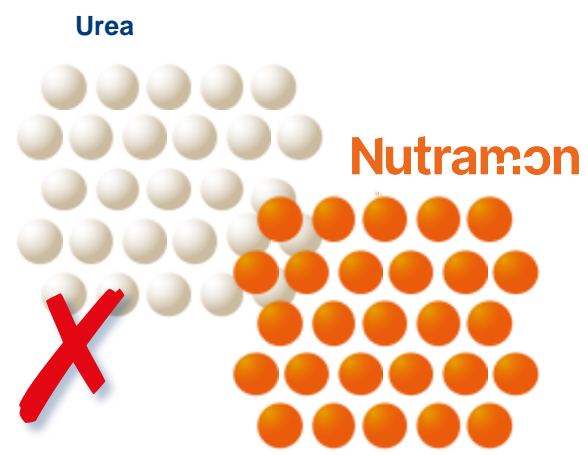




AS + Urea = compatible



Nutramon + AS = limited compatible\* (See also page 05)



Urea + Nutramon = incompatible\*\*

**SAFETY CRITERIA AND COMPATIBILITY**

Compatibility relates in particular to the blending of different fertilizers, cross-contamination and other safety and/or quality problems such as caking, softening/dissolving, dust formation and poor resistance to temperature changes in the case of ammonium nitrate.

\* Bear in mind the safety aspects relating to the detonability of the blend (AN/AS mixtures) and the relevant legislation and regulations. (See also 'blending' on page 05).  
 \*\* The mixture quickly becomes wet and absorbs moisture, creating a liquid or suspension. This can also have safety implications.

**SAFETY RISKS OF BULK STORAGE**

Fertilizers are often stored in bulk. In many cases, the storage location has been specially built for the bulk storage of fertilizers. In other cases, the location has been altered (e.g. using concrete blocks) so that it is suitable for bulk storage.



- Fertilizers are corrosive so the materials with which the fertilizers come into contact must be protected accordingly.
- Storage sections for fertilizers must be suitable for the quantity and type of fertilizer: big enough, strong enough and made from the right material.
- Make sure that the correct product information for the stored product is displayed in the section. OCI can supply product information boards.
- Inspect retaining walls regularly for damage that could result in loss of strength. Repair or replace any damaged retaining walls/concrete blocks.
- If you use movable retaining walls (e.g. concrete blocks), you must have the calculations done by an expert. National rules apply.
- If the fertilizers have formed a wall, use a long-reach crane to safely lower the product.
- Do not park shovels and other vehicles in a storage location. Do not store fuels within the storage location.
- Toxic fumes are released if the fertilizer is exposed to high temperatures (e.g. due to fire) or reacts with acids or alkaline substances.
- Do not breathe in these fumes and ventilate the location well.
- In case of fire, alert the fire department and extinguish the fire with large amounts of water.
- Ensure that any fertilizer and/or extinguishing water residues do not end up in the environment.

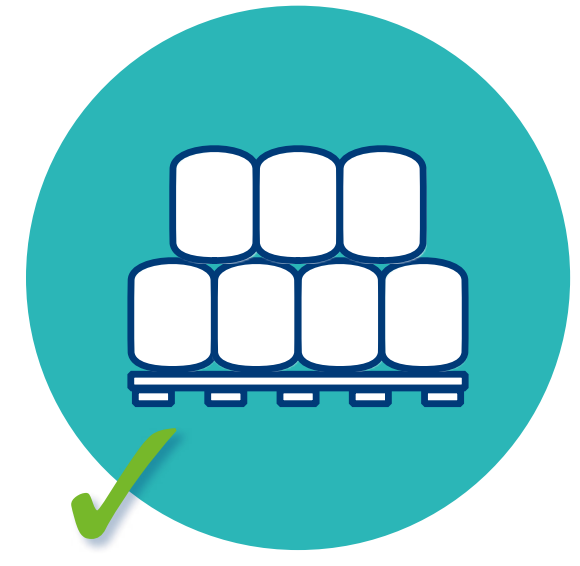


### SAFETY WITH REGARD TO BIG BAGS AND BAGGED PRODUCTS

- Never stand under a suspended Big Bag.
- Stacks may not exceed 2 pallets or 2 Big Bags in height. Stack the bags/pallets in pyramid way, to assure stability.
- Rectify incorrectly stacked Big Bags or pallets immediately.
- Only use Big Bags and pallets that are in good condition and intended for packing fertilizers. (Allow safety factor of at least 5:1 and observe Safe Working Load (SWL)).
- Use approved lifting and hoisting equipment and vehicles suitable for lifting the load.
- Only lift Big Bags by the specially designed lifting strap. Make sure that the lifting equipment has rounded corners, so that the lifting loop is not damaged.
- Never transport Big Bags on top of each other.
- To cut and empty Big Bags, you must stand safely to one side of the bag and use a long knife. Make a notch in the shape of an inverted T on the dotted line marked on the bag. This ensures that the bag empties gradually.
- Make sure that bagged products and Big Bags are labelled with the correct product information description.
- Do not damage Big Bags, organize enough space between stacks.
- Repair damaged bags only when placed on the floor. Check if it is safe to repair given the circumstances. Take bags on top down, before repairing.
- Prevent Big Bags from being exposed to direct sunlight: Due to UV radiation the strength of the BB will reduce rapidly.



Never stand under a suspended Big Bag.



Stack the bags/pallets in pyramid way, to assure stability.



Only lift Big Bags by the specially designed lifting strap and lifting equipment with rounded corners.



To cut and empty Big Bags, make a notch in the shape of an inverted T.

# SECURITY



Unfortunately, nitrate-based fertilizers are not always used only as plant nutrients. They are sometimes used for criminal purposes. Terrorists can use these products to make explosives. You should therefore always remain vigilant and alert!

The main goal of regulation (EU) 2019/1148 is to limit the availability of “explosives precursors” to members of the general public, and to ensure appropriate reporting of suspicious transactions throughout the supply chain.

Each operator within the supply chain has the responsibility to perform the right actions, as stated in the regulation and the guidance:

- Only supply fertilizers to customers you know or you can verify that the customer is entitled to purchase the product.
- For the purpose of verifying your customer, before every transaction, at least once a year, request following information:
  - Proof of identity of the individual entitled to represent the customer
  - The trade or business together with company name, address and VAT number
  - The intended use of the products by the customer
  - Assess whether the intended use is consistent with the trade or business of the customer
  - Customer's statement (Annex IV) of the regulation can be helpful to organize and register the required information
  - Retain this information for 18 months
- Keep a record of all transactions.
- Inform the police of any suspicious transactions and any irregularities in the purchase, sale or storage of products and in the event of theft.
- Unauthorized persons must not have access to fertilizers. The fertilizer storage location must be kept locked after closing time. Store fertilizers out of sight wherever possible.
- Carry out regular inventory controls and check for signs of actual or attempted break-ins, theft or vandalism. Keep a record of inventory controls.
- Conduct regular inspection rounds to check the storage location e.g. for storm damage or signs of break-ins or vandalism. Keep a record of these inspection rounds.
- Keep a log of suspicious transactions and incidents.
- Train your staff regarding Regulation EU 2019/1148.
- Make your customers and logistic service providers aware that N fertilizers containing >16% w/w of nitrogen in relation to Ammonium Nitrate are governed by regulations, so these fertilizers may only be supplied to professional users. Do not sell or deliver to the general public.

At the moment of delivery:

- Check whether the goods are delivered at the correct address and company, as mentioned on the delivery documents
- Ensure signed papers (e.g. CMR, bill of lading ...) with readable signature and name, date, etc. are available.
- Quote the following wording on relevant delivery documents for these fertilizers (>16%N from AN)\*

**This product is subject to Regulation (EU) 2019/1148, all suspicious transactions, disappearances and thefts should be reported to the relevant authority.**

\* (note: in the board of FE (Fertilizers Europe) is decided that above quote is not only applicable for the products >16% w/w of nitrogen in relation to Ammonium Nitrate, but for all N-fertilizers >3%N: all suspicious transactions, disappearances and thefts should be reported to the relevant authority).

## GOOD PROFESSIONAL PRACTICE = MAINTAINING QUALITY

Good professional practice is very important when handling fertilizer. When you handle fertilizers correctly, you will automatically meet most of the requirements for product quality and safety for nitrate-based and other fertilizers.

## MAINTAINING QUALITY DURING STORAGE OF PACKED FERTILIZERS (BIG BAGS)

- Store packed fertilizers in a covered and ventilated room.
- Ensure a stable dry and level floor surface.
- Stack Big Bags in an pyramid way to ensure stability.
- Do not stack them more than 2 Big Bags high.



- Prevent fertilizers from being exposed to temperatures above 30°C.
  - When products repeatedly exceed this temperature of 30°C and then cool down again, this can lead to a serious loss of quality.
  - Do not therefore place these products in direct sunlight (including light through windows and transparent roof sheets).
- Good Big Bags for fertilizers are disposable, with a waterproof inner bag.
- The Big Bags are easy to recycle. To do so, contact your supplier.



Store packed fertilizers in a covered and ventilated room.



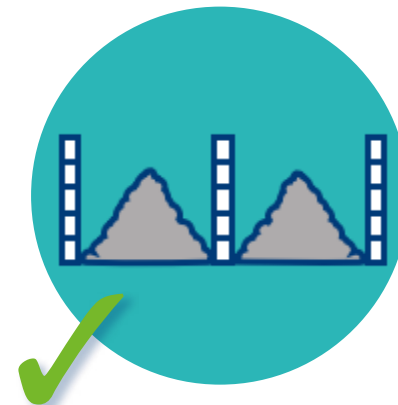
Ensure a stable dry and level floor surface.



Cover fertilizer immediately to prevent it from attracting moisture.



Keep doors closed.



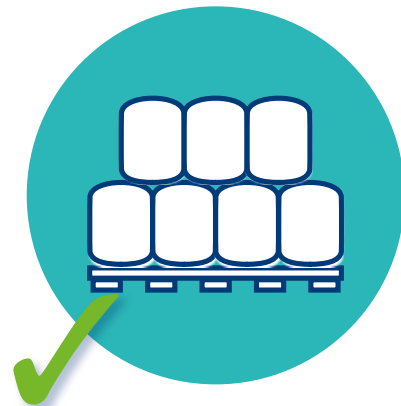
Store bulk fertilizers in suitable sections, separate from each other.



Do not drive through fertilizer.



Keep storage location and equipment clean, dry and tidy.



Stack the bags/pallets in pyramid way, to assure stability.



Move the discharge point regularly while filling the bulk storage bin, to avoid segregation.



Do not overfill sections and avoid spillage.



### MAINTAINING QUALITY DURING BULK STORAGE OF FERTILIZERS

- Prevent fertilizers from being exposed to temperatures above 30°C.
  - When nitrate-based fertilizers repeatedly exceed a temperature of 30°C and then cool down again, this can lead to a serious loss of quality.
  - Do not therefore place these products in direct sunlight (including sunlight through windows and transparent roof sheets).
- Store fertilizers in a clean and well-ventilated room. Make sure that no moisture can enter the room.
- The floor surface must be waterproof and moisture-free.
- Store different fertilizers separately, as some fertilizers do not tolerate each other.
- Fertilizers attract moisture. You should therefore always cover with cover sheets as soon as possible. The moisture content of fertilizers is very low, whereas the moisture content of the air is relatively high. The attraction of moisture can only be stopped by an effective barrier.

### EMERGENCY OUTDOOR STORAGE OF FERTILIZERS [SHORT PERIODS ONLY]

- Place the Big Bags on pallets.
- If possible, place the Big Bags in the shade.
- Cover the stack, preferably with white tarpaulin, as this attracts less heat.
- Do not store fertilizers outside in a public area
  - or in the (open) field.

### MAINTAINING QUALITY DURING STORAGE IN SILOS

- Before filling the silo:
  - Check for cracks and leaks.
  - Make sure the silo is clean and dry.
- Prevent fertilizers from being exposed to temperatures above 30°C.
  - When products repeatedly exceed this temperature of 30°C and then cool down again, this can lead to a loss of quality.
  - So make sure that silos are not in the sun and are preferably white, so as to reflect as much sunlight as possible.
- Do not allow unauthorized persons to access the product.
- When the silo is not in use, close the blow-in pipe and the vent pipe to ensure that no moisture can enter the silo.
- Do not stand under a filled silo, as the product sometimes gets stuck in the silo and, if it suddenly falls, this can be very dangerous.

OCI has manufactured high-quality nitrogen fertilizers for more than 80 years. Our products comply with EU fertilizer regulations.

In case of emergency (available day and night)

**OCI ALERT CENTRE**  
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