


Safety Data Sheet

According to Commission Regulation (EU) No 2015/830

Issue date 11/07/2013
 Issue 3
 Review date 21/07/2016
 Review 4

Solid ammonium nitrate >80% and >97% (fertiliser grade)

| SECTION 1 | | Identification of the substance/mixture and of the company/undertaking | | | |
|-----------|---|---|-------------|-------------------|---|
| 1,1 | Product identifier | | | | |
| | Product commercial name | Fertiliser based on more than 80% ammonium nitrate. | | | |
| | Chemical name | Mixture, main ingredient Ammonium Nitrate | | | |
| | Other names | Ammonium nitrate 33.5; Ammonium nitrate fertilisers. | | | |
| | Chemical formula | Mixture, main ingredient NH ₄ NO ₃ | | | |
| | EU index number (Appendix 1) | Not applicable | | | |
| | CE No | Not applicable | | | |
| | CAS No. | Not applicable | | | |
| | REACH or National product registration number | Not applicable | | | |
| 1,2 | Relevant identified uses of the substance or mixture and uses advised against | | | | |
| | Identified uses | As a fertiliser and in the manufacture of mixtures. | | | |
| | Uses advised against | None | | | |
| 1,3 | Details of the supplier of the safety data sheet | | | | |
| | Company name | FERTIBERIA. S.A. | | | |
| | Company address | Paseo de la Castellana, 259 D. Plantas 47 y 48 - 28046 Madrid | | | |
| | Company telephone number | Central: 91.586.62.00; Puertollano factory: 926.44.93.00; Sagunto Factory: 962.69.90.04 | | | |
| | Company email for SDS | reachfertiberia@fertiberia.es | | | |
| 1,4 | Emergency telephone number | Puertollano factory: 926.44.93.00; Sagunto Factory: 962.69.90.04 | | | |
| SECTION 2 | | Hazards identification | | | |
| 2,1 | Classification of the substance or mixture* | According to Regulation EC 1272/2008 [CLP] Oxidising solid. Cat3; H272 Eye Irritation. Cat2.; H319 | | | |
| 2,2 | Label elements | Pictograms | Signal word | Hazard statements | Precautionary Statements |
| | |  | Warning | H272 H319 | P210 P220 P280 P305+P351+P338 P337 + P313 |
| 2,3 | Other hazards | | | | |
| | PBT/vBvP Criteria | In accordance with appendix XIII of the Regulation (EC) no. 1907/2006, it is not PBT or vPvB since it is an inorganic substance. | | | |
| | <u>Other hazards that do not involve product classification</u> | | | | |
| | Physical and chemical hazards | Fertilizers are basically harmless products when handled correctly. Nevertheless, the following points should be noted for fire, heating and detonation: - When strongly heated it melts and if heated further it can decompose releasing toxic fumes that contain nitrogen and ammonium oxides. - These products have a high resistance to detonation. - Heating under strongly confined conditions may lead to an explosive reaction. | | | |
| | Health hazards | Fertilizers are basically harmless products when handled correctly. Nevertheless, the following points should be observed: Contact with skin: Prolonged contact may cause discomfort. Ingestion: Small quantities are unlikely to cause toxic effects. In large quantities it can produce disorders in the gastrointestinal tract and in extreme cases the formation of methemoglobin can occur (blue baby syndrome) and cyanosis (indicated by blueness around the mouth). Inhalation: High concentrations of dust in the air may cause nose and upper respiratory tract irritation with sore throat and cough symptoms. Long term local effects: Unknown adverse effects. Other: Fire and heating: Inhaling decomposition gases containing nitrogen and ammonium oxides can cause irritation and have corrosive effects on the respiratory system. These gases may have delayed pulmonary oedema effects. | | | |
| | Environmental hazards | Ammonium nitrate is a nitrogen fertilizer. Heavy spillage may cause an adverse environmental impact such as eutrophication (developing undesirable flora in confined surface waters or nitrate contamination. (See section 12). | | | |

* To understand the full meaning of hazard statements (H): see section 16

Solid ammonium nitrate >80% and >97% (fertiliser grade)

| SECTION 3 Composition/information on ingredients | | | | | | | | |
|--|---------|------------|------------------|----------------------|---------------------------|-------------------------------------|-------------------------------|--|
| Name | % (w/w) | CAS No. | IUPAC | Index No R.1272/2008 | REACH Registration Number | Classification Regulation 1272/2008 | Specific concentration limits | |
| Ammonium nitrate | ≥ 80% | 6484-52-2 | ammonium nitrate | ---- | 01-2119490981-27-0028 | Oxid. Solid 3 Eye Irrit. 2 | | |
| Dolomite | ≤20% | 16389-88-1 | | | Not required | Not classified | | |
| Limestone | | 1317-65-3 | | | Not required | Not classified | | |

| SECTION 4 First aid measures | |
|------------------------------|--|
| 4,1 | Description of first aid measures |
| General | Seek medical attention when necessary. Inhalation of gases, from a fire or thermal decomposition, that contain nitrogen and ammonium oxides may cause irritation and have corrosive effects on the respiratory system. Administer oxygen, especially if there is blue colouring around the mouth. |
| Inhalation | Remove the person from the point of exposure to the dust. Seek medical attention if there are any harmful effects. |
| Ingestion | Do not induce vomiting. Rinse the mouth and give water or milk to drink. Seek medical attention if more than a small quantity has been ingested. |
| Contact with skin | Wash the affected area with water. |
| Contact with eyes | Wash or rinse the eyes with plenty of water for at least 15 minutes, including behind the eyelids. Remove contact lenses if present and easy to do. Seek medical attention if eye irritation persists. |
| 4,2 | Most important symptoms and effects, both acute and delayed |
| | Eye irritation. Some effects on the lungs may be delayed. |
| 4,3 | Indication of any immediate medical attention and special treatment needed |
| | Inhalation of gases, from a fire or thermal decomposition, that contain nitrogen and ammonium oxides may cause irritation and have corrosive effects on the respiratory system. Administer oxygen, especially if there is blue colouring (methaemoglobin) around the mouth. |

| SECTION 5 Firefighting measures | |
|--|---|
| 5,1 | Extinguishing media |
| Suitable extinguishing media | Water. |
| Unsuitable extinguishing media | Do not use chemical or foam extinguishers or attempt to suffocate the fire with sand or mist. |
| 5,2 | Special hazards arising from the substance or mixture |
| Special hazards | Not combustible. If it is involved in a fire it will intensify it as it is an oxidising agent, it can maintain the fire even in the absence of air. There is a potential explosion risk during the fire when the product is strongly confined and/or contaminated with incompatible materials (e.g. organic material, halogen compounds - see section 10) Prilled fertiliser must not be put in drains. |
| Thermal decomposition or product combustion hazards | Nitrogen and ammonium oxides |
| 5,3 | Advice for firefighters |
| Specific firefighting methods | Open doors and windows in the area to give maximum ventilation. Avoid breathing the smoke (toxic). Position yourself upwind of the fire. Do not contaminate the fertiliser with oils or other combustible materials. |
| Special protective equipment for firefighting | Use self contained breathing apparatus in case of smoke. |

| SECTION 6 Accidental release measures | |
|---------------------------------------|--|
| 6,1 | Personal precautions, protective equipment and emergency procedures |
| | Avoid walking on the spilt product and exposure to the dust. |
| 6,2 | Environmental precautions |
| | Take care to prevent contamination of water courses and drains and inform the competent authorities in case of accidental contamination of water courses. |
| 6,3 | Methods and material for containment and cleaning up |
| | Any spillage of fertiliser should be quickly cleaned up, swept and placed in a clean, open receptacle and labelled for safe disposal avoiding the formation of dust. Do not mix with sawdust or other combustible or organic material. Dilute any contaminated or fine grain fertiliser with inert materials such as limestone/dolomite, mineral phosphate, gypsum, sand or dissolve in water. |
| 6,4 | Reference to other sections |
| | See section 1 for contact data, section 8 for PPE and section 13 for waste disposal. |

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| SECTION 7 | Handling and storage |
|---|---|
| 7,1 | <p>Precautions for safe handling</p> <p>Prevent the excessive generation of dust. Prevent contamination with combustible materials (e.g. gas-oil, greases, etc.) and other incompatible materials. Avoid the unnecessary exposure of the product to the atmosphere to prevent moisture absorption. When the product is handled for long periods, use appropriate personal protective equipment, e.g. gloves. Carefully clean the installations before carrying out maintenance and repair operations.</p> |
| 7,2 | <p>Conditions for safe storage, including any incompatibilities</p> <p>Store in compliance with ITC-MIE-APQ08 regulations. Place away from sources of heat and flames. Always keep away from combustible materials and substances mentioned in section 10. In the field, ensure that the fertilizer is not stored near hay, straw, grain, gas-oil, etc. When stored in bulk, avoid mixing with other incompatible fertilizers. In the storage area, ensure that strict tidiness and cleanliness standards are complied with. Do not allow smoking or the use of naked portable lamps in the storage area. Restrict the size of piles and stacks (in accordance with local regulations) and leave a minimum free space of 1 metre around the piles or stacks of sacks. Any building used for storage should be dry and well ventilated. When required, due to the nature of the product stored in containers and weather conditions, the product should be stored in such a way as to avoid its destruction due to thermal cycles (extreme temperature conditions). The product should not be stored in direct sunlight to prevent physical break-up due to thermal cycles.</p> <p>Recommended and non-recommended packaging materials</p> <p>Suitable materials for containers are: steel, aluminium and synthetic plastics. Do not use copper and/or zinc.</p> |
| 7,3 | <p>Specific end use(s)</p> <p>See section 1.2 and appendices for exposure scenarios.</p> |
| <i>Note: stability and reactivity, see section 10</i> | |

| SECTION 8 | Exposure controls/personal protection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|--|--|--|---|-----------------------------|-------------------------------|-----------------------|------------------|-----------|------------------|--|--|--|--|--|---------------|--|-----------------|--|----------------------|-------------|-----------------|-------------------|---------------------|--|--|-------------|-----------|----------------|----------------|--|-------------------|-------------------|-----------|------------------------|------------------------|--|------------------------|---------------|-----------|-------------------|-------------------|--|-------------------|--|-------------|--|--------------|------------|-------------|------------------------|-----------------|-------------|--|--|--|--|---------------|-----------------------------|---------|-----------------------------|-------------------------------|
| 8,1 | <p>Control parameters</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;"></th> <th style="width: 15%;">Component</th> <th style="width: 15%;">CAS</th> <th colspan="4"></th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="vertical-align: top;">Exposure limit values</td> <td>Ammonium nitrate</td> <td>6484-52-2</td> <td colspan="4">Not established.</td> </tr> <tr> <td></td> <td></td> <td colspan="2" style="text-align: center;">Worker</td> <td colspan="2" style="text-align: center;">consumer</td> </tr> <tr> <td rowspan="4" style="vertical-align: top;">Derived from the CSR</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">DNEL</td> <td style="text-align: center;">systemic</td> <td style="text-align: center;">industrial</td> <td colspan="2" style="text-align: center;">professional</td> <td></td> </tr> <tr> <td style="text-align: center;">oral</td> <td style="text-align: center;">long term</td> <td style="text-align: center;">Not applicable</td> <td colspan="2" style="text-align: center;">Not applicable</td> <td style="text-align: center;">12.8 mg/kg bw/day</td> </tr> <tr> <td style="text-align: center;">inhalation</td> <td style="text-align: center;">long term</td> <td style="text-align: center;">37.6 mg/m³</td> <td colspan="2" style="text-align: center;">37.6 mg/m³</td> <td style="text-align: center;">11.1 mg/m³</td> </tr> <tr> <td style="text-align: center;">dermal</td> <td style="text-align: center;">long term</td> <td style="text-align: center;">21.3 mg/Kg bw/day</td> <td colspan="2" style="text-align: center;">21.3 mg/Kg bw/day</td> <td style="text-align: center;">12.8 mg/kg bw/day</td> </tr> <tr> <td></td> <td style="text-align: center;">PNEC</td> <td></td> <td style="text-align: center;">water</td> <td style="text-align: center;">air</td> <td style="text-align: center;">soil</td> <td style="text-align: center;">microbiological</td> <td style="text-align: center;">sediment</td> <td style="text-align: center;">oral</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">fresh water: 0.45 mg/l salt water: 0.045 mg/l in intermittent releases: 4.5 mg/l</td> <td style="text-align: center;">Not available</td> <td style="text-align: center;">Insufficient data available</td> <td style="text-align: center;">18 mg/l</td> <td style="text-align: center;">Insufficient data available</td> <td style="text-align: center;">Low bioaccumulation potential</td> </tr> </tbody> </table> | | Component | CAS | | | | | Exposure limit values | Ammonium nitrate | 6484-52-2 | Not established. | | | | | | Worker | | consumer | | Derived from the CSR | DNEL | systemic | industrial | professional | | | oral | long term | Not applicable | Not applicable | | 12.8 mg/kg bw/day | inhalation | long term | 37.6 mg/m ³ | 37.6 mg/m ³ | | 11.1 mg/m ³ | dermal | long term | 21.3 mg/Kg bw/day | 21.3 mg/Kg bw/day | | 12.8 mg/kg bw/day | | PNEC | | water | air | soil | microbiological | sediment | oral | | | | fresh water: 0.45 mg/l salt water: 0.045 mg/l in intermittent releases: 4.5 mg/l | Not available | Insufficient data available | 18 mg/l | Insufficient data available | Low bioaccumulation potential |
| | Component | CAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exposure limit values | Ammonium nitrate | 6484-52-2 | Not established. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Worker | | consumer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Derived from the CSR | DNEL | systemic | industrial | professional | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | oral | long term | Not applicable | Not applicable | | 12.8 mg/kg bw/day | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | inhalation | long term | 37.6 mg/m ³ | 37.6 mg/m ³ | | 11.1 mg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | dermal | long term | 21.3 mg/Kg bw/day | 21.3 mg/Kg bw/day | | 12.8 mg/kg bw/day | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PNEC | | water | air | soil | microbiological | sediment | oral | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | fresh water: 0.45 mg/l salt water: 0.045 mg/l in intermittent releases: 4.5 mg/l | Not available | Insufficient data available | 18 mg/l | Insufficient data available | Low bioaccumulation potential | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8,2 | <p>Exposure controls</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 30%; vertical-align: top;"> <p>Engineering measures and hygiene controls</p> <p>Prevent high concentrations of dust and provide ventilation wherever necessary. Do not smoke or drink when handling. Wash hands after handling the product and before eating, drinking or smoking. Use the wash basin at the end of the work day.</p> </td> <td style="padding: 2px;"></td> </tr> <tr> <td style="vertical-align: top;"> <p>Personal protection measures</p> <p style="margin-left: 20px;">Eyes</p> <p style="margin-left: 20px;">Skin and body</p> <p style="margin-left: 20px;">Hands</p> <p style="margin-left: 20px;">Respiratory</p> <p style="margin-left: 20px;">Thermal</p> </td> <td style="padding: 2px;"> <p>Safety glasses with side protection (EN 166) to prevent eye irritation. In dusty conditions use panoramic safety goggles.</p> <p>Work clothes.</p> <p>Use suitable gloves (for example, rubber or leather) when handling the product over long periods of time.</p> <p>If there is a high concentration of dust and/or the ventilation is inadequate, use an anti-dust mask or respirator with a suitable filter.</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>Environmental exposure controls</p> </td> <td style="padding: 2px;"> <p>See section 6.</p> </td> </tr> </tbody> </table> <p><i>Advice relating to personal protection is valid for high exposure levels.</i></p> <p><i>Choose personal protection equipment suitable to exposure risks.</i></p> | <p>Engineering measures and hygiene controls</p> <p>Prevent high concentrations of dust and provide ventilation wherever necessary. Do not smoke or drink when handling. Wash hands after handling the product and before eating, drinking or smoking. Use the wash basin at the end of the work day.</p> | | <p>Personal protection measures</p> <p style="margin-left: 20px;">Eyes</p> <p style="margin-left: 20px;">Skin and body</p> <p style="margin-left: 20px;">Hands</p> <p style="margin-left: 20px;">Respiratory</p> <p style="margin-left: 20px;">Thermal</p> | <p>Safety glasses with side protection (EN 166) to prevent eye irritation. In dusty conditions use panoramic safety goggles.</p> <p>Work clothes.</p> <p>Use suitable gloves (for example, rubber or leather) when handling the product over long periods of time.</p> <p>If there is a high concentration of dust and/or the ventilation is inadequate, use an anti-dust mask or respirator with a suitable filter.</p> | <p>Environmental exposure controls</p> | <p>See section 6.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>Environmental exposure controls</p> | <p>See section 6.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Solid ammonium nitrate >80% and >97% (fertiliser grade)

| SECTION 9 | | Physical and chemical properties |
|-----------|---|---|
| 9,1 | Information on basic physical and chemical properties | |
| | Aspect | White or coloured granules or prills. |
| | Colour | White or coloured |
| | Odour | Odourless |
| | Molecular weight | Not applicable |
| | pH | pH aqueous solution (100 g/l) > 4.5. |
| | Boiling point | It does not have a boiling point, it decomposes above 210°C |
| | Melting point | 169 °C |
| | Flash-point | Non flammable |
| | Flammability | Non flammable |
| | Explosive properties | Ammonium nitrate with less than 0.2% combustible material (UN 1942) is not classified as an explosive. Fertiliser grade ammonium nitrate (UN 2067 or UN 2071) does not have explosive properties. Liquid ammonium nitrate (UN2426) is not classified as an explosive. Ammonium nitrate with > 0.2% of combustible material (UN 0222) is classified as an explosive material (Class 1). The UN series 1 and 2 tests show that crystalline ammonium nitrate with no impurities is not a class 1 explosive material. If it is heated under strongly confined conditions (e.g. in pipes or drains) a violent reaction or explosion may take place, especially if there is contamination by any of the substances mentioned in section 10. |
| | Auto-ignition temperature | Non flammable |
| | Decomposition temperature | Begins to decompose above 170 °C |
| | Lower explosive limit | Not applicable |
| | Upper explosive limit | Not applicable |
| | Oxidising properties | UN1942 y UN2067: Classification for transport: Class 5.1; GE III. UN2426: Classification for transport: Class 5.1; GE unknown. UN0222: Classification for transport: Class 1.1D (explosive). Fertilisers with UN2071 are non oxidising. |
| | Apparent density at 20°C | 850 at 1100 kg/m ³ |
| | Vapour pressure at 20 °C | Not applicable |
| | Vapour density | Not applicable |
| | Partition coefficient n-octanol/water | Not applicable |
| | Viscosity | Not applicable |
| | Water solubility | > 100 g/l (hygroscopic) |
| 9,2 | Additional information | Molecular weight 80 g/mol for the main ingredient (ammonium nitrate) |

| SECTION 10 | | Stability and reactivity |
|------------|------------------------------------|--|
| 10,1 | Reactivity | Stable under normal conditions of storage, handling and use (see section 7) |
| 10,2 | Chemical stability | Stable under normal conditions of storage, handling and use (see section 7) |
| 10,3 | Possibility of hazardous reactions | When it is heated above 170°C it decomposes releasing NOx and Ammonia. Contamination with incompatible materials. |
| 10,4 | Conditions to avoid | Proximity to sources of heat or fire. Contamination by incompatible materials. Heating above 170 °C (decomposes to gases) Unnecessary exposure to the atmosphere. Heating when confined. Welding or heating work of the equipment or plant that may contain fertiliser remnants, without preliminary cleaning to remove the product remnants. |
| 10,5 | Incompatible materials | Inflammable materials, reducing agents, acids, alkalis, sulphur, chlorates, chlorides, chromates, nitrites, permanganate, metal powders and metal-containing substances such as copper, nickel, cobalt, zinc and their alloys. |
| 10,6 | Hazardous decomposition products | In case of fire: see Section 5 When strongly heated it melts and decomposes releasing toxic gases (e.g. NOx and ammonia). When it is in contact with alkaline materials, such as lime, ammonia gases may be produced. |

| SECTION 11 | | Toxicological information | | | | |
|-----------------------------------|--------------------------------------|---------------------------|-------------------|-----------------------------|---|--|
| 11,1 | Information on toxicological effects | | | | | |
| Acute toxicity | | | | | | |
| Component | CAS No. | Method | Species | Via | Result | |
| Ammonium nitrate | 6484-52-2 | OECD 401 OECD 402 | rat rat rat | oral skin respiratory | LD50: 2950 mg/Kg bw. LD50: > 5000 mg/Kg bw. LC50: >88.8 mg/m ³ . | |
| Skin corrosion/irritation | | | | | | |
| Component | CAS No. | Method | Species | Via | Result | |
| Ammonium nitrate | 6484-52-2 | OECD 404 | Rabbit | skin | Non-irritant. | |
| Serious eye damage/irritation | | | | | | |
| Component | CAS No. | Method | Species | Via | Result | |
| Ammonium nitrate | 6484-52-2 | OECD 405 | Rabbit | eye | irritant | |
| Respiratory or skin sensitisation | | | | | | |
| Component | CAS No. | Method | Species | Via | Result | |
| Ammonium nitrate | 6484-52-2 | OECD 429 | mouse | skin | Non-sensitising. | |
| Germ cell mutagenicity | | | | | | |
| Component | CAS No. | Method | Species | Via | Result | |

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| | | | | | |
|------------------|-----------|----------------------------------|---|--|---|
| Ammonium nitrate | 6484-52-2 | OECD 471 OECD 473 OECD 476 | bacteria Chromosomal aberrations mutation in mammal cells | | Negative. Non-mutagenic. Ames test. Negative. Non-mutagenic. Negative. Non-mutagenic. |
|------------------|-----------|----------------------------------|---|--|---|


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| Carcinogenicity | | | | | |
|---|-----------|----------------------|-------------------|--|---|
| Component | CAS No. | Method | Species | Via | Result |
| Ammonium nitrate | 6484-52-2 | | rat | All | Non carcinogenic. |
| Reproductive toxicity | | | | | |
| Component | CAS No. | Method | Species | Via | Result |
| Ammonium nitrate | 6484-52-2 | OECD 422 | rat | oral | -Effects on fertility: NOAEL: ≥1500 mg/kg bw/d. -Toxicity for development: NOAEL: ≥1500 mg/kg bw/d |
| STOT-single exposure | | | | | |
| Component | CAS No. | Method | Species | Via | Result |
| Ammonium nitrate | 6484-52-2 | - | - | - | Not available |
| STOT-repeated exposure | | | | | |
| Component | CAS No. | Method | Species | Via | Result |
| Ammonium nitrate | 6484-52-2 | OECD 422 OECD 453 | rat rat rat | oral (28 days) oral (52 weeks) oral (13 weeks) Inhalation (2 s) | Sub-acute oral route. NOAEL: ≥ 1500 mg/kg body weight/day. Chronic oral route. NOAEL: 256 mg/kg body weight/day. Sub-chronic oral route. NOAEL: 886 mg/kg body weight/day. Inhalation route. NOAEC (systemic): ≥ 185 mg/m3 |
| Aspiration hazards | | | | | |
| Component | CAS No. | Method | Species | Via | Result |
| Ammonium nitrate | 6484-52-2 | - | - | - | See note below |
| Inhaling high concentrations of dust may cause nose and upper respiratory tract irritation with sore throat and cough symptoms. | | | | | |

| SECTION 12 Ecological information | | | | | | |
|---|------------------------------------|--|---------------------------------------|---|--|--|
| 12,1 | Toxicity | | | | | |
| Water toxicity | | | | | | |
| Component | CAS No. | | Fish (Cyprinus carpio) | Crustaceans | Algae (benthic diatoms) | |
| Ammonium nitrate | 6484-52-2 | Short term | LC50(48h) = 447 mg/l. | EC50/LC50 (48h) = 490 mg/l (of potassium nitrate) (Daphnia magna) | LC50/EC50 (10 days) > 1700 mg/l (of potassium nitrate) | |
| | | Long term | Not necessary. | NOEC (168h) = 555 mg/l (Bullia digitalis) | Not available | |
| Land Toxicity | | | | | | |
| Component | CAS No. | Macroorganisms | Microorganisms | Land plants | Other organisms | |
| Ammonium nitrate | 6484-52-2 | Not scientifically justified | Not scientifically justified | Not scientifically justified | Not available | |
| Microbiological activity in waste water treatment plants | | | | | | |
| Component | CAS No. | Toxicity for aquatic microorganisms | | | | |
| Ammonium nitrate | 6484-52-2 | CE50/CL50 (180 min) >1000 mg/l (of sodium nitrate) | | | | |
| 12,2 | Persistence and degradability | | | | | |
| Component | CAS No. | Degradation | | | | |
| Ammonium nitrate | 6484-52-2 | Hydrolysis | Non-hydrolysable. Test not necessary. | | | |
| | | Photolysis | No information available | | | |
| | | Biodegradation | Not necessary, inorganic substance. | | | |
| 12,3 | Bioaccumulative potential | | | | | |
| Component | CAS No. | Octanol-water partition coefficient (Kow) | Bioconcentration factor (BCF) | Comments | | |
| Ammonium nitrate | 6484-52-2 | Not applicable. Inorganic substance. | - | | | |
| 12,4 | Mobility in soil | | | | | |
| Component | CAS No. | Result | | | | |
| Ammonium nitrate | 6484-52-2 | low absorption potential (based on its properties) | | | | |
| 12,5 | Results of PBT and vPvB assessment | | | | | |
| Not required. Inorganic substance. See REACH appendix XIII. | | | | | | |
| 12,6 | Other adverse effects | | | | | |
| Large spills can cause adverse environmental effects such as eutrophication in confined surface waters. | | | | | | |

Solid ammonium nitrate >80% and >97% (fertiliser grade)

| | |
|-------------------|---|
| SECTION 13 | Disposal considerations |
| 13,1 | Waste treatment methods |
| | <p>Depending on the degree and nature of the contamination, dispose of it as a fertiliser over the ground or in an authorised waste installation. Do not put the waste in the drain, dispose of the product waste and containers in a safe way. Dispose of in accordance with all local and national regulations.</p> <p>Empty containers by shaking them to remove as much as possible of their content. If approved by the local authorities, empty packaging can be disposed of as a non-hazardous material or returned for recycling.</p> |

| | | | | | | | | |
|---|---|-----------|--|-------|---------------|--|-----------------------|---|
| SECTION 14 Transport information | | | | | | | | |
| 14.1 - 14.6 | Regulatory Information | UN Number | Proper shipping name | Class | Packing group | Label | Environmental hazards | Special precautions for users |
| | ADR/RID ADNR IMDG IATA | UN 2067 | AMMONIUM NITRATE BASED FERTILISERS | 5,1 | III |  | NO | Hazard identification number: 50 See ADR and RID Emergency procedures (EmS): F-H, S-Q See ICAO regulation for quantity limitation |
| 14,7 | <i>Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable</i> | | | | | | | |

| | |
|--|--|
| SECTION 15 regulatory information | |
| 15,1 | Safety, health and environmental regulations and legislation specific for the substance or mixture |
| | Regulation 2003/2003 (fertilisers) Regulation 1907/2006 (REACH). Entry 58 of appendix XVII. Regulation 1272/2008 (CLP) Directive 18/2012 (Seveso Directive) R.D. 840/2015 (Seveso) R.D. 506/2013 (fertilizers) R.D. 374/2001 (Chemical agents) R.D. 145/1989: National Regulation for Admission, Handling and Storage of Hazardous Materials in ports. RD. 2492/1983 of 29 June. State Administrative Intervention on explosive grade Ammonium Nitrates. RD. 2016/2004: ITS MIE APQ-8 Storage of ammonium nitrate based fertilisers with a high nitrogen content. ORDER PRE. 988/2004: Detonability test for ammonium nitrate based products with a high nitrogen content. |
| 15,2 | Chemical Safety Assessment |
| | Chemical Safety Assessment for ammonium nitrate as a substance. |

| | |
|--|--|
| SECTION 16 Other information | |
| Hazard statements | H272: May intensify a fire; oxidizer. H319: Causes serious eye irritation. |
| Precautionary statements | P102: Keep out of reach of children. P210: Keep away from heat, sparks, open flames and hot surfaces. No smoking. P220: Keep/Store away from clothing/combustible materials. P264: Wash hands thoroughly after handling. P280: Wear eye protection. P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: get medical attention. P370+P378: In case of fire: Use water for extinction. |
| Bibliographical references and data sources | Ammonium nitrate chemical safety assessment; Guidance documents EFMA/FERTILIZER EUROPE; Data for TFI HPV; NOTOX |
| Abbreviations and acronyms | ELV-DE: Environmental limit value (daily exposure) ELV-ST Environmental limit value (short term) NOAEL: No observable adverse effect level LD50: Lethal dose 50% LC50: Lethal concentration 50% EC50: Effective concentration 50% DNEL: Derived no effect level PNEC: Predicted no effect concentration LOEC: Lowest observed effect concentration NOEC: No observed effect concentration NOAEC: No observed adverse effect concentration |
| Adequate training for workers | Obligatory training in occupational risk prevention |
| Date of prior SDS | Version 3 dated 11.07.13 |
| Modifications made to present revision | Adaptation to the Commission Regulation (EU) No 2015/830. Update of current regulations |
| Exposure scenarios 1,2,3 and 4 are attached | |

The information contained in this Safety Data Sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information about the product at the time of publication. The information given in this data sheet does not constitute or replace the user's own assessment of workplace risks as required by other health and safety legislation.

Solid ammonium nitrate >80% and >97% (fertiliser grade)

Safety Data Sheet Appendices Exposure Scenario 1

| | | | | | | | | | | | | | | | | | | | |
|--|---|--------------------------------|-------------------------------------|------------------------|--------------|--|-----------------|--|--------------|--|--|---|--------------|--|--|--|--------------|---|--------------------|
| 1 | Title of Exposure Scenario (ES) | | | | | | | | | | | | | | | | | | |
| | Manufacture of ammonium nitrate | | | | | | | | | | | | | | | | | | |
| 2 | Description of activities or processes covered by the exposure scenario | | | | | | | | | | | | | | | | | | |
| | <p>List of all the use descriptors related to ES 1</p> <p>SU 8/9 * PROC 1/2/3/8a/8b/9/14/15 ERC 1</p> <p>Name/s of contributing scenario/s related to the environment and their corresponding Environmental Release Class (ERC) 1. Manufacture of substances (ERC 1)</p> <p>Name/s of contributing scenario/s for the worker and their corresponding Process Category (PROC)</p> <p>1. Use in enclosed processes, no likelihood of exposure (PROC 1) 2. Use in closed, continuous processes with occasional controlled exposure (PROC 2) 3. Use in closed batch processes (synthesis or formulation) (PROC 3) 4. Transfer of substances or preparations (charging/discharging) from/to vessels/large containers at non-dedicated facilities (PROC 8a) 5. Transfer of substances or preparations (charging/discharging) from/to vessels/large containers at dedicated facilities (PROC 8b) 6. Transfer of substances or preparations into small containers (dedicated filling line, including weighing) (PROC 9) 7. Production of mixtures or articles by tableting, compression, extrusion, pelletisation (PROC 14) 8. Use as laboratory reagent (PROC 15)</p> <p>* Agency Guidance Document, Chapter R.12: Use descriptor system: SU8 (Manufacture of bulk, large scale chemicals)/ SU9 (Manufacture of fine chemicals)</p> | | | | | | | | | | | | | | | | | | |
| 2,1 | Contributing scenario (1) controlling environmental exposure for the manufacture of ammonium nitrate (ES1) | | | | | | | | | | | | | | | | | | |
| | <p>Environmental exposure due to the manufacture of ammonium nitrate</p> <p>Section 2.1 describes emissions to the environment that can occur during the manufacture of ammonium nitrate (ERC 1).</p> <p>As this substance does fulfil criteria for classification as hazardous to the environment, the environmental risk assessment has not been carried out for this substance and therefore the conditions that affect the environment are not included during this use.</p> | | | | | | | | | | | | | | | | | | |
| 2,2 | Contributing scenario (2) controlling exposure of workers for manufacture of the substance, including handling, storage and quality controls | | | | | | | | | | | | | | | | | | |
| | <p>Section 2.2 describes potential exposure of workers from manufacture of the substance, including handling, storage and quality controls.</p> <p>All the relevant processes for the contributing scenarios identified by the PROC codes in point 1 of this scenario (PROC 1/2/3/8a/8b/9/14/15) have the same operating conditions and risk management measures for personnel. Consequently they are all covered by just one contributing scenario (2).</p> | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <tr> <td>Product characteristics</td> <td>Solid with low dust formation index</td> </tr> <tr> <td>Quantities used</td> <td>Not relevant</td> </tr> <tr> <td>Frequency and duration of use or exposure</td> <td>> 4 hours a day</td> </tr> <tr> <td>Human factors not influenced by risk management</td> <td>Not relevant</td> </tr> <tr> <td>Other operational conditions that have an impact on worker exposure</td> <td>Ammonium nitrate is manufactured in enclosed environments.</td> </tr> <tr> <td>Technical conditions and measures at process level (source) to prevent release</td> <td>Not relevant</td> </tr> <tr> <td>Technical conditions and measures for controlling dispersion of the source to workers</td> <td>1.- Adequate containment of the substance 2.- Good ventilation conditions</td> </tr> <tr> <td>Organisational measures to prevent or limit releases, dispersion and exposure</td> <td>Not relevant</td> </tr> <tr> <td>Conditions and measures for personal protection, hygiene and health evaluation</td> <td>Use safety glasses</td> </tr> </table> | Product characteristics | Solid with low dust formation index | Quantities used | Not relevant | Frequency and duration of use or exposure | > 4 hours a day | Human factors not influenced by risk management | Not relevant | Other operational conditions that have an impact on worker exposure | Ammonium nitrate is manufactured in enclosed environments. | Technical conditions and measures at process level (source) to prevent release | Not relevant | Technical conditions and measures for controlling dispersion of the source to workers | 1.- Adequate containment of the substance 2.- Good ventilation conditions | Organisational measures to prevent or limit releases, dispersion and exposure | Not relevant | Conditions and measures for personal protection, hygiene and health evaluation | Use safety glasses |
| Product characteristics | Solid with low dust formation index | | | | | | | | | | | | | | | | | | |
| Quantities used | Not relevant | | | | | | | | | | | | | | | | | | |
| Frequency and duration of use or exposure | > 4 hours a day | | | | | | | | | | | | | | | | | | |
| Human factors not influenced by risk management | Not relevant | | | | | | | | | | | | | | | | | | |
| Other operational conditions that have an impact on worker exposure | Ammonium nitrate is manufactured in enclosed environments. | | | | | | | | | | | | | | | | | | |
| Technical conditions and measures at process level (source) to prevent release | Not relevant | | | | | | | | | | | | | | | | | | |
| Technical conditions and measures for controlling dispersion of the source to workers | 1.- Adequate containment of the substance 2.- Good ventilation conditions | | | | | | | | | | | | | | | | | | |
| Organisational measures to prevent or limit releases, dispersion and exposure | Not relevant | | | | | | | | | | | | | | | | | | |
| Conditions and measures for personal protection, hygiene and health evaluation | Use safety glasses | | | | | | | | | | | | | | | | | | |
| 3 | Estimation of exposure and reference to its source | | | | | | | | | | | | | | | | | | |
| | <p>Information for contributing scenario 1 (environmental exposure): No environmental assessment was completed because the substance does not fulfil criteria for classification as hazardous for the environment and therefore there is no additional assessment of environmental exposure.</p> <p>Information for contributing scenario 2 (exposure for personnel): A qualitative assessment has been included that concludes that this use is safe for workers.</p> <p>The toxicological effect of this substance is eye irritation (local parameter), for which a DNEL value cannot be estimated, because there is no dose-response information available. A minimal systemic effect was only observed at doses that were so high that personnel would never be exposed to them (see relevant DNEL: section 8 SDS), so it was not considered necessary to make a quantitative risk assessment.</p> | | | | | | | | | | | | | | | | | | |
| 4 | Guidance for intermediate users to assess if they working within the limits set by the ES | | | | | | | | | | | | | | | | | | |
| | Additional risk management measures apart from the ones mentioned above in the contributing scenarios (2.1, 2.2) are not required to guarantee safety during this use and thus work within the limits of the ES 1 exposure scenario. | | | | | | | | | | | | | | | | | | |
| 5 | Good practice advice in addition to that included in the Chemical Safety Assessment (CSA) required by REACH. Measures not subject to art. 37 (4) REACH | | | | | | | | | | | | | | | | | | |
| | <ul style="list-style-type: none"> - Adequate containment of the substance - Minimise the number of exposed personnel - Segregate the releasing processes - Utilise effective contamination extraction systems - Good ventilation conditions - Minimise manual handling - Avoid contact with contaminated objects and instruments - Regularly clean the work area and equipment - Supervise the area to check that risk management measures are being applied - Train personnel for good practices - Keep standard personal hygiene conditions | | | | | | | | | | | | | | | | | | |

Solid ammonium nitrate >80% and >97% (fertiliser grade)

Safety Data Sheet Appendices Exposure Scenario 2

| | | | | | | | | | | | | | | | | | | | |
|--|---|--------------------------------|---|------------------------|--------------|--|-----------------|--|--------------|--|-------------------------|---|--------------|--|--|--|--------------|---|--------------------|
| 1 | Title of Exposure Scenario (ES) | | | | | | | | | | | | | | | | | | |
| | Industrial use of ammonium nitrate for formulating mixtures/articles, as intermediate substance and for end use by industry | | | | | | | | | | | | | | | | | | |
| 2 | Description of activities or processes covered by the exposure scenario | | | | | | | | | | | | | | | | | | |
| | <p>List of all the use descriptors related to ES 1</p> <p>SU 3/10 * PC 1/11/12/19/37 * PROC 1/2/3/5/8a/8b/9/13/15 ERC 2/6a</p> <p>Name/s of contributing scenario/s related to the environment and their corresponding Environmental Release Class (ERC)</p> <p>1. Formulation of preparations (ERC 2) 2. Industrial use resulting in manufacture of another substance (use of intermediates) (ERC 6a)</p> <p>Name/s of contributing scenario/s for the worker and their corresponding Process Category (PROC)</p> <p>1. Use in enclosed processes, no likelihood of exposure (PROC 1) 2. Use in closed, continuous processes with occasional controlled exposure (PROC 2) 3. Use in closed batch processes (synthesis or formulation) (PROC 3) 4. Mixing or blending in batch processes (multistage and/or significant contact) (PROC 5) 5. Transfer of substances or preparations (charging/discharging) from/to vessels/large containers at non-dedicated facilities (PROC 8a) 6. Transfer of substances or preparations (charging/discharging) from/to vessels/large containers at dedicated facilities (PROC 8b) 7. Transfer of substances or preparations into small containers (dedicated filling line, including weighing) (PROC 9) 8. Treatment of articles by dipping and pouring (PROC 13) 9. Use as laboratory reagent (PROC 15)</p> <p>* Agency Guidance Document, Chapter R.12: Use descriptor systems: SU 3 (Industrial manufacturing: Use of substances as such or in preparations in industrial facilities) / SU10 (Formulation of preparations and/or repackaging (excluding alloys). PC 1(Adhesives, sealants)/ 11 (Explosives) /12 (Fertilisers) /19 (Intermediate substances) /37 (Chemical products for water treatment)</p> | | | | | | | | | | | | | | | | | | |
| 2,1 | Contributing scenario (1) controlling environmental exposure for formulating preparations and industrial use as intermediate substance (ES 2) | | | | | | | | | | | | | | | | | | |
| | <p>Environmental exposure due to formulation of preparations and industrial use of ammonium nitrate as intermediate substance</p> <p>Section 2.1 describes emissions to the environment that can occur during the formulation of preparations (ERC 2) and industrial use as an intermediate substance (ERC 6a).</p> <p>As this substance does fulfil criteria for classification as hazardous to the environment, the environmental risk assessment has not been carried out for this substance and therefore the conditions that affect the environment are not included during this use.</p> | | | | | | | | | | | | | | | | | | |
| 2,2 | Contributing scenario (2) controlling exposure of workers that corresponds to the industrial use of ammonium nitrate for formulating preparations/articles, as intermediate substance and end use by workers in industrial facilities | | | | | | | | | | | | | | | | | | |
| | All the relevant processes for this scenario identified by the PROC codes in point 1 of this scenario (PROC 1/2/3/5/8a/8b/9/13/15) have the same operating conditions and risk management measures for personnel. Consequently they are all covered by just one contributing scenario (2). | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <tr> <td>Product characteristics</td> <td>Solid with low dust formation index Liquid</td> </tr> <tr> <td>Quantities used</td> <td>Not relevant</td> </tr> <tr> <td>Frequency and duration of use or exposure</td> <td>> 4 hours a day</td> </tr> <tr> <td>Human factors not influenced by risk management</td> <td>Not relevant</td> </tr> <tr> <td>Other operational conditions that have an impact on worker exposure</td> <td>Used in enclosed spaces</td> </tr> <tr> <td>Technical conditions and measures at process level (source) to prevent release</td> <td>Not relevant</td> </tr> <tr> <td>Technical conditions and measures for controlling dispersion of the source to workers</td> <td>1.- Adequate containment of the substance 2.- Good ventilation conditions</td> </tr> <tr> <td>Organisational measures to prevent or limit releases, dispersion and exposure</td> <td>Not relevant</td> </tr> <tr> <td>Conditions and measures for personal protection, hygiene and health evaluation</td> <td>Use safety glasses</td> </tr> </table> | Product characteristics | Solid with low dust formation index Liquid | Quantities used | Not relevant | Frequency and duration of use or exposure | > 4 hours a day | Human factors not influenced by risk management | Not relevant | Other operational conditions that have an impact on worker exposure | Used in enclosed spaces | Technical conditions and measures at process level (source) to prevent release | Not relevant | Technical conditions and measures for controlling dispersion of the source to workers | 1.- Adequate containment of the substance 2.- Good ventilation conditions | Organisational measures to prevent or limit releases, dispersion and exposure | Not relevant | Conditions and measures for personal protection, hygiene and health evaluation | Use safety glasses |
| Product characteristics | Solid with low dust formation index Liquid | | | | | | | | | | | | | | | | | | |
| Quantities used | Not relevant | | | | | | | | | | | | | | | | | | |
| Frequency and duration of use or exposure | > 4 hours a day | | | | | | | | | | | | | | | | | | |
| Human factors not influenced by risk management | Not relevant | | | | | | | | | | | | | | | | | | |
| Other operational conditions that have an impact on worker exposure | Used in enclosed spaces | | | | | | | | | | | | | | | | | | |
| Technical conditions and measures at process level (source) to prevent release | Not relevant | | | | | | | | | | | | | | | | | | |
| Technical conditions and measures for controlling dispersion of the source to workers | 1.- Adequate containment of the substance 2.- Good ventilation conditions | | | | | | | | | | | | | | | | | | |
| Organisational measures to prevent or limit releases, dispersion and exposure | Not relevant | | | | | | | | | | | | | | | | | | |
| Conditions and measures for personal protection, hygiene and health evaluation | Use safety glasses | | | | | | | | | | | | | | | | | | |
| 3 | Estimation of exposure and reference to its source | | | | | | | | | | | | | | | | | | |
| | <p>Information for contributing scenario 1 (environmental exposure):</p> <p>No environmental assessment was completed because the substance does not fulfil criteria for classification as hazardous for the environment and therefore there is no additional assessment of environmental exposure.</p> <p>Information for contributing scenario 2 (exposure for personnel):</p> <p>A qualitative assessment has been included that concludes that this use is safe for workers.</p> <p>The toxicological effect of this substance is eye irritation (local parameter), for which a DNEL value cannot be estimated, because there is no dose-response information available. A minimal systemic effect was only observed at doses that were so high that personnel would never be exposed to them (see relevant DNEL: section 8 SDS), so it was not considered necessary to make a quantitative risk assessment.</p> | | | | | | | | | | | | | | | | | | |
| 4 | Guidance for intermediate users to assess if they working within the limits set by the ES | | | | | | | | | | | | | | | | | | |
| | Additional risk management measures apart from the ones mentioned above in the contributing scenarios (2.1, 2.2) are not required to guarantee safety during this use and thus work within the limits of the ES 2 exposure scenario. | | | | | | | | | | | | | | | | | | |
| 5 | Good practice advice in addition to that included in the Chemical Safety Assessment (CSA) required by REACH. Measures not subject to art. 37 (4) REACH | | | | | | | | | | | | | | | | | | |
| | <ul style="list-style-type: none"> - Adequate containment of the substance - Minimise the number of exposed personnel - Segregate the releasing processes - Utilise effective contamination extraction systems - Good ventilation conditions - Minimise manual handling - Avoid contact with contaminated objects and instruments - Regularly clean the work area and equipment - Supervise the area to check that risk management measures are being applied - Train personnel for good practices - Keep standard personal hygiene conditions | | | | | | | | | | | | | | | | | | |

Solid ammonium nitrate >80% and >97% (fertiliser grade)

Safety Data Sheet Appendices Exposure Scenario 3

| | | | | | | | | | | | | | | | | | | | |
|--|---|--------------------------------|--|------------------------|--------------|--|-----------------|--|--------------|--|---------------------------|---|--------------|--|---|--|--------------|---|--------------------|
| 1 | Title of Exposure Scenario (ES) | | | | | | | | | | | | | | | | | | |
| | Professional use of ammonium nitrate for formulation of preparations and end use by professionals | | | | | | | | | | | | | | | | | | |
| 2 | Description of activities or processes covered by the exposure scenario | | | | | | | | | | | | | | | | | | |
| | <p>List of all the use descriptors related to ES 3</p> <p>SU 22 * PC 12 * PROC 1/2/8a/8b/9/11/15/19 ERC 8b/8e</p> <p>Name/s of contributing scenario/s related to the environment and their corresponding Environmental Release Class (ERC)</p> <p>1. Wide dispersive indoor use of reactive substances in open systems (ERC 8b) 2. Wide dispersive outdoor use of reactive substances in open systems (ERC 8e)</p> <p>Name/s of contributing scenario/s for the worker and their corresponding Process Category (PROC)</p> <p>1. Use in enclosed processes, no likelihood of exposure (PROC 1) 2. Use in closed, continuous processes with occasional controlled exposure (PROC 2) 3. Transfer of substances or preparations (charging/discharging) from/to vessels/large containers at non-dedicated facilities (PROC 8a) 4. Transfer of substances or preparations from/to vessels/large containers at dedicated facilities (PROC8b) 5. Transfer of substances or preparations into small containers (dedicated filling line, including weighing) (PROC 9) 6. Non industrial spraying (PROC 11) 7. Use as laboratory reagent (PROC 15) 8. Hand mixing with intimate contact (only PPE available) (PROC 19)</p> <p>* Agency Guidance Document, Chapter R.12: Use descriptor systems: SU 22 (Professional uses: Public domain (administration, education, entertainment, services, craftsmen) PC 12 (Fertilisers)</p> | | | | | | | | | | | | | | | | | | |
| 2,1 | Contributing scenario (1) controlling environmental exposure for use of ammonium nitrate by professionals (ES3) | | | | | | | | | | | | | | | | | | |
| | Environmental exposure due to use of ammonium nitrate by professionals | | | | | | | | | | | | | | | | | | |
| | Section 2.1 describes the emissions to the environment that may occur during wide dispersive indoor use of reactive substances in open systems (ERC 8b) and wide dispersive outdoor use of reactive substances in open systems (ERC 8e) | | | | | | | | | | | | | | | | | | |
| | As this substance does fulfil criteria for classification as hazardous to the environment, the environmental risk assessment has not been carried out for this substance and therefore the conditions that affect the environment are not included during this use. | | | | | | | | | | | | | | | | | | |
| 2,2 | Contributing scenario (2) controlling worker exposure for professional use of ammonium nitrate for formulating preparations and end use. | | | | | | | | | | | | | | | | | | |
| | All the relevant processes for this scenario identified by the PROC codes in point 1 of this scenario (PROC 1/2/8a/8b/9/11/15/19) have the same operating conditions and risk management measures for personnel. Consequently they are all covered by just one contributing scenario (2). | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <tr> <td>Product characteristics</td> <td>Solid with low dust formation index Liquid, ammonium nitrate concentration in the product > 25%</td> </tr> <tr> <td>Quantities used</td> <td>Not relevant</td> </tr> <tr> <td>Frequency and duration of use or exposure</td> <td>> 4 hours a day</td> </tr> <tr> <td>Human factors not influenced by risk management</td> <td>Not relevant</td> </tr> <tr> <td>Other operational conditions that have an impact on worker exposure</td> <td>Used indoors and outdoors</td> </tr> <tr> <td>Technical conditions and measures at process level (source) to prevent release</td> <td>Not relevant</td> </tr> <tr> <td>Technical conditions and measures for controlling dispersion of the source to workers</td> <td>1.- Adequate containment of the substance 2.- Good ventilation conditions 3.- Avoid splashing. Use specific dispensers and pumps designed especially to prevent splashes/leaks/exposure</td> </tr> <tr> <td>Organisational measures to prevent or limit releases, dispersion and exposure</td> <td>Not relevant</td> </tr> <tr> <td>Conditions and measures for personal protection, hygiene and health evaluation</td> <td>Use safety glasses</td> </tr> </table> | Product characteristics | Solid with low dust formation index Liquid, ammonium nitrate concentration in the product > 25% | Quantities used | Not relevant | Frequency and duration of use or exposure | > 4 hours a day | Human factors not influenced by risk management | Not relevant | Other operational conditions that have an impact on worker exposure | Used indoors and outdoors | Technical conditions and measures at process level (source) to prevent release | Not relevant | Technical conditions and measures for controlling dispersion of the source to workers | 1.- Adequate containment of the substance 2.- Good ventilation conditions 3.- Avoid splashing. Use specific dispensers and pumps designed especially to prevent splashes/leaks/exposure | Organisational measures to prevent or limit releases, dispersion and exposure | Not relevant | Conditions and measures for personal protection, hygiene and health evaluation | Use safety glasses |
| Product characteristics | Solid with low dust formation index Liquid, ammonium nitrate concentration in the product > 25% | | | | | | | | | | | | | | | | | | |
| Quantities used | Not relevant | | | | | | | | | | | | | | | | | | |
| Frequency and duration of use or exposure | > 4 hours a day | | | | | | | | | | | | | | | | | | |
| Human factors not influenced by risk management | Not relevant | | | | | | | | | | | | | | | | | | |
| Other operational conditions that have an impact on worker exposure | Used indoors and outdoors | | | | | | | | | | | | | | | | | | |
| Technical conditions and measures at process level (source) to prevent release | Not relevant | | | | | | | | | | | | | | | | | | |
| Technical conditions and measures for controlling dispersion of the source to workers | 1.- Adequate containment of the substance 2.- Good ventilation conditions 3.- Avoid splashing. Use specific dispensers and pumps designed especially to prevent splashes/leaks/exposure | | | | | | | | | | | | | | | | | | |
| Organisational measures to prevent or limit releases, dispersion and exposure | Not relevant | | | | | | | | | | | | | | | | | | |
| Conditions and measures for personal protection, hygiene and health evaluation | Use safety glasses | | | | | | | | | | | | | | | | | | |
| 3 | Estimation of exposure and reference to its source | | | | | | | | | | | | | | | | | | |
| | <p>Information for contributing scenario 1 (environmental exposure):</p> <p>No environmental assessment was completed because the substance does not fulfil criteria for classification as hazardous for the environment and therefore there is no additional assessment of environmental exposure.</p> <p>Information for contributing scenario 2 (exposure for personnel):</p> <p>A qualitative assessment has been included that concludes that this use is safe for workers.</p> <p>The toxicological effect of this substance is eye irritation (local parameter), for which a DNEL value cannot be estimated, because there is no dose-response information available. A minimal systemic effect was only observed at doses that were so high that personnel would never be exposed to them (see relevant DNEL: section 8 SDS), so it was not considered necessary to make a quantitative risk assessment.</p> | | | | | | | | | | | | | | | | | | |
| 4 | Guidance for intermediate users to assess if they working within the limits set by the ES | | | | | | | | | | | | | | | | | | |
| | Additional risk management measures apart from the ones mentioned above in the contributing scenarios (2.1, 2.2) are not required to guarantee safety during this use and thus work within the limits of the ES 3 exposure scenario. | | | | | | | | | | | | | | | | | | |
| 5 | Good practice advice in addition to that included in the Chemical Safety Assessment (CSA) required by REACH. Measures not subject to art. 37 (4) REACH | | | | | | | | | | | | | | | | | | |
| | <ul style="list-style-type: none"> - Adequate containment of the substance - Minimise the number of exposed personnel - Segregate the releasing processes - Utilise effective contamination extraction systems - Good ventilation conditions - Minimise manual handling - Avoid contact with contaminated objects and instruments - Regularly clean the work area and equipment - Supervise the area to check that risk management measures are being applied - Train personnel for good practices - Keep standard personal hygiene conditions | | | | | | | | | | | | | | | | | | |

Solid ammonium nitrate >80% and >97% (fertiliser grade)

Safety Data Sheet Appendices Exposure Scenario 4

| | | | | | | | | | | | | | | | |
|--|---|--------------------------------|--|------------------------|--------------|--|--------------|--|--------------|--|---------------------------|--|----------------|--|--|
| 1 | Title of Exposure Scenario (ES) | | | | | | | | | | | | | | |
| | End use for consumers of fertilisers, matches and fireworks | | | | | | | | | | | | | | |
| 2 | Description of activities or processes covered by the exposure scenario | | | | | | | | | | | | | | |
| | <p>List of all the use descriptors related to ES 3</p> <p>SU 21 * PC 11/12 ERC 8b/8e/10a</p> <p>Name/s of contributing scenario/s related to the environment and their corresponding Environmental Release Class (ERC)</p> <p>1. Wide dispersive indoor use of reactive substances in open systems (ERC 8b) 2. Wide dispersive outdoor use of reactive substances in open systems (ERC 8e) 3. Wide dispersive use of long-life articles and materials with low release (ERC 10a)</p> <p>Name(s) of contributing scenarios for the worker and their corresponding Chemical Product Category (PC)</p> <p>1. Explosives (PC11) 2. Fertilizers (PC 12)</p> <p>* Agency Guidance Document, Chapter R.12: Use descriptor systems: SU 21 (Uses by consumers: Private households (= general public = consumers))</p> | | | | | | | | | | | | | | |
| 2,1 | Contributing scenario (1) controlling environmental exposure for use of fertilizers, matches and fireworks by consumers (ES4) | | | | | | | | | | | | | | |
| | <p>Environmental exposure due to the use by consumers of ammonium nitrate in fertilisers, matches and fireworks</p> <p>Section 2.1 describes the emissions to the environment that may occur during wide dispersive indoor use of reactive substances in open systems (ERC 8b) and wide dispersive outdoor use of reactive substances in open systems (ERC 8e)</p> <p>As this substance does fulfil criteria for classification as hazardous to the environment, the environmental risk assessment has not been carried out for this substance and therefore the conditions that affect the environment are not included during this use.</p> | | | | | | | | | | | | | | |
| 2,2 | Contributing scenario (2) controlling consumer exposure for use of fertilizers, matches and fireworks | | | | | | | | | | | | | | |
| | <p>All the relevant chemical product categories for this scenario identified by the PC codes in point 1 of this scenario (PC 11, PC 12) have the same operating conditions and risk management measures for personnel. Consequently they are all covered by just one contributing scenario (2).</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">Product characteristics</td> <td>Solid with low dust formation index Liquid Products containing ammonium nitrate in concentrations of $\geq 10\%$ Products containing ammonium nitrate in concentrations of $< 10\%$</td> </tr> <tr> <td>Quantities used</td> <td>Not relevant</td> </tr> <tr> <td>Frequency and duration of use or exposure</td> <td>Not relevant</td> </tr> <tr> <td>Human factors not influenced by risk management</td> <td>Not relevant</td> </tr> <tr> <td>Other operational conditions that have an impact on worker exposure</td> <td>Used indoors and outdoors</td> </tr> <tr> <td>Conditions and measures with information and recommendations for consumer conduct</td> <td>Avoid splashes</td> </tr> <tr> <td>Conditions and measures for personal protection and hygiene</td> <td>1.- If concentration is $\geq 10\%$, use safety glasses 2.- If concentration is $< 10\%$, no personal protection is necessary 3.- Indicate safe recommendations of use for consumers on the product labels</td> </tr> </table> | Product characteristics | Solid with low dust formation index Liquid Products containing ammonium nitrate in concentrations of $\geq 10\%$ Products containing ammonium nitrate in concentrations of $< 10\%$ | Quantities used | Not relevant | Frequency and duration of use or exposure | Not relevant | Human factors not influenced by risk management | Not relevant | Other operational conditions that have an impact on worker exposure | Used indoors and outdoors | Conditions and measures with information and recommendations for consumer conduct | Avoid splashes | Conditions and measures for personal protection and hygiene | 1.- If concentration is $\geq 10\%$, use safety glasses 2.- If concentration is $< 10\%$, no personal protection is necessary 3.- Indicate safe recommendations of use for consumers on the product labels |
| Product characteristics | Solid with low dust formation index Liquid Products containing ammonium nitrate in concentrations of $\geq 10\%$ Products containing ammonium nitrate in concentrations of $< 10\%$ | | | | | | | | | | | | | | |
| Quantities used | Not relevant | | | | | | | | | | | | | | |
| Frequency and duration of use or exposure | Not relevant | | | | | | | | | | | | | | |
| Human factors not influenced by risk management | Not relevant | | | | | | | | | | | | | | |
| Other operational conditions that have an impact on worker exposure | Used indoors and outdoors | | | | | | | | | | | | | | |
| Conditions and measures with information and recommendations for consumer conduct | Avoid splashes | | | | | | | | | | | | | | |
| Conditions and measures for personal protection and hygiene | 1.- If concentration is $\geq 10\%$, use safety glasses 2.- If concentration is $< 10\%$, no personal protection is necessary 3.- Indicate safe recommendations of use for consumers on the product labels | | | | | | | | | | | | | | |
| 3 | Estimation of exposure and reference to its source | | | | | | | | | | | | | | |
| | <p>Information for contributing scenario 1 (environmental exposure):</p> <p>No environmental assessment was completed because the substance does not fulfil criteria for classification as hazardous for the environment and therefore there is no additional assessment of environmental exposure.</p> <p>Information for contributing scenario 2 (exposure for personnel):</p> <p>A qualitative assessment has been included that concludes that this use is safe for consumers.</p> <p>The toxicological effect of this substance is eye irritation (local parameter), for which a DNEL value cannot be estimated, because there is no dose-response information available. A minimal systemic effect was only observed at doses that were so high that consumers or people would never be exposed to them (see relevant DNEL: section 8 SDS), so it was not considered necessary to make a quantitative risk assessment.</p> | | | | | | | | | | | | | | |
| 4 | Guidance for intermediate users to assess if they working within the limits set by the ES | | | | | | | | | | | | | | |
| | <p>Additional risk management measures apart from the ones mentioned above in the contributing scenarios (2.1, 2.2) are not required to guarantee safety during this use:</p> <p>If concentration of ammonium nitrate is $\geq 10\%$, use safety glasses If concentration is $< 10\%$, no personal protection is necessary</p> | | | | | | | | | | | | | | |