SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Name of the substance: Ammonium nitrate
Identification number: 6484-52-2 (CAS number)
Registration number: 01-2119490981-27-XXXX
Synonyms: Nitric Acid Ammonium Salt, Ammonium Nitrate Fertilizer
SDS number: BFL_AN_EU_EN
Issue date: 25-February-2015
Version number: 01
Revision date: -
Supersedes date: -

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Fertiliser.
Uses advised against: None known.

1.3. Details of the supplier of the safety data sheet
Supplier
Company name: Bunn Fertiliser Ltd.
Address: Lakeside 500, 1st Floor
Old Chapel Way, Broadland Business Park
Norwich, NR7 0WG
UK
Telephone: (0845) 1662222
E-mail: info@bunnfertiliser.com
Contact person: Not available.

1.4. Emergency telephone number
For Chemical Emergency
Call CHEMTREC day or night
UK +44 (0)870 8200418
USA/Canada +1.800.424.9300
Outside USA/Canada +1.703.527.3887
(collect calls accepted)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended
Classification: O;R8, Xi;R36

Classification according to Regulation (EC) No 1272/2008 as amended
Physical hazards
Oxidizing solids Category 3
Health hazards
Serious eye damage/eye irritation Category 2

Hazard summary
Physical hazards Contact with combustible material may cause fire.
Health hazards Irritating to eyes.
Environmental hazards Not classified for hazards to the environment.
Specific hazards Dust may irritate skin and the respiratory system. May cause discomfort if swallowed.
Main symptoms May cause redness and pain. Cough.

2.2. Label elements
Label according to Regulation (EC) No. 1272/2008 as amended
Contains: Ammonium nitrate

Hazard pictograms

Signal word
Warning

Hazard statements
H272 May intensify fire; oxidiser.
H319 Causes serious eye irritation.

Precautionary statements
Prevention
P210 Keep away from heat.
P220 Keep/Store away from clothing and other combustible materials.
P264 Wash thoroughly after handling.
P221 Take any precaution to avoid mixing with combustibles.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response
P370 + P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.
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
Store away from incompatible materials.

Disposal
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information
None.

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>%</th>
<th>CAS-No. / EC No.</th>
<th>REACH Registration No.</th>
<th>INDEX No.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>&gt;98.8</td>
<td>6484-52-2</td>
<td>01-2119490981-27-XXXX</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>229-347-8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Classification:
DSD: O;R8, Xi;R36
CLP: Ox. Sol. 3; H272, Eye Irrit. 2; H319

Impurities

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>%</th>
<th>CAS-No. / EC No.</th>
<th>REACH Registration No.</th>
<th>INDEX No.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium nitrate</td>
<td>&lt; 1.2</td>
<td>10377-60-3</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>233-826-7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List of abbreviations and symbols that may be used above
DSD: Directive 67/548/EEC.

Composition comments
The full text for all R- and H-phrases is displayed in section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

SECTION 4: First aid measures

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation
Move person to fresh air. Get medical attention if any discomfort continues.

Skin contact
Wash off with plenty of water. Get medical attention if irritation develops or persists.

Eye contact
Do not rub eye. Flush thoroughly with water for at least 15 minutes. Get medical attention.
Ingestion

Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort occurs.

4.2. Most important symptoms and effects, both acute and delayed

May cause redness and pain. Cough.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards

May intensify fire; oxidiser.

5.1. Extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Suitable extinguishing media

Dry chemical. Carbon dioxide (CO2).

Unsuitable extinguishing media

5.2. Special hazards arising from the substance or mixture

Explosion risk in case of fire.

5.3. Advice for firefighters

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.

Special protective equipment for firefighters

Move container from fire area if it can be done without risk.

Special fire fighting procedures

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid inhalation of dust. Avoid contact with skin and eyes. Avoid generation and spreading of dust. Wear protective clothing as described in section 8 of this safety data sheet.

For emergency responders

Avoid inhalation of dust.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Stop the flow of material, if this is without risk. Collect and dispose of spillage as indicated in section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas. Collect spill using a vacuum cleaner with a HEPA filter. Place in a designated labeled waste container, dispose as hazardous waste. Flush area with plenty of water.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Use with adequate ventilation. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool, dry, well-ventilated place. Packaging materials: stainless steel, synthetic. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s)

Fertiliser

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no-effect level (DNEL)

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Route</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate (CAS 6484-52-2)</td>
<td>General Population</td>
<td>Dermal</td>
<td>12.8 mg/kg/day</td>
<td>Long-term - systemic effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Long-term - systemic effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11.1 mg/m³</td>
<td>Long-term - systemic effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inhala</td>
<td></td>
<td>Long-term - systemic effects</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td></td>
<td>12.8 mg/kg/day</td>
<td>Long-term - systemic effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orals</td>
<td></td>
<td>Long-term - systemic effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21.3 mg/kg/day</td>
<td>Long-term - systemic effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Long-term - systemic effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>37.6 mg/m³</td>
<td>Long-term - systemic effects</td>
</tr>
</tbody>
</table>

Ammonium nitrate SDS UK
910163 Version #: 01 Revision date: - Issue date: 25-February-2015
### Predicted no effect concentrations (PNECs)

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Route</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate (CAS 6484-52-2)</td>
<td>Aqua (freshwater)</td>
<td>Water</td>
<td>0.45 mg/l</td>
<td>Aqua (intermittent releases)</td>
</tr>
<tr>
<td></td>
<td>Aqua (marine water)</td>
<td>Water</td>
<td>0.045 mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sewage Treatment Plant</td>
<td>Not applicable</td>
<td>18 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

### 8.2. Exposure controls

**Appropriate engineering controls**
Provide adequate ventilation. The risk of inhalation of dust must be minimised as much as possible.

**Individual protection measures, such as personal protective equipment**

- **General information**
  Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

- **Eye/face protection**
  Risk of contact: Wear dust goggles.

- **Skin protection**
  - **Hand protection**
    Risk of contact: Wear protective gloves (4-8h break through time). Rubber gloves are recommended. Suitable gloves can be recommended by the glove supplier.
  - **Other**
    No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

- **Respiratory protection**
  Seek advice from local supervisor. In case of inadequate ventilation use suitable respirator. Use respiratory equipment with particle filter, type P2. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

- **Thermal hazards**
  Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practices. Wash hands after handling. Always wash hands thoroughly before eating, drinking or smoking.

**Environmental exposure controls**
Not available.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

**Appearance**

- **Physical state**
  Solid.
- **Form**
  Solid.
- **Colour**
  Transparent to white.

- **Odour**
  Odourless.

- **Odour threshold**
  Not available.

- **pH**
  5.4 0.1 molar aqueous solution

- **Melting point/freezing point**
  -169.6 °C (-273.28 °F) @ 1013 hPa

- **Initial boiling point and boiling range**
  > 210 °C (> 410 °F)

- **Flash point**
  Not applicable.

- **Evaporation rate**
  Not applicable.

- **Flammability (solid, gas)**
  Non flammable.

- **Upper/lower flammability or explosive limits**
  - **Flammability limit - lower (%)**
    Not available.
  - **Flammability limit - upper (%)**
    Not available.

- **Vapour pressure**
  Negligible.

- **Vapour density**
  Not applicable.

- **Relative density**
  1.72 @ (20°C)

- **Solubility(ies)**
  > 100 g/l

- **Partition coefficient (n-octanol/water)**
  Not available.

- **Auto-ignition temperature**
  Not available.

- **Decomposition temperature**
  < 210 °C (< 410 °F) (When heated to decomp emits highly toxic fumes of nitrogen oxides).
Viscosity  
Not applicable.

Explosive properties  
Not explosive.

Oxidizing properties  
Oxidising.

9.2. Other information  

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk density</td>
<td>850 - 1000 kg/m³</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>H₄-N₂-O₃</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>80.06 g/mol</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity  
Oxidising, avoid contact with reducing agents.

10.2. Chemical stability  
May explode under confinement and high temperature but not readily detonated. When molten, may decompose violently due to shock or pressure. Hygroscopic: absorbs moisture or water from surrounding air.

10.3. Possibility of hazardous reactions  
Reacts with organic materials and reducing agents.

10.4. Conditions to avoid  
Avoid heat, sparks, open flames and other ignition sources. Protect against direct sunlight. Heat may cause the containers to explode. Minimise dust generation and accumulation. Keep away from combustible material. Keep away from incompatible material. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

10.5. Incompatible materials  
Combustible material. Strong reducing agents. Tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, any bromate, chlorate, chlorite, hypochlorite, perchlorate, chloroisocyanurate, any inorganic nitrite, and metal powders.

10.6. Hazardous decomposition products  
Nitrogen oxides. Ammonia.

SECTION 11: Toxicological information

General information  
Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure  

- **Inhalation**  
  High concentrations of dust and fumes may irritate the throat and respiratory system and cause coughing.

- **Skin contact**  
  Dust may irritate skin.

- **Eye contact**  
  Causes serious eye irritation.

- **Ingestion**  
  May cause discomfort if swallowed.

Symptoms  
May cause redness and pain. Cough.

11.1. Information on toxicological effects

### Acute toxicity
May cause discomfort if swallowed.

<table>
<thead>
<tr>
<th>Product</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute</strong></td>
<td></td>
</tr>
<tr>
<td><em>Dermal</em></td>
<td></td>
</tr>
<tr>
<td>LD₅₀</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
</tr>
<tr>
<td>LC₅₀</td>
<td>&gt; 88.8 mg/l, 4 Hours</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
</tr>
<tr>
<td>LD₅₀</td>
<td>2950 mg/kg</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td></td>
</tr>
<tr>
<td>May cause skin irritation.</td>
<td></td>
</tr>
<tr>
<td><strong>Serious eye damage/eye irritation</strong></td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>
Aspiration hazard: Not classified.
Mixture versus substance information: Not available.
Other information: No other specific acute or chronic health impact noted.

SECTION 12: Ecological information

12.1. Toxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate (CAS 6484-52-2)</td>
<td>Aquatic Algae</td>
<td>EC50 Algae &gt; 1700 mg/l, 10 days</td>
</tr>
<tr>
<td></td>
<td>Crustacea</td>
<td>EC50 Daphnia magna 490 mg/l, 48 hours</td>
</tr>
<tr>
<td></td>
<td>Fish</td>
<td>LC50 Carp (Cyprinus carpio) 447 mg/l, 48 hours</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

Partition coefficient n-octanol/water (log Kow)
Not available.

Bioconcentration factor (BCF)
Not available.

12.4. Mobility in soil
Not available.

12.5. Results of PBT and vPvB assessment
Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects
Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Residual waste: Dispose of in accordance with local regulations.
Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied.

EU waste code: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information: Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR
14.1. UN number: UN2067
14.2. UN proper shipping name: AMMONIUM NITRATE BASED FERTILIZER
14.3. Transport hazard class(es)
   - Class: 5.1
   - Subsidiary risk: -
   - Label(s): 5.1
   - Hazard No. (ADR): 50
   - Tunnel restriction code: E
14.4. Packing group: III
14.5. Environmental hazards: No
14.6. Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

RID
14.1. UN number: UN2067
14.2. UN proper shipping name: AMMONIUM NITRATE BASED FERTILIZER
14.3. Transport hazard class(es)
   - Class: 5.1
   - Subsidiary risk: -
   - Label(s): 5.1
14.4. Packing group: III
14.5. Environmental hazards: No
Read safety instructions, SDS and emergency procedures before handling.

14.6. Special precautions for user

ADN

14.1. UN number UN2067
14.2. UN proper shipping name Ammonium Nitrate Fertilizer
14.3. Transport hazard class(es)
   Class 5.1
   Subsidiary risk -
   Label(s) 5.1
14.4. Packing group III
14.5. Environmental hazards No
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number UN2067
14.2. UN proper shipping name Ammonium nitrate based fertilizer
14.3. Transport hazard class(es)
   Class 5.1
   Subsidiary risk -
   Label(s) 5.1
14.4. Packing group III
14.5. Environmental hazards No
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number UN2067
14.2. UN proper shipping name AMMONIUM NITRATE BASED FERTILIZER
14.3. Transport hazard class(es)
   Class 5.1
   Subsidiary risk -
   Label(s) 5.1
14.4. Packing group III
14.5. Environmental hazards Marine pollutant No
   EmS F-H, S-Q
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable. However, the product is covered under Appendix I of the IMSBC Code.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended Not listed.
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended Not listed.
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended Not listed.
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.
Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
Not listed.
Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

Authorisations
Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended
Not listed.
Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Not listed.

Restrictions on use
Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Ammonium nitrate (CAS 6484-52-2)
Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work
Not listed.
Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding
Not listed.

Other EU regulations
Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances
Not listed.
Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work
Not listed.
Directive 94/33/EC on the protection of young people at work
Not listed.

Other regulations
The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended and respective national laws implementing EC directives. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations
Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment
Chemical Safety Assessment has been carried out.

SECTION 16: Other information
List of abbreviations
DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration.

References
Not available.
Information on evaluation method leading to the classification of mixture
The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15
R36 Irritating to eyes.
R8 Contact with combustible material may cause fire.
H272 May intensify fire; oxidiser.
H319 Causes serious eye irritation.

Training information
Follow training instructions when handling this material.
NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.