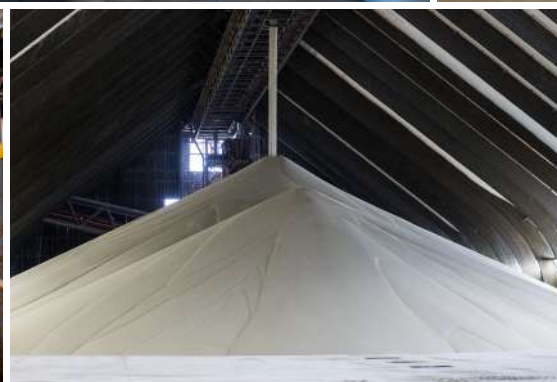


# Safe and efficient use of mineral fertilizers

Essential protocols for handling, transport,  
storage and other daily operations

January 2021 ▶ Version 1.0



## Contents

<b>Introduction</b> .....	3
<b>Fertilizer basics</b> .....	4
Safety	
Efficiency	
<b>The ‘fertilizer path’ — and the most common risks</b> .....	5
Safe and efficient fertilizer operations — basic principles .....	6
<b>Receiving products</b> .....	8
<b>Storing fertilizers</b> .....	9
Storage of dry fertilizers .....	10
Storage of liquid fertilizers .....	11
<b>Lifting, transporting and stacking</b> .....	12
<b>Unloading and bag disposal</b> .....	13
<b>Bagging and packaging</b> .....	14
Recommendations for packaging quality tests.....	15
<b>In case of emergency</b> .....	16
<b>Useful references</b> .....	17
Addendum 1.	
<b>Compatibility of various fertilizer materials</b> ..	18
Addendum 2.	
<b>How to read a Safety Data Sheet (SDS)</b> .....	20
Addendum 3.	
<b>How to read the Label</b> .....	22
<b>Sources</b> .....	24

# Quality and safety at the heart of our business



Dear colleagues and partners,

EuroChem is driven by the world’s burgeoning need for more food from shrinking areas of arable land. Our objective is to help farmers improve their crop yields and quality; to do this we must provide our high-performance products in perfect condition.

The effectiveness of our fertilizers depends to a large extent on their quality, physical state and chemical properties. Maintaining integrity of our products at every stage of their journey through the value chain is therefore key to ensuring they perform as expected.

Careful handling, transport and storage of our products during manufacture and use also safeguards the health and wellbeing of our employees, partners, and customers. A company-wide system of good practice helps prevent accidents and minimises any adverse environmental impact — both of EuroChem itself and of the agricultural industry as a whole.

This handbook covers the basic principles of safe and efficient fertilizer handling. We encourage you to read it carefully — and keep it handy to refresh your memory.

EuroChem

## What this guide covers



### Products

All mineral fertilizers produced by EuroChem, as well as third-party products, including but not limited to:

- Dry granular fertilizers (straight and complex), bulk or bagged
- Water-soluble fertilizers
- Liquid fertilizers

### Audience

All who work with fertilizers, including but not limited to:

- Producers
- Wholesalers
- Distributors
- Retailers
- End users (farmers, agricultural companies)

### Operations

All daily operations with fertilizers, including but not limited to:

- Transportation
- Handling
- Storing
- Blending
- Loading and unloading
- Packing and unpacking
- Application

National legislation, local regulations and safety information provided with every product take precedence over the guidance given in this document.

# Fertilizer basics



## Safety

Most fertilizer substances/preparations are not classified as dangerous (for humans, transportation or other aspects) in current relevant regulations. However, certain nitrate-containing fertilizers are classified as dangerous (hazardous)\*. It is important to bear in mind that even fertilizers that are not classified as such may well present hazards. Also, micronutrients can present potential toxic threats.

It is therefore good practice to be aware of any potentially hazardous properties — and take appropriate precautions, regardless of a product's classification.

## Efficiency

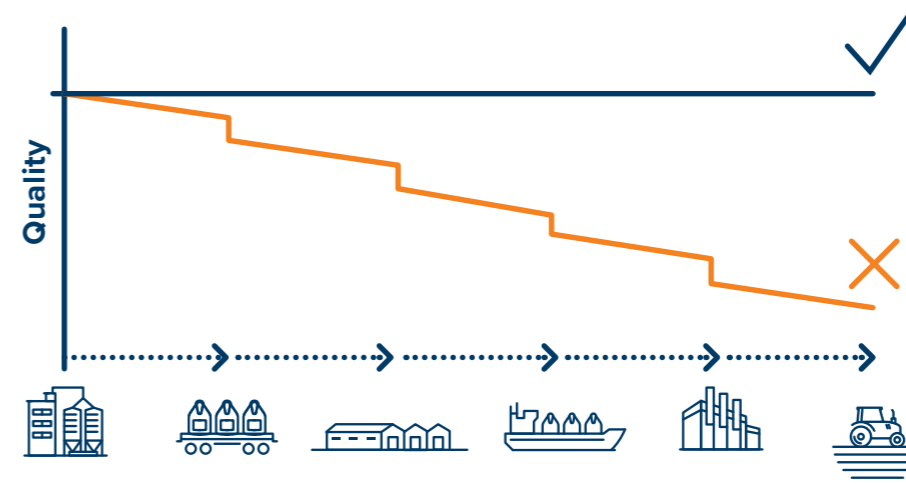
Quality directly influences a product's efficiency. Fertilizers are generally manufactured in the form of prills or granules, which enable effective blending and spreading. They are also available as powders for dissolving or in ready-to-use liquid form.

EuroChem's production standards and quality control processes ensure that our products are of consistently high quality. However, the journey from production site to a farmer's field involves many stages, each of which can influence product quality.

When handling and storing fertilizers, it is vital to ensure that quality is maintained right up to the point of use: i.e. no moisture pick-up, caking or contamination — and minimal dust content. To ensure uniform application of nutrients, it is also important that blended products do not segregate at any stage. This also applies to micronutrient sources.

\* According to UN Recommendations on the Transport of Dangerous Goods

# The 'fertilizer path' — and the most common risks



There are multiple steps between a production site and a farmer's field. To ensure optimum quality of the finished product, each step must be taken carefully and safely. Failure to do so risks a decline in quality at each stage, with the end product arriving in poor — or even dangerous — condition.

While every step has its own specific risks and requirements, there are several common factors that can potentially compromise product quality and safety along the way:



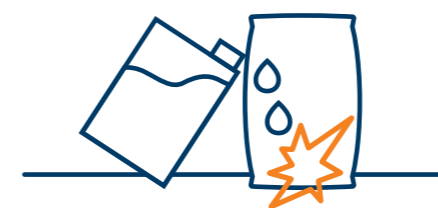
Contamination with foreign matter and other types of fertilizers, including incompatible materials



Wrong environmental conditions (e.g. humidity, temperature)



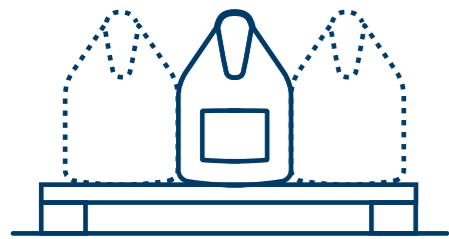
Physical impact that can damage or destroy fertilizer granules



Exposure to substances that might trigger adverse chemical reactions (e.g. water, incompatible materials)

Every operation involving a mineral fertilizer, at whatever stage of the 'fertilizer path', must take account of these factors. The rules in this handbook should be followed, local regulations and product documentation (SDS and other) must be checked — and common sense applied — at all times.

**Safe and efficient fertilizer operations — basic principles  
(in no particular order)**



Minimise the amount of product stored and handled wherever possible.



Establish a clear paper trail behind every product and related operations — and keep it available in case of emergency.



Carefully check all storage and handling requirements printed on bags or specified in accompanying documents prior to conducting any operation. Treat these requirements as a priority.



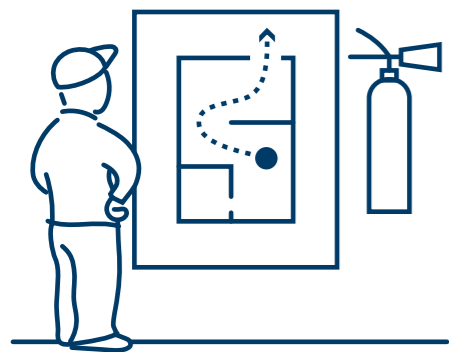
Always use suitable PPE and observe good hygiene practices.



Keep storage facilities and equipment clean, dry and in good condition. Carry out regular audits (ideally daily) and take prompt corrective action as necessary.



Never use explosives to break up caked fertilizer — use only mechanical means.



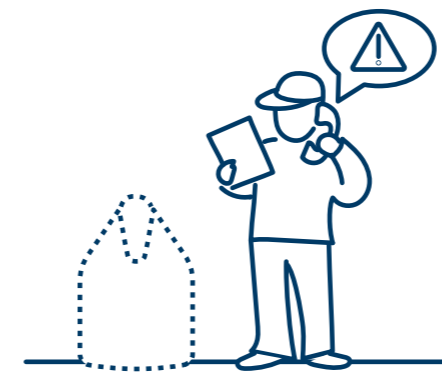
All employees, visitors, partners or contractors should be made aware of the emergency procedures and safety information for a particular site or operation.



Prevent contamination by any kind of foreign matter, but particularly combustible material, elemental sulfur, farm chemicals such as herbicides, organic materials, oils and greases, acids and alkalis.



Keep fertilizers in a dry and clean environment, away from water and moisture.



Prevent the potential misuse of fertilizers by reporting any sign of theft, attempted theft, tampering or unattributable loss to the police.

# Receiving products



On receipt of a product:

- Verify the condition of the product immediately.
- Prepare a short discharge report, which can be signed by the carrier if any problems are detected.
- In the event of any quality concerns, take detailed photos.
- If condensation, water ingress, occurrence of dust, caking, contamination or any obvious deviation from specifications is evident, alert the supplier immediately to agree on next steps, (e.g. send an independent surveyor).
- 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.
- The weight of the delivered quantity should be verified by an independent surveyor, at least by draught survey. Any difference vs. bill of lading should be reported.

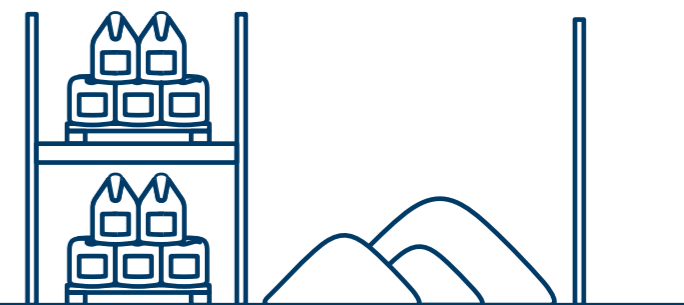
Depending on product type and specific sale conditions, EuroChem fertilizer products can arrive in various forms. These include bulk, small or big bags or — in the case of a liquid product — in IBL containers.

Deliveries always come with a set of accompanying documents.

These help to identify the product, verify its quality and understand the rules for safe and efficient transportation, handling, storage, application and other operations.

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

# Storing fertilizers



Most fertilizers are hygroscopic, meaning they readily take up moisture from their surroundings. They therefore require special care in storage and handling.

Storage facilities should be constructed so as to guarantee a completely dry environment. We strongly recommend that all fertilizers are stored in a secure building made from non-combustible materials. The building should be well ventilated with a level floor free of sharp items such as stones or other foreign objects. It should not contain any open drains, channels or pits.

Ideal fertilizer storage facilities should have:

- Sufficient security to prevent access by unauthorised persons (at least a perimeter fence).
- Clear identification of the materials stored.
- Clearly visible emergency contact details.
- Adequate lighting, ventilation and fire extinguishers.
- Concrete or impermeable floor.
- Insulation to maintain even temperatures.
- Separate spaces for different types of chemicals or fertilizers to avoid cross-contamination and/or incompatibility (see Addendum 1 for details).

## Storage of dry fertilizers:

- The store should be kept clean at all times and inspected regularly.
- Windows, doors and hatches should be airtight to prevent ingress of rain and atmospheric humidity. They should not be opened for longer than absolutely necessary.
- Roof drainpipes should be regularly inspected and kept clear. They should not run across bulk heaps.
- Products should ideally be dispatched from storage/warehouse in the order in which they were received, ('first in first out').
- All bins, boxes and storage vessels should be clean and dry. Where mobile wall elements are used to separate boxes, ensure that any sealant used cannot contaminate the product. (e.g. prominent sealant material must be cut).
- Material should be stored on clean and dry floors. The first layer of packages should be placed on pallets to prevent damage or water ingress.
- Shelves for smaller containers should have a lip to eliminate the risk of sliding off. Steel shelves are easier to clean than wooden constructions, should a spill occur.
- If bagged, fertilizers should be stored in their original containers unless damaged; labels should be clearly visible and legible.
- If any bags are damaged, care should be taken in dismantling a stack.

### Fire prevention

- Fertilizers should be stored away from all combustible material.
- Naked flames or smoking should be strictly prohibited in the facility.
- Lightning protection should be installed where appropriate (eg, if required by national regulations or engineering codes).
- Adequate water supplies and easy access to emergency and fire-fighting equipment should be provided. Advice should be obtained from local fire authorities as necessary.

### Outside storage

- Protect the stack from moisture penetration and direct exposure to sunlight by covering with white tarpaulin. For packed goods, the use of storage sheds is possible. For better insulation, it is good practice to put a single layer of pallets above the stack and below the tarpaulin.

Bulk products should be protected from humidity and contamination with additional coverings (e.g. plastic foil), which must overlap and be secured. The products should be immediately covered upon reception and remain covered until their removal, as well as during stops between loading and unloading operations.

Incompatible products (e.g. urea and ammonium nitrate-containing fertilizers) should be stored in separate warehouses.

Chemical extinguishers are ineffective against fires or decomposition involving nitrate-based fertilizer.

## Storage of liquid fertilizers:

Liquids should not be stored in an underground or lined pit container. For most operators, underground storage of any agricultural chemical is a risky option.

### For liquid tanks, it is essential to:

- Ensure tanks, pipework and valves are fit for purpose, i.e. resistant to corrosion.
- Ensure all fittings are tamper-proof; all valves should be locked shut when not in use.
- Inform delivery companies of emergency procedures.
- Check the tank has sufficient capacity before delivery.
- Avoid overfilling.

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

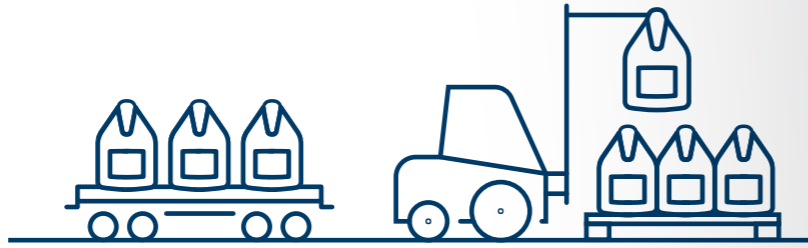
### For permanent storage tanks:

- All sites must be away from a watercourse.
- All pipes, valves and sight gauges should be within the containment area.
- Tanks must be on solid, flat concrete on a hard-core base to support the full tank weight.
- For tall tanks, consider additional stabilisation against high winds.
- Unless cleaning is scheduled, a minimum level of product should be maintained (>5 cm above outlet pipe) to help reduce risks of contamination.

### For bowsters and mobile tanks:

- Temporary storage can pose a significant risk to watercourses. Careful siting is therefore crucial before filling or dispensing and transport around the farm needs careful consideration.
- Roads and tracks must be able to support fully laden parked or moving bowsters.
  - Ensure bowsters and all fittings are fit for purpose and protected from corrosion.
  - Ensure bowsters are set down on level, solid ground before delivery is made.
  - Provide sufficient stable support beneath parking legs to carry loaded weight.
  - Ensure all hatches and manholes form a watertight seal when closed.
  - Do not move laden bowsters unless all hatches, lids and valves are closed and locked.
  - Open hatches slightly when emptying bowsters (a vacuum could cause the tank to crumple and collapse).

# Lifting, transporting and stacking



Always follow the equipment manufacturer's guidelines on safe working load. Keep the movement of stored products to a minimum, since every action can cause damage.

- Create a traffic plan for vehicles for loading and unloading.
- Any spilled product should be swept up immediately and disposed of safely. Care should be taken to avoid compacted fertilizer accumulating on the ground.
- Vehicles should not carry incompatible materials as part loads.
- Vehicles, fork-lift trucks and mechanical shovels should carry an appropriate fire extinguisher. They should be kept clean and free from oil leaks — and park only in designated safe areas.
- Bags should be handled with great care; do not use hooks or ropes, unless specifically designed for the task.
- Do not perform operations outdoors during wet weather.
- Do not drop bags of fertilizer from height.
- Ensure fork-lift tines have rounded edges — or are covered with a secured metal sleeve.
- Ensure the lifting loop sleeve is correctly placed and forks are horizontal/tilted slightly upward.
- Before lifting, check bags and loops carefully for damage; do not lift damaged bags.
- Drive slowly and smoothly, only following approved routes, and taking extra care on uneven ground.
- Limit the height of stacks to avoid instability and potential collapse
- Large stacks should be constructed in a pyramid format. To prevent caking, ensure that the load on the lowest level of the pyramid does not exceed 2 tonnes (for example, 1 tonne big bags can be stacked in 3 levels max). When using pallets, do not exceed two levels and use a cardboard layer between them; it is recommended to store product stacks with pallets on shelves.
- Stacks should not lean; if they do, rebuild them immediately.
- Damaged bags should be placed immediately into secondary bags to prevent further spillage.
- Stacks should be configured with sufficiently wide gaps (at least one metre) for vehicular access to facilitate dismantling in an emergency.
- Prevent exhaust gases from internal combustion engines from heating stored fertilizer. Consider the installation of spark arrestors.
- Ideally use diesel or electrically powered vehicles in stores. Do not refuel within the storage building/area. The recharging of batteries should be carried out in a separate approved area.

# Unloading and bag disposal



- All equipment — including crane gripping elements, bobcats and conveyor belts — should be clean and dry.
- Never unload on wet and/or dirty surfaces.
- When unloading vessels, always take fertilizers from different places of the hold. Do not pick twice in one place.
- 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).
- Adapt the height of conveyor belt drop point to the storage situation (height of fall).
- Avoid mixing of different products. Before unloading a new product, clean the equipment — and only use proper packaging and pallets.
- Keep vehicle routes as clean and dry as possible to prevent product contamination.
- For truck deliveries, remove any water from the top of the tarpaulin before unloading.
- If it starts raining, instruct the crew to stop unloading immediately and close the hatches and any other openings completely.
- Separate any fertilizer that becomes dirty, contaminated or wet.
- Do not attempt to empty any bag whilst stacked.
- Stand to one side and use a long-handled knife.
- Dispose of empty bags via an approved waste recycler. Use plastics recovery schemes whenever possible or commercial waste disposal.

## Pallets

Wood, metal or plastic pallets are suitable, provided they are undamaged and sufficiently strong for the intended use. Empty wooden pallets and plastic bags should be stored safely and separately. They should not be stacked outside against the storage building. Used/returned pallets should be checked for contamination and, where necessary, cleaned prior to re-use.

# Bagging and packaging



- Do not refill empty bags with fertilizer.
- Inspect packaging material on receipt. If damaged, the packaging must be blocked and quarantined. The entire reel must be quarantined if the printed image is smeared or faded.
- Store packaging in clean and dry conditions, away from UV light and safe from mechanical damage. Packaging materials should only be stacked on racks, not pallets.
- Fertilizer bags should be moisture-proof and sealed or adequately closed to prevent ingress of moisture.  
Big Bags should have an inner PE plastic liner (Low-density polyethylene (LDPE) insert) at least 120 microns thick. After filling, the neck of a Big Bag inner liner must be sealed.  
The inner plastic liner (if any) of small (e.g. 25kg) bags should be not thinner than 40 microns.  
The small bags should be well-sewn or sealed to prevent moisture penetration. Use of valved sacks is allowed if they are stored on pallets wrapped in film.
- Bags should be clearly labelled to indicate their contents. National and international regulations should be complied with.
- Traceability codes should be printed on bags — or at least fixed to each pallet — to facilitate tracking of bagged material after delivery.
- Conduct quality tests during bagging and packaging operations to ensure consistency.

With packaged materials, the risks of inadvertent contamination and moisture pick-up are substantially reduced.

Clear labelling helps with easy identification and facilitates the safe movement of material in an emergency.

## Recommendations for packaging quality tests

### 1. Before filling:

Packaging material (e.g. every hose reel) to be checked for damage before filling, for example by carrying out a side seam tensile test:

- a. Cut a piece of continuous hose equivalent to one bag's length and split it into three equal sections. Carry out a tensile test on each section by pulling the side seam apart until it tears.
- b. If the edge has an uneven tear, the packaging material can be used.

### 2. During filling:

Random drop tests on filled bags should be carried out. At least one bag every hour should be sampled and dropped from 1.5 metres. If it does not survive the drop intact, the packaging material must be replaced and quarantined immediately.

The tear resistance of Big Bag loop seams should be also checked. Lift approximately one in every 30 filled Big Bags with a forklift truck and place stress on the seams with an up and down movement. The Big Bag must withstand this stress undamaged — and should 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 damage and quarantined if necessary.

When stacking bags on pallets, ensure the bags do not significantly overhang the pallet and appear lop-sided.



# In case of emergency



All personnel on site should be made aware of the nature of the stored materials. Every location should have a written procedure to be followed in the event of an emergency, e.g. fire, injury or spillage. All personnel should be trained — and regularly practice — these emergency procedures

## **In case of fire or decomposition:**

- Immediately call the fire brigade and describe which materials are involved.
- Evacuate the affected area — and everyone not involved in emergency duties.
- Avoid breathing fumes; wear an approved breathing mask.
- If safe to do so, find the source of the fire and try to control it.
- Do not fight fires involving AN unless by fixed or remotely operated monitors/sprinklers.
- To extinguish the decomposition of AN, use plenty of water. DO NOT use chemicals, foam, steam or sand.
- Prevent molten product and polluted water from entering drains.
- Inform the appropriate environmental agency in case of risk of water pollution.
- Always be aware of the risk of detonation. In case of a severe fire involving AN, and/or AN in confined space, evacuate the area until the fire stops by itself.

# Useful references

	ammonium nitrate	calcium ammonium nitrate (an + dolomite/limestone)	calcium nitrate (fertilizer grade)	ammonium sulphate nitrate	potassium nitrate/sodium nitrate	ammonium sulphate	urea	rock phosphate	acidulated rock phosphate	single/triple super phosphate	monoammonium phosphate	diammonium phosphate	mono potassium phosphate	potassium chloride	potassium sulphate/magnesium sulphate (kieserite)	npk, np, nk (an based)	npk, np, nk (urea based)	limestone/dolomite/calcium sulphate	sulphur (elemental)
calcium ammonium nitrate (an + dolomite/limestone)																			
calcium nitrate (fertilizer grade)	1	8																	
ammonium sulphate nitrate	2		10																
potassium nitrate/sodium nitrate			10	2															
ammonium sulphate	3	2	10	2	13														
urea	4	4	10	4															
rock phosphate				12															
acidulated rock phosphate	5			5					16										
single/triple super phosphate	5	9	10	9					17										
monoammonium phosphate			10																
diammonium phosphate			10								19	19							
mono potassium phosphate			10																
potassium chloride	6	6	10	6					18										
potassium sulphate/magnesium sulphate (kieserite)			11																
npk, np, nk (an based)	6	6	10	6	14	6	4			5	5				6				
npk, np, nk (urea based)	4	4	10	4	15					16	16							4	
limestone/dolomite/calcium sulphate										19	19								
sulphur (elemental)	7	7	10	7	7													7	

Compatible  
 Limited compatibility (chemically, physically and/ or safety based)  
 Incompatible (chemically, physically and/or safety based)

## Addendum 1

# Compatibility of various fertilizer materials

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

### Box number references:

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

## Addendum 2

# How to read a Safety Data Sheet (SDS)

The Safety Data Sheet is a very important document. It covers all aspects of a particular product, including the necessary precautions to be taken for every product-related operation. The ability to read and understand an SDS is therefore an essential requirement for any employee involved in product-related operations.

An SDS should be available for every product and carefully reviewed before conducting any operation.

**EUROCHEM** **Nitrophos**

**SAFETY DATA SHEET**  
This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Issuing Date No data available Revision date 07-Oct-2020 Revision Number 1

**1. IDENTIFICATION**

Product Identifier  
Product Name NITROPHOS® NP 20-20 (+5S03)

Other means of identification  
Synonyms NITROPHOS® NP 20-20(+5S03)

Registration Number(s) No information available

Recommended use of the chemical and restrictions on use  
Recommended use Fertilizers Industrial Professional

Supplier's details  
Manufacturer EuroChem Antwerpen NV, Haven 725, B-2040 Antwerpen  
Supplier EuroChem Group AG, Baarerstrasse 37, CH-6300 Zug - Switzerland  
Phone +41 41 727 77 6 00  
Fax +41 41 727 76 06

Emergency telephone number  
Emergency Telephone Carechem 24 +44 1865 407333  
Carechem 24 +1 215 207 0061  
+65 3158 1412


E-mail address ra.sds@eurochemgroup.com

**2. HAZARDS IDENTIFICATION**

Classification of the substance or mixture  
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 5
Serious eye damage/eye irritation	Category 2

GHS Label elements, including precautionary statements



Warning

Language EN  
Template name Globally Harmonized System (GHS) Page 1 / 8

An example of a typical product SDS

An SDS typically has 16 sections, which are outlined below.

Key sections that should always be reviewed before conducting operations with a given product are marked with an arrow ▶

### ▶ Section 1: Identification

Contains general information regarding the material and the supplier, including any means of identification (e.g. product name and code). Also lists contacts for users to obtain additional information or seek help in the case of an emergency as well as information on recommended uses — or any uses recommended against.

### ▶ Section 2: Hazard(s) identification

Lists the product's hazards and any associated warnings, as well as general guidelines on safe use. Also includes the elements that need to be displayed on a label.

### Section 3: Composition/information on ingredients

Lists the product's chemical composition, includes the chemical name, CAS number and concentration or concentration range of the hazardous chemicals. This enables identification of the chemicals that constitute the product's principal hazards — and deployment of specific procedures or protective equipment to mitigate those hazards.

### ▶ Section 4: First aid measures

Describes the initial action that should be taken by untrained responders to an individual who has been exposed to the chemical.

### Section 5: Firefighting measures

Lists recommendations for fighting a fire caused by the chemical, including suitable extinguishing techniques, equipment and chemical hazards from fire.

### ▶ Section 6: Accidental release measures

Provides recommendations on the appropriate response to spills, leaks or releases. These include containment and clean-up practices to prevent or minimise exposure to people, property and the environment. It may also include recommendations on different responses to large and small spills, where the spill volume has a significant impact on the nature of the hazard.

### ▶ Section 7: Handling and storage

Provides guidance on the recommended handling practices and conditions for safe storage of chemicals, including incompatibilities.

### ▶ Section 8: Exposure controls/personal protection

Indicates the exposure limits, engineering controls and personal protective equipment (PPE) measures that should be used to minimise worker exposure.

### ▶ Section 9: Physical and chemical properties

Describes physical and chemical properties of the material, including density, appearance, odour, water solubility, flashpoint, freezing/boiling point, pH. This enables identification of material in cases of improper secondary container labelling or spills, and ensures the product matches the supplier's description. Any significant deviation will require investigation.

### Section 10: Stability and reactivity

Describes the reactivity hazards of the chemical and provides information on its stability.

### Section 11: Toxicological information

Describes toxicological and health effects of exposure — or indicates that such data are not available. This includes routes of exposure, related symptoms, acute and chronic effects and numerical measures of toxicity.

### Section 12: Ecological information

Enables users to evaluate the environmental impact of the chemical(s) if released to the environment.

### Section 13: Disposal considerations

Provides guidance on proper disposal, recycling or reclamation of the chemical(s) or its container, and safe handling. To minimise exposure, this section should also reference Section 8 (Exposure Controls/ Personal Protection).

### Section 14: Transportation information

Includes guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail or sea.

### Section 15: Regulatory information

Identifies product-specific safety, health and environmental regulations not indicated elsewhere on the SDS.

### Section 16: Other information

Indicates when the SDS was prepared, or when the last known revision was made. The SDS may also highlight where changes have been made to a previous version. You may wish to contact the supplier for an explanation of the change.

## Addendum 3

# How to read the Label



All EuroChem products are labelled in accordance with the national laws that are in force in the destination country and with international regulations. The table below shows how the hazards are communicated through the label on some of our main products.

Hazard symbols	Hazard type	Precautions to be taken
<p>WARNING</p>	<p>Danger.</p> <p>Causes serious eye damage.</p> <p>Harmful if swallowed.</p>	<p>Wear protective gloves and eye protection.</p> <p>Wash hands thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p> <p><b>If in eyes:</b> rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.</p> <p><b>If swallowed:</b> call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.</p>
<p>5.1</p> <p>UN 1486 POTASSIUM NITRATE</p>	<p>Warning.</p> <p>May intensify fire; oxidiser.</p> <p>Causes serious eye irritation.</p>	<p>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.</p> <p>No smoking. Store away from combustible materials and chemicals. Wear eye protection.</p> <p><b>If in eyes:</b> rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.</p> <p><b>In case of fire:</b> Use flooding quantities of water to extinguish.</p>
	<p>Warning.</p> <p>Causes serious eye irritation.</p>	<p>Wear eye protection.</p> <p>Wash hands thoroughly after handling.</p> <p><b>If in eyes:</b> rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical attention.</p>



Hazard symbols	Hazard type	Precautions to be taken
<p>8</p> <p>UN 1759 CORROSIVE SOLID, N.O.S. (UREA PHOSPHATE)</p>	<p>Danger.</p> <p>Causes severe skin burns and eye damage.</p>	<p>Do not breathe dust.</p> <p>Wear protective gloves and eye protection.</p> <p><b>If in eyes:</b> rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.</p> <p><b>If inhaled:</b> remove person to fresh air and keep comfortable for breathing.</p> <p><b>If on skin (or hair):</b> take off immediately all contaminated clothing. Rinse skin with water.</p>
<p>5.1</p> <p>UN 1486 POTASSIUM NITRATE</p>	<p>Warning.</p> <p>May intensify fire; oxidiser.</p>	<p>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.</p> <p>No smoking.</p> <p>Store away from combustible materials and chemicals.</p> <p><b>In case of fire:</b> Use flooding quantities of water to extinguish.</p>
<p>5.1</p> <p>UN 2067 AMMONIUM NITRATE</p>	<p>Warning.</p> <p>May intensify fire; oxidiser.</p>	<p>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.</p> <p>No smoking.</p> <p>Store away from combustible materials and chemicals.</p> <p><b>In case of fire:</b> Use flooding quantities of water to extinguish.</p>
<p>WARNING</p>	<p>Danger.</p> <p>Causes serious eye damage.</p>	<p>Wear protective gloves and eye protection.</p> <p><b>If in eyes:</b> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician.</p>

# Sources

1. Guidance for storage, handling and transportation of solid mineral fertilizers, *April 2007*
2. Guidance for the compatibility of fertilizer blending materials, *European Fertilizer Manufacturers Association, June 2006.*
3. Guidance for safe handling and utilization of non-conforming solid fertilizers and related materials for fertilizer importers, distributors and merchants, *Fertilizers Europe, Issue 2014.*
4. Product stewardship standard for fertilizers, *Fertilizers Europe, Issue 5 from October 2016.*
5. Guidance for fighting fires and/or decomposition involving solid mineral nitrogen-based fertilizers, *Fertilizers Europe, Issue 2015.*
6. Guidance on labelling and packaging in accordance with Regulation (EC) No 1272/2008, *European Chemicals Agency, March 2019.*
7. Fertilizers and their efficient use, *International Fertilizer Association, May 2016.*
8. Best management practices for pesticide and fertilizer storage and handling, *Colorado State University.*
9. Code of practice for the prevention of water pollution from the storage and handling of solid fertilizers, *The Fertilizer Manufacturers Association, April 1998.*
10. UN Recommendations on the Transport of Dangerous Goods (*ST/SG/AC.10/1/Rev.21*), *United Nations, 2019.*

Quality@eurochemgroup.com  
eurochemgroup.com

