

Guidelines for the Storage and Handling of Fertilisers & Fertiliser Blends

1. Overview

- 1.1 The Explosives Regulation 2005 controls the transport, storage and handling of certain explosive precursors that may be used in the manufacture of explosives. The object of the Regulation is to ensure the safe and secure handling of explosive precursors through a licensing scheme and accompanying hazard controls.
- 1.2 The precursors currently regulated are Security Sensitive Ammonium Nitrate (SSAN). SSAN includes ammonium nitrate (i.e. 100%, pure ammonium nitrate), ammonium nitrate emulsions and mixtures containing greater than 45% ammonium nitrate (excluding solutions and class 1 explosives). Under the Explosives Act 2003 and Explosives Regulation 2005, any fertilisers containing more than 45 per cent ammonium nitrate are designated SSAN.

More information about SSAN can be found on the WorkCover NSW website at:
<http://www.workcover.nsw.gov.au/OHS/DangerousGoods/Pages/SecuritySensitiveAmmoniumNitrate.aspx> and
<http://www.workcover.nsw.gov.au/Pages/SearchResults.aspx>

2. Licence to Use Security Sensitive Dangerous Goods

- 2.1 Restrictions on the purchase, transport, storage and/or use of SSAN are imposed by a national licensing scheme. A licence is required to store, purchase, transport, import, export, manufacture, sell, supply, acquire, dispose of or use explosive precursors.
- 2.2 UWS is required to hold an SSAN licence for a range of ammonium nitrate fertilisers (including calcium ammonium nitrate) and fertiliser blends containing *more* than 45% ammonium nitrate. NOTE: Solutions are exempted.
- 2.3 Without a licence it is:
 - illegal to be in possession of SSAN
 - impossible to purchase SSAN
- 2.4 The explosives legislation allows an exemption from licensing for educational, research or analytical purposes at a university or research institution, if the amount of SSAN stored and used does not exceed **3 kg**. For UWS this amount is the limit for any one site or campus.

If you currently use or plan to use SSAN, contact the [OHS Technical Coordinators \(Laboratories\)](#) immediately so that licensing implications can be assessed if total quantities of SSAN exceed 3kg at any one storage facility.

- 2.5 Whilst the University does not prohibit the use of SSAN, it strongly recommends that SSAN products be substituted for non-regulated products (such as fertilisers with less than 45% ammonium nitrate and other non-regulated chemicals).
- 2.6 Information on how to obtain a licence to use SSAN can be found on the WorkCover NSW website at www.workcover.nsw.gov.au or contact the [OHS&IS unit](#).

Handling and Storage of Fertilisers

3.0 General provisions

- 3.1 Keep stocks of fertilisers, manures, pesticides, and soil amendment materials to the minimum required.
- 3.2 Ensure that the storage facility is appropriately secured.
- 3.3 Fertilisers, manures, pesticides, and soil amendment materials are not to be stored in contact with ground surfaces.
- 3.4 Storage areas/facilities are to weather-proofed and able to exclude runoff from other areas.
- 3.5 Do not store in close proximity to heat sources such as open flames, steam pipes, radiators or other combustible materials such as flammable liquids.
- 3.6 Do not store with urea.
- 3.7 Do not contaminate fertilisers, manures, pesticides, and soil amendment materials with other foreign matter.
- 3.8 In case of fire flood the area with water.
- 3.9 If augers are used to move the material ensure that any residue(s) in the immediate area is cleaned up.
- 3.10 Dispose of empty bags in the appropriate manner.

4.0 Field Usage

- 4.1 Keep fertiliser amounts to a minimum and covered to avoid unnecessary exposure to open air.
- 4.2 Keep spreaders and air seeders that are left in the field overnight covered.
- 4.3 Cover spreader and air seeders between jobs.
- 4.4 Ensure that the drill, air seeder and/or fertiliser box is completely empty at the end of each day. If the drill, air seeder and/or fertiliser box cannot be fully emptied fill to capacity prior to storage for the night.

5.0 Likely Hazard Scenarios and Recommended Control Strategies

- 5.1 The table below provides information about typical hazard scenarios that may arise in conjunction with the procurement, handling and storage of fertilisers containing ammonium nitrate, calcium ammonium nitrate, and/or are blends of fertilisers containing more than 45% ammonium nitrate, with guidance regarding a recommended control strategy.
- 5.2 It is important to conduct a Risk Assessment to determine if a substitute product could be used before purchasing ammonium nitrate products.

Handling and Storage of Fertilisers

Likely Hazard Scenario	Recommended Control Strategy
Spillage	<ul style="list-style-type: none"> • Ensure all storage areas and/or facilities are secure and appropriate. • Ensure all fertiliser products can be contained within the storage area and/or facility selected • Provide appropriate equipment and materials to clean up a spillage
Transportation and delivery of goods	<ul style="list-style-type: none"> • Cover any loads of fertiliser products whilst in transit • Ensure that deliveries of fertiliser products are made at appropriate times • Do not accept any containers of fertiliser products that are damaged and/or leaking • Ensure that any spillages that occur during delivery are cleaned up appropriately.
Drift of dust from storage areas and/or facilities	<ul style="list-style-type: none"> • Keep fertiliser products covered and/or sealed • Clean up spillages promptly • Keep "in use" stocks to the minimum required • Staff responsible for storage areas and/or facilities to ensure that the drift of dust beyond the perimeter is kept to a minimum.
Storage areas - Floors	<ul style="list-style-type: none"> • Keep floor surfaces swept clean of fertiliser to prevent tracking by people and/or vehicles beyond the perimeter • Sweep up and dispose of spillages in a timely and appropriate manner
Cross contamination of product	<ul style="list-style-type: none"> • Keep each fertiliser product in a separate storage container and/or position within the facility and/or area
Confusion of Product	<ul style="list-style-type: none"> • Maintain an accurate storage manifest/register • Keep products and blends segregated at all times • Ensure all storage bays and bins are clearly labelled • Ensure all storage, loading and blending plant and equipment is cleaned from all residues when changing from one product to another • Do not store product in bags that are not correctly stamped
Occupational Health and Safety	<ul style="list-style-type: none"> • Contact between fertiliser products, people and livestock will be minimised.
Risk Assessments	<ul style="list-style-type: none"> • Risk Assessments are required to be conducted on the procurement, storage and handling of fertiliser products.
Contact with people and livestock	<ul style="list-style-type: none"> • Managers will develop, implement and monitor the effectiveness of hazard management procedures • All persons using fertiliser products are to adhere to the University's hazard management procedures and adopt safe working practices and ensure that direct contact with fertiliser and the inhalation of fertiliser dust is minimised • Managers are to ensure that staff and students are made aware of any State, Federal, local and industry regulations which have to be observed
Personal Protective Equipment	<ul style="list-style-type: none"> • Staff/students must be provided with appropriate PPE when using fertiliser products
Lack of appropriate warning safety signage and information	<ul style="list-style-type: none"> • Managers must ensure that appropriate safety warning signs and/or information is displayed/available regarding nature of hazards and risk control measures
Poor housekeeping and/or routine maintenance	<ul style="list-style-type: none"> • All staff are responsible for implementing sound housekeeping practices in storage areas and arranging regular routine maintenance for all equipment used
Defective &/or unserviceable plant & equipment	<ul style="list-style-type: none"> • Conduct regular inspection & testing of equipment and infrastructure to identify maintenance requirements

Likely Hazard Scenario	Recommended Control Strategy
No training	<ul style="list-style-type: none">• Staff will undertake appropriate training
Incorrect or inappropriate mixtures of product	<ul style="list-style-type: none">• Fertiliser blends to be prepared using the proper raw materials in the appropriate proportions. All products will be loaded into spreaders etc in the right condition to the right weight
Lack of appropriate records &/or documentation	<ul style="list-style-type: none">• All relevant records and documentation to be kept and maintained e.g. training records, risk assessments, maintenance schedules, recipes for fertiliser blends, MSDS etc

6. Further Information

6.1 Please contact the [OHS&IS](#) unit if you require further information.