



## Dangerous Goods Safety information sheet

### Security sensitive ammonium nitrate (SSAN) waste

#### Introduction

This information sheet is provided to assist all persons who deal with security sensitive ammonium nitrate (SSAN) waste. It is particularly for those who are not routinely involved with SSAN and may be unaware of their responsibilities.

The information sheet addresses the safety, security and regulatory requirements of SSAN and is for guidance only. The statutory requirements are contained in the *Dangerous Goods Safety Act 2004* (the Act), the Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007 (the SSAN Regulations), relevant subsidiary legislation and several Approved Codes of Practice.

Under section 8 of the Act, all persons involved with dangerous goods, including waste SSAN, have a duty to ensure it does not harm people, property or the environment.

#### SSAN definition

The following substances, other than Class 1 (explosives) dangerous goods, are classified as SSAN in Western Australia:

- solid mixtures containing more than 45% ammonium nitrate (AN)
- ammonium nitrate emulsions (ANE), suspensions or gels.

Solutions of AN are not included in the definition of SSAN and solutions of AN up to 80% are not considered to be dangerous goods.

#### SSAN hazards

SSAN has three main hazards.

- **Fire.** SSAN products are not combustible and do not burn, but many are Division 5.1 oxidising substances that can facilitate the initiation of fire and will assist the combustion of other materials, even if air is excluded.
- **Decomposition.** If heated, some SSAN products such as solid ammonium nitrate will decompose to give off toxic gasses.
- **Explosion.** SSAN products are potentially explosive substances if confined or contaminated, and involved in a fire.

Many contaminants can react or combine with SSAN to form compounds that are explosive or make the SSAN more sensitive to detonation from impact, heat, fire, static or spontaneous-self heating. Contaminants that sensitise SSAN include some metals, combustible materials (oils, diesel, rags or paper), acids, chlorates, nitrites and pool chemicals, in addition to the sensitising chemicals normally used in manufacturing bulk explosives.

## **General precautions for SSAN waste**

The risk of an explosion is significantly decreased by reducing the potential for the SSAN to be heated, contaminated or confined.

Avoid storing SSAN waste. SSAN waste should be processed or used on site, removed by a licensed waste contractor, or processed so it is destroyed or made into non-SSAN and non-dangerous goods as soon as possible.

Obtain the manufacturer's Safety Data Sheet (SDS) for the product and seek advice from the manufacturer on appropriate handling and disposal.

Until SSAN waste is removed, destroyed or processed, ensure it is:

- not mixed with, and is kept away from, all incompatible materials including those listed in the manufacturer's SDS
- kept at least three metres from a source of heat or fire risk
- kept secure to prevent theft or use in unauthorised activities
- kept in a locked, or sealed, labelled container made from compatible material.

Conduct a safety and security risk assessment that considers the properties and the associated hazards. A well-considered standard operating procedure (SOP) should be prepared for handling SSAN waste. This can be used when training others.

## **In an emergency**

Do not fight a fire involving SSAN. Evacuate upwind or across wind, to a safe distance. Consider the potential for an explosion.

If any SSAN is fuming, evacuate upwind or across wind, to a safe distance. Consider the potential for an explosion.

Be aware that SSAN containers may rupture violently when closed and heated.

Ensure any emergency responders are aware of the presence and location of SSAN wastes.

## **Security precautions for SSAN waste**

Anyone in possession of SSAN must have authority to possess it or be supervised by a person authorised to possess it. This authority is in the form of a licence and every site storing SSAN must hold or be covered by an SSAN licence. A security plan must be prepared when making application for a licence.

SSAN waste must be kept secure from theft, unexplained loss, sabotage and unauthorised activities. Any theft, attempted theft or unexplained loss must be reported to WA Police and the Chief Dangerous Goods Officer.

For more information on the SSAN regulations refer to the Department's information sheet [Overview of Security Sensitive Ammonium Nitrate Regulations](#).

For further information on SSAN storage licensing see [Applying for a security sensitive ammonium nitrate storage licence](#) on the Department's website.

## **Destroying or disposing of SSAN waste**

All SSAN waste needs to be disposed of as per the SSAN Regulations and any applicable environmental regulations. One option is to arrange for a licensed waste contractor to collect and dispose of the waste. Another option is for the SSAN waste to be returned to the place where it originated. If it is a mine, the waste can be destroyed by blasting.

Solid SSAN, especially water gels, are more sensitive to impact. Don't use picks or shovels when removing solid SSAN waste.

Solid AN dissolves readily in water. Once dissolved, solutions are not considered SSAN and solutions with not more than 80% AN are non-dangerous goods.

ANEs are viscous products that are water resistant and difficult to dissolve. ANE/water mixtures must be treated as SSAN until the ANE is broken down, which can be done using a strong surfactant (such as a truck wash detergent) and vigorous mixing.

### **Further information**

- [AIESG Code of Practice – Storage and Handling of UN3375](#)
- [Overview of Security Sensitive Ammonium Nitrate Regulations](#)