

# Safety Data Sheet



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** **AMMONIUM NITRATE FERTILIZER SOLUTION >60%**

**Other name(s):** Ammonium nitrate fertilizer SLTN (60%), ANSF, Strong fertilizer

**Recommended Use of the Chemical and Restrictions on Use** Fertilizer.

**Supplier:** Ixom Operations Pty Ltd  
**ABN:** 51 600 546 512  
**Street Address:** Level 8, 1 Nicholson Street  
East Melbourne Victoria 3002  
Australia

**Telephone Number:** +61 3 9906 3000  
**Emergency Telephone:** **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

**Classification of the chemical:**  
Eye Irritation - Category 2A

**SIGNAL WORD:** WARNING



**Hazard Statement(s):**  
H319 Causes serious eye irritation.

**Precautionary Statement(s):**

**Prevention:**  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves, eye and face protection.

**Response:**  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.

**Storage:**  
No storage statements.

**Disposal:**  
No disposal statements.

**Poisons Schedule (SUSMP):** None allocated.  
*Product Name:* AMMONIUM NITRATE FERTILIZER SOLUTION >60%  
*Substance No:* 000000053414

*Issued:* 10/05/2017  
*Version:* 1

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

**Product Description:** Trace materials include Arsenic < 2 mg/L; Boron < 0.5 mg/L; Cadmium < 8.3 mg/L; Chloride < 24000 mg/L; Chromium < 1 mg/L; Copper < 5 mg/L; Lead < 120 mg/L; Mercury < 6 mg/L; Molybdenum < 120 mg/L; Nickel < 2 mg/L; Selenium < 0.05 mg/L; Zinc < 5 mg/L

Components	CAS Number	Proportion	Hazard Codes
Ammonium nitrate	6484-52-2	60-65%	H272 H319
Water	7732-18-5	>35%	-
Buffering agents	-	<10%	-
Organics	-	<0.2%	-
Trace materials	-	< 0.01%	-

## 4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

### Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

### Skin Contact:

If skin contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice. Caution - material can be hot. For skin burns, cover with a clean, dry dressing until medical help is available. Nitrates can be absorbed through cut, burnt or broken skin. Launder contaminated clothing before reuse.

### Eye Contact:

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes. Seek medical attention.

### Ingestion:

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Get to a doctor or hospital quickly.

**Indication of immediate medical attention and special treatment needed:**

Treat symptomatically. If material is hot treat as for scalds. Delayed shock is a possibility. May cause methemoglobinemia. Contains ammonium nitrate which can be absorbed through cut, broken or burnt skin. If exposure is suspected treat as for exposure to nitrates, as outlined below. Clinical findings: The smooth muscle relaxant effect of nitrate salts may lead to headache, dizziness and marked hypotension. Cyanosis is clinically detectable when approximately 15% of the haemoglobin has been converted to methaemoglobin (ie. ferric iron).

Symptoms such as headache, dizziness, weakness and dyspnoea occur when methaemoglobin concentrations are 30% to 40%; at levels of about 60%, stupor, convulsions, coma and respiratory paralysis occur and the blood is a chocolate brown colour. At higher levels death may result. Spectrophotometric analysis can determine the presence and concentration of methaemoglobin in blood.

Treatment:

1. Give 100% oxygen.
2. In cases of (a) ingestion: use gastric lavage, (b) contamination of skin (unburnt or burnt): continue washing to remove salts.
3. Observe blood pressure and treat hypotension if necessary.
4. When methaemoglobin concentrations exceed 40% or when symptoms are present, give methylene blue 1 to 2 mg/kg body weight in a 1% solution by slow intravenous injection. If cyanosis has not resolved within one hour a second dose of 2 mg/kg body weight may be given. The total dose should not exceed 7 mg/kg body weight as unwanted effects such as dyspnoea, chest pain, vomiting, diarrhoea, mental confusion and cyanosis may occur. Without treatment methaemoglobin levels of 20-30% revert to normal within 3 days.
5. Bed rest is required for methaemoglobin levels in excess of 40%.
6. Continue to monitor and give oxygen for at least two hours after treatment with methylene blue.
7. Consider transfer to centre where haemoperfusion can be performed to remove the nitrates from the blood if the condition of the patient is unstable.
8. Following inhalation of oxides of nitrogen the patient should be observed in hospital for 24 hours for delayed onset of pulmonary oedema. Further observation for 2-3 weeks may be required to detect the onset of the inflammatory changes of bronchiolitis fibrosa obliterans.

## 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:**

Not combustible, however, if material is involved in a fire use: Water spray (large quantities).

**Unsuitable Extinguishing Media:**

Dry agent (carbon dioxide, dry chemical powder).

**Specific hazards arising from the chemical:**

Non combustible, but may support combustion of other materials. May increase intensity of fire. Decomposes on heating emitting irritating white fumes and/or brown fumes. Brown fumes indicate the presence of toxic oxides of nitrogen.

**Special protective equipment and precautions for fire-fighters:**

Nitrate salts on their own are not combustible, however, they will support the combustion of other materials. Decomposes on heating emitting irritating white fumes and/or brown fumes. Brown fumes indicate the presence of toxic oxides of nitrogen.

On detection of fire the compartment(s) should be opened up to provide maximum ventilation. Fire-fighters to wear self-contained breathing apparatus and suitable protective clothing if there is a risk of exposure to products of combustion/decomposition. Fires should be fought from a protected location. Keep containers and adjacent areas cool with water spray. If safe to do so, remove containers from path of fire. If safe to do so, prevent molten material from being confined in drains, pipes etc.

A major fire may involve a risk of explosion. An adjacent detonation may also involve the risk of explosion.

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## 6. ACCIDENTAL RELEASE MEASURES

### Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Shut off all possible sources of ignition. Do not allow the product to mix with combustible/organic materials.

Do not allow container or product to get into drains, sewers, streams or ponds. If contamination of sewers or waterways has occurred advise local emergency services.

### Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Clean up spillages immediately. Wear protective equipment to prevent skin and eye contact. If material is hot wear protective material to protect from heat. Contain - prevent run off into drains and waterways. Cover with damp absorbent (inert material, sand or soil). DO NOT use combustible material. Collect and seal in properly labelled containers or drums for disposal. DO NOT return spilled material to original container for re-use. Ensure that contaminated material (clothing, pallets) is thoroughly washed. Wash area down with excess water.

## 7. HANDLING AND STORAGE

### Precautions for safe handling:

Avoid skin and eye contact and breathing in vapour, mists and aerosols. Avoid contact with the hot material.

### Conditions for safe storage, including any incompatibilities:

Store in a well ventilated area. Store away from combustible materials and oxidising agents. Store away from possible contaminants. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters:** No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for possible constituents of vapour:

Ammonia: 8hr TWA = 17 mg/m<sup>3</sup> (25 ppm), 15 min STEL = 24 mg/m<sup>3</sup> (35 ppm)

Nitric acid: 8hr TWA = 5.2 mg/m<sup>3</sup> (2 ppm), 15 min STEL = 10 mg/m<sup>3</sup> (4 ppm)

Nitrogen dioxide: 8hr TWA = 5.6 mg/m<sup>3</sup> (3 ppm), 15 min STEL = 9.4 mg/m<sup>3</sup> (5 ppm)

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

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## Appropriate engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

## Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES.



Wear overalls, chemical goggles and impervious gloves. Heat resistant clothing may be necessary. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

If determined by a risk assessment an inhalation risk exists, wear an air supplied respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Warm to Hot Liquid
<b>Colour:</b>	Clear , Colourless
<b>Odour:</b>	Irritating - Nitric acid or Ammonia (depends on pH)
<b>Solubility:</b>	Miscible with water.
<b>Specific Gravity:</b>	1.25
<b>Relative Vapour Density (air=1):</b>	Not available
<b>Vapour Pressure (20 °C):</b>	Not available
<b>Flash Point (°C):</b>	Not applicable.
<b>Flammability Limits (%):</b>	Not applicable
<b>Autoignition Temperature (°C):</b>	Not available
<b>Boiling Point/Range (°C):</b>	Not available
<b>Decomposition Point (°C):</b>	Not available
<b>pH:</b>	4.5-8.0
<b>Viscosity:</b>	Not available
<b>Evaporation Rate:</b>	Not available

## 10. STABILITY AND REACTIVITY

**Reactivity:** No information available.

**Chemical stability:** A weak oxidising agent. The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

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<b>Possibility of hazardous reactions:</b>	Hazardous polymerisation will not occur.
<b>Conditions to avoid:</b>	Avoid contact with other chemicals. Avoid contact with combustible chemicals. Avoid contact with reducing agents .
<b>Incompatible materials:</b>	Incompatible with reducing agents. Incompatible with combustible materials. Incompatible with alkalis. Incompatible with powdered metals. Incompatible with strong acids. Incompatible with nitrites , chlorites , chlorides and permanganates .
<b>Hazardous decomposition products:</b>	Oxides of nitrogen. Ammonia. Nitric acid.

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

<b>Ingestion:</b>	Swallowing may result in irritation to the mouth and throat. Swallowing can result in nausea, vomiting, diarrhoea, and abdominal pain. Swallowing large amounts may result in headaches, dizziness and a reduction in blood pressure (hypotension). The hot material can cause thermal burns.
<b>Eye contact:</b>	An eye irritant. Vapours/mists from heated product may irritate eyes. Contact with the hot material can result in pain, thermal burns, and permanent injury.
<b>Skin contact:</b>	Repeated or prolonged skin contact may lead to irritation. Contact with hot material may cause skin burns. The ammonium nitrate component of this material can be absorbed through burnt, cut or broken skin with resultant adverse effects. See effects as noted under 'Inhalation'.
<b>Inhalation:</b>	Breathing in vapour, mists or aerosols may produce respiratory irritation. Where this material is used in a poorly ventilated area, at elevated temperatures or in confined spaces, vapour may cause irritation to mucous membranes of the respiratory tract, headache and nausea.  Absorption of ammonium nitrate by inhalation, ingestion or through burnt or broken skin may cause dilation of blood vessels by direct smooth muscle relaxation and may also cause methaemoglobinaemia. May cause dizziness, drowsiness, nausea and headache due to central nervous system effects.

**Acute toxicity:** No LD50 data available for the product. For the constituent AMMONIUM NITRATE:  
Oral LD50 (rat): 2217 mg/kg.

<b>Serious eye damage/irritation:</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitisation:</b>	Not known or reported to be a skin or respiratory sensitiser.

**Chronic effects:** No information available for the product.

**Aspiration hazard:** Not classified.  
In humans and animals methaemoglobinaemia has occurred under untreated circumstances following overexposure to nitrates. Absorption of nitrates by any route may cause dilation of blood vessels by direct smooth muscle relaxation.

## 12. ECOLOGICAL INFORMATION

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<b>Ecotoxicity</b>	Avoid contaminating waterways. Ammonium nitrate is a plant nutrient. Large scale contamination may kill vegetation and cause poisoning in livestock and poultry. Low toxicity to aquatic life. TLM 96: 10-100 ppm
<b>Persistence/degradability:</b>	The material is biodegradable. Not expected to bioconcentrate or accumulate.
<b>Mobility in soil:</b>	The material is water soluble and may disperse in soil.
<b>Aquatic toxicity:</b>	Ammonium nitrate was evaluated at 5, 10, 25 and 50 mg (NH <sub>4</sub> <sup>+</sup> )/L. The fertility of Daphnia magna was decreased at 50 mg/L. Post embryonic growth of crustacea was impaired at 10, 25 and 50 mg/L.  Can stimulate weed and algal growth in static surface waters.

## 13. DISPOSAL CONSIDERATIONS

### **Disposal methods:**

Refer to Waste Management Authority. Dispose of contents and container in accordance with local regulations. Empty containers must be decontaminated by rinsing thoroughly with water. Rinsing water needs to be disposed of carefully. Rinsing water needs to be disposed of carefully.

## 14. TRANSPORT INFORMATION

### **Road and Rail Transport**

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

### **Marine Transport**

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

### **Air Transport**

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

## 15. REGULATORY INFORMATION

### **Classification:**

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

### **Classification of the chemical:**

Eye Irritation - Category 2A

### **Hazard Statement(s):**

H319 Causes serious eye irritation.

**Poisons Schedule (SUSMP):** None allocated.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

# Safety Data Sheet



'Registry of Toxic Effects of Chemical Substances'. Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2016.

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

**Reason(s) for Issue:**

First Issue Primary SDS

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.