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

1.1 Product identifier

Product name: Compound Fertiliser, Granular 15-15-15

REACH Registration number

<table>
<thead>
<tr>
<th>Registration number</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-2119490981-27-XXXX</td>
<td>Ammonium nitrate</td>
</tr>
<tr>
<td>01-2119488166-29-XXXX</td>
<td>Ammonium dihydrogen orthophosphate</td>
</tr>
<tr>
<td>01-2119490974-22-XXXX</td>
<td>Diammonium hydrogenorthophosphate</td>
</tr>
<tr>
<td>01-2119455044-46-XXXX</td>
<td>Ammonium sulphate</td>
</tr>
</tbody>
</table>

Exempt from REACH registration according to Article 2 (7) (a) and (b), Annex V: Category:7, Naturally occurring substance, not chemically modified.

Product code: 3295-29197; 3296-29197; 3297-29197; 3298-29197

Product description: EC FERTILISER NPK Fertiliser, Granulated 15-15-15

Product type: Solid.

Other means of identification: Not available.

1.2 Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>Uses advised against</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertiliser.</td>
<td>None.</td>
<td>Non-hazardous product.</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet

Nutrien Europe SA
Avenue Louise 326/36
1050 Bruxelles
Belgium
Tel: +32 (0)2 646 70 00
Fax: +32 (0)2 646 68 60
commercial@nutrien.eu

e-mail address of person responsible for this SDS: productsafety@nutrien.com

1.4 Emergency telephone number

National advisory body/Poison Centre

<table>
<thead>
<tr>
<th>Telephone number</th>
</tr>
</thead>
</table>
| Nutrien Safety Data Sheets are available in many languages at https://agproducts.nutrien.com/products/
Physicians, Poison Centres, or the Public may contact Nutrien’s Global Emergency Response Number 24/7/365 for service in many languages at +1 303 389 1654 |

AUSTRIA  +43 1 406 43 43
AZERBAIJAN  +994 125 979 924
BELARUS  +375 17 287 00 92
BELGIUM  +32 70 245 245
BULGARIA  +359 2 9154 378; +359 887 435 325
CROATIA  +385 1 2348 342
CZECH REPUBLIC  +420 22 49 192 93

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Date of previous issue: 8/2/2018
Version: 3.5
SECTION 1: Identification of the substance/mixture and of the company/undertaking

DENMARK  +45 82 12 12 12
ESTONIA  16662; +372 62 69 379
FINLAND  +358 9 471977
FRANCE
   Angers  +33 (0)2 41 48 21 21
   Bordeaux  +33 (0)5 56 96 40 80
   Lille  0800 59 59 59 (national callers)
   Lyon  +33 (0)4 72 11 69 11
   Marseille  +33 (0)4 91 75 25 25
   Nancy  +33 (0)3 83 22 50 50
   Paris  +33 (0)1 40 05 48 48
   Rennes  +33 (0)2 99 59 22 22
   Strasbourg +33 (0)3 88 37 37 37
   Toulouse  +33 (0)5 61 77 74 47
GEORGIA  +995 99 53 33 20
GERMANY
   Berlin  +49 30 192 40
   Bonn  +49 228 192 40
   Erfurt  +49 361 730 730
   Freiburg  +49 761 192 40
   Goettingen  +49 551 192 40
   Homburg (Saar)  +49 6841 192 40
   Mainz  +49 6131 192 40
   Munich  +49 89 192 40
GREECE  +30 21 07 79 37 77
HUNGARY  +36 80 20 11 99
ICELAND  +354 543 22 22
IRELAND  +353 1 837 9964 (medical professionals) +353 1 809 2166 (public)
ISRAEL  +972 4 854 19 00
ITALY
   Bergamo  +39 800 883 300
   Firenze  +39 55 794 7819
   Foggia  +39 881 732 326
   Genoa  +39 10 563 62 45
   Milan  +39 02 6610 1029
   Padova  +39 49 827 50 78
   Pavia  +39 38 224 444
   Rome  +39 06 305 43 43
   Turin  +39 011 663 7637
KAZAKHSTAN  +7 3272 925 868
LITHUANIA  +370 5 236 20 52; +370 687 533 78
NETHERLANDS  +31 30 274 88 88
NORWAY  +47 22 59 13 00
POLAND
   Gdansk  +48 58 682 04 04
   Krakow  +48 12 411 99 99
   Lódz  +48 42 63 14 724
   Sosnowiec  +48 32 266 11 45
   Warszawa  +48 22 619 66 54
   Wroclaw  +48 71 343 30 08
PORTUGAL  808 250 143 (national callers)
ROMANIA  +402 212 106 282
RUSSIAN FEDERATION
   Ekaterinburg  +7 343 229 98 57
   Moscow  +7 495 628 1687
   Saint-Petersburg  +7 921 757 3228
SERBIA  +381 11 3608 440
SLOVAKIA  +421 2 5477 4166
SLOVENIA  +386 41 635 500
SPAIN  +34 91 562 0420
SWEDEN  112 (national callers);  +46 (0)10 456 6700

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

Supplier
Telephone number : Nutrien Europe SA
EMERGENCY TELEPHONE NUMBERS:
Transportation: 00-1-303-389-1654
Medical: 00-1-303-389-1654

SWITZERLAND +41 44 251 51 51 (in Switzerland dial 145)
THE FORMER YUGOSLAVIA +38 923 147 635
TURKEY +90 0312 433 70 01 or 0 800 314 7900
UNITED KINGDOM
Belfast 844 892 0111
Birmingham 844 892 0111
Edinburgh 844 892 0111
Newcastle Upon Tyne +44 191 2606182; +44 191 2606180
Penarth 844 892 0111

24/7/365

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Eye Irrit. 2, H319

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms : ⚠️

Signal word : Warning

Hazard statements : Causes serious eye irritation.

Precautionary statements
General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Wear eye or face protection. Wash hands thoroughly after handling.

Response : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Special packaging requirements

Date of issue/Date of revision : 3/22/2019
Date of previous issue : 8/2/2018
Version : 3.5

**SECTION 2: Hazards identification**

Containers to be fitted with child-resistant fastenings: Not applicable.

Tactile warning of danger: Not applicable.

### 2.3 Other hazards

Other hazards which do not result in classification: None known.

**SECTION 3: Composition/information on ingredients**

### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diammonium phosphate</td>
<td>REACH Reg.#: 01-2119490974-22-XXXX EC No.: 231-987-8 CAS #: 7783-28-0</td>
<td>0-31</td>
<td>Non-hazardous substance.</td>
<td>[A]</td>
</tr>
<tr>
<td>Ammonium dihydrogen orthophosphate</td>
<td>REACH Reg.#: 01-2119488166-29-XXXX EC No.: 231-764-5 CAS #: 7722-76-1</td>
<td>0-29</td>
<td>Non-hazardous substance.</td>
<td>[A]</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>EC No.: 231-211-8 CAS #: 744740-7</td>
<td>25</td>
<td>Non-hazardous substance.</td>
<td>[A]</td>
</tr>
<tr>
<td>Ammonium chloride</td>
<td>EC No.: 235-186-4 CAS: 12125-02-9</td>
<td>2-9</td>
<td>Acute Tox. 4, H302 Eye Irrit. 2, H319 See Section 16 for the full text of the H statements declared above.</td>
<td>[B]</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

**Type**

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures**

### 4.1 Description of first aid measures

**Eye contact**: Begin eye irrigation immediately. Eye exposures to nitrates may require medical evaluation following decontamination if pain or irritation persists. Immediately rinse eyes with large quantities of water or saline for a minimum of 15 minutes. If possible, remove contact lenses being careful not to cause additional eye damage. If the initial water supply is insufficient, keep the affected area wet with a moist cloth and transfer the person to the nearest place where rinsing can be continued for the recommended length of time. For additional advice call the medical emergency number on this SDS or your poison center or physician.
**SECTION 4: First aid measures**

**Inhalation**

Remove person to fresh air. No known significant effects. Seek medical attention for any signs of wheezing and/or breathing difficulties. For additional advice call the medical emergency number on this SDS or your poison center or medical provider.

**Skin contact**

No known significant effects. Rinse the affected areas with water. Remove contaminated clothing, jewelry, and shoes. Wash/clean items before reuse. Seek medical attention for persistent skin pain or irritation. For additional advice call the medical emergency number on this SDS or your poison center or physician.

**Ingestion**

Nitrate based product. May be irritating to mouth, throat and stomach. May cause methemoglobinemia (a condition that interferes with the oxygen-carrying capacity of the blood) if ingested in large quantities or over a prolonged period of time. Oral exposures: if the affected person requires CPR, avoid mouth to mouth contact. Do not induce vomiting. If vomiting occurs, attempt to keep head lower than chest so that vomit does not enter the lungs. Wash (decontaminate) face and mouth with water to remove visible material. If the exposed person is conscious and can swallow, give 1-2 sips of water. Do not give anything else by mouth. Loosen tight clothing such as collar, tie, belt or waistband to prevent any breathing restrictions. Call for emergency transportation to a hospital if the exposed person feels sick or has breathing difficulties, or a large amount is suspected ingested. For additional advice, call the medical emergency number on this SDS or your poison center or physician.

**Skin contact**

No known significant effects. Rinse the affected areas with water. Remove contaminated clothing, jewelry, and shoes. Wash/clean items before reuse. Seek medical attention for persistent skin pain or irritation. For additional advice call the medical emergency number on this SDS or your poison center or physician.

**Protection of first-aiders**

No action shall be taken involving any personal risk or without suitable training. Mouth-to-mouth resuscitation of oral exposure patients is not recommended. First-aiders with contaminated clothing should be properly decontaminated.

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

**Over-exposure signs/symptoms**

**Eye contact**

Adverse symptoms may include the following:
- pain or irritation
- watering
- redness

**Inhalation**

The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases. Adverse symptoms may include the following:
- headache
- respiratory tract irritation
- coughing

**Skin contact**

No specific data.

**Ingestion**

Over-exposure by ingestion is unlikely under normal working conditions. Adverse symptoms may include the following:
- nausea or vomiting
- stomach pains
- diarrhoea
- Methemoglobinemia (see Acute Health Effects)

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

**Notes to physician**

In case of inhalation of decomposition products (carbon monoxide, carbon dioxide, nitrogen oxides) in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for up to 72 hours. In cases of suspected methemoglobinemia, monitor methemoglobin blood levels. Treatment is supportive; methylene blue may be indicated based on patient severity. 24 Hr Medical Emergency telephone number for professional support: 00-1-303-389-1654.

**Specific treatments**

Call the medical emergency number on this SDS or your poison center or doctor immediately if large quantities have been ingested. In cases of suspected methemoglobinemia, methylene blue may be indicated based on patient severity.

Compound Fertiliser, Granular 15-15-15

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Non-flammable. Material will not burn. Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: Do not attempt to smother the fire.

5.2 Special hazards arising from the substance or mixture

Hazard from the substance or mixture: Contains an oxidizing substance. May intensify fire.

Hazardous combustion products: Decomposition products may include the following materials:
- Sulphur oxides (SO₂, SO₃, etc.)
- Ammonia
- Nitrogen oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Additional information: Fight fire from protected location or maximum possible distance. Contain and collect the water used to fight the fire for later treatment and disposal.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment. Avoid creating dusty conditions and prevent wind dispersal.

For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill: Move containers from spill area. Use appropriate tools to transfer the spilt solid to a convenient waste disposal container. Place spilt material in an appropriate container for disposal.

- or-

- Recover the material and use it for its intended purpose.

Large spill: No additional remark.

6.4 Reference to other sections: See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.
**SECTION 7: Handling and storage**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures**: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.

**Advice on general occupational hygiene**: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

Store in accordance with local regulations. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product. Ensure that bulk bags or smaller packaged products stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, rolling, or collapse. Use caution when opening truck or railcar doors as product may have shifted during transport.

Must be stored in a dry location. Absorbs moisture on long-term storage under high humidity conditions. Store away from incompatible materials (see Section 10). When product is stored in sealable containers, keep container tightly closed and sealed until ready for use. Sealable containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

### 7.3 Specific end use(s)

**Recommendations**: See Annex to the Safety data sheet for additional information in the Exposure Scenario(s).

**Industrial sector specific solutions**: See Annex to the Safety data sheet for additional information in the Exposure Scenario(s).

**SECTION 8: Exposure controls/personal protection**

### 8.1 Control parameters

**Occupational exposure limits**

No exposure limit value known.

**Recommended monitoring procedures**: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

#### DNELs/DMELs

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>5.1 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>36 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td>Ammonium dihydrogen orthophosphate</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>6.1 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
</tbody>
</table>

**DNEL/DMEL Summary**: Very low toxicity to humans or animals.

#### PNECs

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Compartment Detail</th>
<th>Value</th>
<th>Method Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>Fresh water</td>
<td>0.45 mg/l</td>
<td>Assessment Factors</td>
</tr>
</tbody>
</table>

Compound Fertiliser, Granular 15-15-15

SECTION 8: Exposure controls/personal protection

8.2 Exposure controls

Appropriate engineering controls: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to dust.

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Dispose of waste according to applicable legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: Solid. [Granular solid. Solid beads.]

Colour: Greyish-white.

Odour: Odourless.

Odour threshold: Not available.

pH: Not available.

Melting point/freezing point: 169.6°C

Initial boiling point and boiling range: Decomposition temperature: >210°C

Flash point: Not applicable. Non-flammable.

Evaporation rate: Not applicable. Solid beads.

Flammability (solid, gas): Non-flammable. May intensify fire; oxidiser.

Upper/lower flammability or explosive limits: Not applicable. Inorganic salt.

Vapour pressure: Not available.

Vapour density: Not available.

Relative density: Not available.

Date of issue/Date revision: 3/22/2019
Date of previous issue: 8/2/2018
Version: 3.5

Section 9: Physical and chemical properties

Solubility(ies) : Easily soluble in the following materials: hot water.
Soluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not applicable.

Decomposition temperature : >210°C

Viscosity : Not applicable. Solid.

Explosive properties : Not applicable.

Oxidising properties : Contains an oxidising substance. May intensify fire.

9.2 Other information

Burning time : Not applicable. Non-combustible. Decomposes.


Solubility in water : See above.

No additional information.

Section 10: Stability and reactivity

10.1 Reactivity : Stable under recommended storage and handling conditions (see Section 7).

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions may include the following:
contact with combustible materials
Reactions may include the following:
risk of causing or intensifying fire
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Decomposes on heating. Avoid confinement.

10.5 Incompatible materials : Moisture-sensitive material. Hygroscopic. Keep container tightly closed. Avoid contamination by any source including metals, dust and organic materials.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced. In a fire, decomposition may produce toxic gases/fumes.

Section 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>LD50 Dermal</td>
<td>Rat - Male, Female</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat - Male, Female</td>
<td>2950 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat - Male, Female</td>
<td>&gt;5 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat - Male, Female</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat - Male, Female</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Ammonium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1650 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>
SECTION 11: Toxicological information

**Conclusion/Summary**: Very low toxicity to humans or animals. Effects are not sufficient for classification as hazardous.

**Acute toxicity estimates**: Not available.

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>Skin</td>
<td>Rabbit</td>
<td>0</td>
<td>-</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Eyes - Oedema of the conjunctivae</td>
<td>Rabbit</td>
<td>3</td>
<td>-</td>
<td>3 days</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>Eyes</td>
<td>Rabbit</td>
<td>0</td>
<td>24 hours</td>
<td>500 milligrams</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>Skin</td>
<td>Rabbit</td>
<td>0</td>
<td>72 hours</td>
<td>-</td>
</tr>
<tr>
<td>Ammonium chloride</td>
<td>Eyes</td>
<td>Rabbit</td>
<td>0</td>
<td>72 hours</td>
<td>24 hours</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

**Skin**: Non-irritating to the skin.

**Eyes**: Irritating to the eyes.

**Respiratory**: Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat. May cause slight transient irritation.

**Sensitisation**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>Skin</td>
<td>Mouse</td>
<td>Not sensitizing</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>Skin</td>
<td>Mouse</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

**Skin**: Non-sensitiser.

**Respiratory**: Non-sensitiser.

**Mutagenicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Experiment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>OECD 471 Bacterial Reverse Mutation Test</td>
<td>Subject: Bacteria</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>OECD 476 In vitro Mammalian Cell Gene Mutation Test</td>
<td>Subject: Mammalian-Animal</td>
<td>Negative</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>-</td>
<td>471 Bacterial Reverse Mutation Test</td>
<td>Subject: Bacteria</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion/Summary**: No mutagenic effect.

**Carcinogenicity**

**Conclusion/Summary**: Potential for nitrosamine formation if ingested. Do not ingest.

**Reproductive toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Maternal toxicity</th>
<th>Fertility</th>
<th>Developmental toxicity</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>Negative</td>
<td>Negative</td>
<td>Negative</td>
<td>Rat - Male, Female</td>
<td>Oral: 1500 mg/kg</td>
<td>53 days; 7 days per week</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>Negative</td>
<td>Negative</td>
<td>Negative</td>
<td>Rat - Male, Female</td>
<td>Oral: 1500 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**: 3/22/2019  
**Date of previous issue**: 8/2/2018  
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SECTION 11: Toxicological information

Conclusion/Summary: Not considered to be toxic to the reproductive system.

Teratogenicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>Negative - Oral</td>
<td>Rat - Female</td>
<td>1500 mg/kg</td>
<td>53 days</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>Negative - Oral</td>
<td>Rat - Female</td>
<td>310 mg/m³</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure

Potential acute health effects

Eye contact: Causes serious eye irritation.

Inhalation: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact: No known significant effects or critical hazards.

Ingestion: May be irritating to the digestive tract. May cause nausea, vomiting, diarrhea, and abdominal pain. May cause methemoglobinemia (a condition that interferes with the oxygen-carrying capacity of the blood) if ingested in large quantities or over a prolonged period of time. Persons with methemoglobinemia may have blue tinge color to lips, nails, and skin. Also they may have shortness of breath or trouble breathing. Persons more susceptible to methemoglobinemia include: very young (less than 3 months), the elderly, those with chronic obstructive pulmonary disease (COPD), anemia, coronary artery disease, recent surgery or infection, and those with a genetic deficiency of G-6-PD.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:
- pain or irritation
- watering
- redness

Inhalation: The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases. Adverse symptoms may include the following:
- headache
- respiratory tract irritation
- coughing

Skin contact: No specific data.

Ingestion: Over-exposure by ingestion is unlikely under normal working conditions. Adverse symptoms may include the following:
- nausea or vomiting
- stomach pains
- diarrhoea

Methemoglobinemia (see Acute Health Effects)

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects: Eye irritation

Infant-methaemoglobinemia
SECTION 11: Toxicological information

**Potential delayed effects**

**Long term exposure**

Potential immediate effects:

- See above.

Potential delayed effects:

- Not available.

Potential chronic health effects:

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>Chronic NOAEL Oral</td>
<td>Rat - Male, Female</td>
<td>256 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary:

- Not available.

**General**:

- No known significant effects or critical hazards.

**Carcinogenicity**:

- Potential for nitrosamine formation if ingested. Do not ingest.

**Mutagenicity**:

- No known significant effects or critical hazards.

**Teratogenicity**:

- No known significant effects or critical hazards.

**Developmental effects**:

- No known significant effects or critical hazards.

**Fertility effects**:

- No known significant effects or critical hazards.

**Distribution**:

- Systemic

**Other information**:

- Not available.

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>NOEC &gt;1700 mg/l Marine water</td>
<td>Algae</td>
<td>10 days</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>Acute EC50 490 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>Acute LC50 447 mg/l Fresh water</td>
<td>Fish</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 6 to 12 mg/l Fresh water</td>
<td>Crustaceans - Cladocera</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 1337000 μg/l Fresh water</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 9.24 g/L Fresh water</td>
<td>Algae - Desmodesmus subspicatus</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 9.68 mg/l Fresh water</td>
<td>Crustaceans - Pseudosida ramosa - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 30.1 mg/l Fresh water</td>
<td>Daphnia - Moinodaphnia macleayi - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 435000 μg/l Fresh water</td>
<td>Fish - Gambusia affinis - Adult</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 240.45 mg/l Marine water</td>
<td>Crustaceans - Americamysis bahia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1700 mg/l Fresh water</td>
<td>Fish - Cirrhinus mrigala/L. Rohita - Fry</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

Conclusion/Summary:

- Based on available data, the classification criteria are not met.

12.2 Persistence and degradability

Conclusion/Summary:

- Not persistent.

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium chloride</td>
<td>-3.2</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

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SECTION 12: Ecological information

12.4 Mobility in soil

Soil/water partition coefficient ($K_{oc}$) : Not applicable. Inorganic salt. Bioaccumulative potential - low

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable. Inorganic salt.

vPvB : Not applicable. Inorganic salt.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Hazardous waste : Ensure all waste water is collected and treated via a waste water treatment plant. Dispose of waste product or used containers according to local regulations.

European waste catalogue (EWC)

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>06 10 02*</td>
<td>Fertiliser waste</td>
</tr>
</tbody>
</table>

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>ICAO</th>
</tr>
</thead>
</table>

| 14.2 UN proper shipping name | - | - | - | - |

| 14.3 Transport hazard class(es) | - | - | - | - |

| 14.4 Packing group | - | - | - | - |

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SECTION 14: Transport information

14.5 Environmental hazards

<table>
<thead>
<tr>
<th>Additional information</th>
<th>No.</th>
<th>No.</th>
<th>No.</th>
<th>No.</th>
</tr>
</thead>
</table>

14.6 Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

Other EU regulations

Europe inventory: This material is listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso III Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

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SECTION 15: Regulatory information

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Japan : Japan inventory (ENCS): All components are listed or exempted.
Japan inventory (ISHL): Not determined.
Malaysia : All components are listed or exempted.
New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.
Turkey : Not determined.
United States : All components are listed or exempted.

15.2 Chemical safety assessment : Complete.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Key literature references and sources for data :
ECH, European Chemicals Agency, Classification and Labelling Database
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), latest revision.
American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Chemical Substances, latest edition.
ERG 2016 Emergency Response Guidebook
The Fertilizer Institute, Toxicity Testing Results, March 2003
Substance Information Exchange Forum Database

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
SECTION 16: Other information

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

**Full text of abbreviated H statements**

H272: May intensify fire; oxidiser.
H302: Harmful if swallowed.
H319: Causes serious eye irritation.

**Full text of classifications [CLP/GHS]**

Eye Irrit. 2, H319: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Acute Tox. 4, H302: ACUTE TOXICITY - Category 4
Ox. Sol. 3, H272: OXIDISING SOLIDS - Category 3

**Notice to reader**

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Section 1 - Title

Short title of the exposure scenario : Nutrien AN NPK ES for Workers

List of use descriptors : Identified use name: Industrial use for the formulation of preparations, intermediate use, and end use in industrial settings.
Process Category: PROC08a, PROC08b, PROC09, PROC26
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC08b
Market sector by type of chemical product: PC12
Article category related to subsequent service life: Not applicable.

Environmental contributing scenarios : Not applicable.

Health Contributing scenarios : Bulk transfers - PROC08a, PROC08b, PROC09, PROC26
Clean-down and maintenance of equipment - PROC08a, PROC08b, PROC09, PROC26
Product packaging - PROC09
Storage - PROC26

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for 1: Not applicable.
Not applicable. Not classified as dangerous to the environment.

Contributing exposure scenario controlling worker exposure for 1: Bulk transfers

Product Characteristics : Solid, low dustiness.
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%
Physical state : Solid beads.
Dust : Solid, low dustiness.
Amounts used : Variable, from day to day.
Frequency and duration of use : Use duration (h/d): >4
Human factors not influenced by risk management : Not applicable.
Other operational conditions affecting worker exposure : Indoor or outdoor use Amounts used
Area of use: : Indoor and outdoor use.
Compound Fertiliser, Granular 15-15-15 Nutrien AN NPK ES for Workers

Contributing exposure scenario controlling worker exposure for 2: Clean-down and maintenance of equipment

Product Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration of substance in mixture or article</td>
<td>Covers percentage substance in the product up to 100%</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid beads.</td>
</tr>
<tr>
<td>Dust</td>
<td>Solid, low dustiness.</td>
</tr>
<tr>
<td>Amounts used</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Frequency and duration of use</td>
<td>Use duration (h/d): &gt;4</td>
</tr>
</tbody>
</table>

Human factors not influenced by risk management

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

Other operational conditions affecting worker exposure

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of use:</td>
<td>Indoor or outdoor use</td>
</tr>
<tr>
<td>Technical conditions and measures at process level (source) to prevent release</td>
<td>Restrict access while emptying or maintaining the unit. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Since the emptied containers retain product residue, follow product insert warnings even after container is emptied.</td>
</tr>
<tr>
<td>Process control/change measures</td>
<td>These controls may include segregation of areas, access only to authorised persons, permit to work systems, confined space working procedures, and hazard awareness training.</td>
</tr>
<tr>
<td>Technical conditions and measures to control dispersion from source towards the worker</td>
<td>Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.</td>
</tr>
<tr>
<td>Engineering controls</td>
<td>Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.</td>
</tr>
</tbody>
</table>

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene

<table>
<thead>
<tr>
<th>Advice</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A washing facility or water for eye and skin cleaning purposes should be present.</td>
<td></td>
</tr>
<tr>
<td>Brush off contaminated clothing.</td>
<td></td>
</tr>
<tr>
<td>Ensure good industrial hygiene.</td>
<td></td>
</tr>
<tr>
<td>Provide eye shower and mark its location conspicuously.</td>
<td></td>
</tr>
</tbody>
</table>

Personal protection

<table>
<thead>
<tr>
<th>Protection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>If operating conditions cause high dust concentrations to be produced, use dust goggles.</td>
<td></td>
</tr>
</tbody>
</table>

Respiratory protection

<table>
<thead>
<tr>
<th>Protection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>If ventilation is inadequate, use respirator that will protect against dust/mist.</td>
<td></td>
</tr>
</tbody>
</table>

Engineering controls

<table>
<thead>
<tr>
<th>Control measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural ventilation is from doors, windows etc.</td>
<td></td>
</tr>
<tr>
<td>Controlled ventilation means air is supplied or removed by a powered fan.</td>
<td></td>
</tr>
</tbody>
</table>

Organisational measures to prevent/limit releases, dispersion and exposure

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

Technical conditions and measures to control dispersion from source towards the worker

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural ventilation is from doors, windows etc.</td>
<td></td>
</tr>
<tr>
<td>Controlled ventilation means air is supplied or removed by a powered fan.</td>
<td></td>
</tr>
</tbody>
</table>
### Product Characteristics
- **Concentration of substance in mixture or article**: Covers percentage substance in the product up to 100%
- **Physical state**: Solid beads.
- **Dust**: Solid, low dustiness.
- **Amounts used**: Not applicable.
- **Frequency and duration of use**: Use duration (h/d): >4
- **Human factors not influenced by risk management**: Not applicable.
- **Other operational conditions affecting worker exposure**: Indoor

### Organisational measures related to personal protection, hygiene and health evaluation
- **Advise on general occupational hygiene**: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. Pay attention to good general hygiene and housekeeping. Provide eye shower and mark its location conspicuously. When using do not eat or drink.
- **Personal protection**: If operating conditions cause high dust concentrations to be produced, use dust goggles.
- **Respiratory protection**: If ventilation is inadequate, use respirator that will protect against dust/mist.

### Contributing exposure scenario controlling worker exposure for 3: Product packaging
- **Ventilation control measures**: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
- **Organisational measures to prevent/limit releases, dispersion and exposure**: Not applicable.

### Conditions and measures related to personal protection, hygiene and health evaluation
- **Ventilation control measures**: Provide adequate ventilation and, if possible, use or install internal exhaust systems.

### Organisational measures to prevent/limit releases, dispersion and exposure
- **Personal protection**: If operating conditions cause high dust concentrations to be produced, use dust goggles.
### Contributing exposure scenario controlling worker exposure for 4: Storage

| **Product Characteristics** | Solid, low dustiness. |
| **Concentration of substance in mixture or article** | Covers percentage substance in the product up to 100% |
| **Physical state** | Solid beads. |
| **Dust** | Solid, low dustiness. |
| **Amounts used** | Not applicable. |
| **Frequency and duration of use** | Use duration (h/d): >4 |
| **Human factors not influenced by risk management** | Not applicable. |
| **Other operational conditions affecting worker exposure** | Indoor use |
| **Area of use:** | Indoor |
| **Technical conditions and measures at process level (source) to prevent release** | Not applicable. |
| **Process control/change measures** | Not applicable. |
| **Technical conditions and measures to control dispersion from source towards the worker** | Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means. |
| **Engineering controls** | Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. |
| **Ventilation control measures** | Provide adequate ventilation and, if possible, use or install internal exhaust systems. |
| **Organisational measures to prevent/limit releases, dispersion and exposure** | Not applicable. |

**Conditions and measures related to personal protection, hygiene and health evaluation**

**Personal protection**

- If operating conditions cause high dust concentrations to be produced, use dust goggles.

### Section 3 - Exposure estimation and reference to its source

**Website:**

- Qualitative approach used to conclude safe use.

**Exposure estimation and reference to its source - Environment:** 2: Not applicable.

- **Exposure assessment (environment):** Qualitative approach used to conclude safe use.
- **Exposure estimation:** Not available.

**Exposure estimation and reference to its source - Workers:** 1: Bulk transfers

- **Exposure assessment (human):** Qualitative approach used to conclude safe use.
- **Exposure estimation:** Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
## Exposure assessment (human):

- Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

### Exposure estimation

**Exposure estimation and reference to its source - Workers:3: Clean-down and maintenance of equipment**

- Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

**Exposure estimation and reference to its source - Workers:4: Product packaging**

- Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

**Exposure estimation and reference to its source - Workers:5: Storage**

- Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

## Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

**Environment**

- No additional risk management measures required.

**Health**

- Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

## Additional good practice advice beyond the REACH CSA

**Environment**

- Use containment as appropriate. Good hygiene practices and housekeeping measures

**Health**

- Not available.
Annex to the extended Safety Data Sheet (eSDS)

Product definition : Mixture

Identification of the substance or mixture

Code : 3295-29197; 3296-29197; 3297-29197; 3298-29197
Product name : Compound Fertiliser, Granular 15-15-15

Section 1 - Title

Short title of the exposure scenario : Nutrien AN NPK ES for Professionals
List of use descriptors : Identified use name: Professional use in formulation of preparations and end-use.
Process Category: PROC08a, PROC08b, PROC09, PROC26
Substance supplied to that use in form of: As such
Sector of end use: SU01
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08e
Market sector by type of chemical product: PC12

Environmental contributing scenarios : An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.
Health Contributing scenarios : All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.

Number of the ES : 2
Processes and activities covered by the exposure scenario : Applicable to all identified Process Categories.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.
Not applicable.

Contributing scenario controlling worker exposure for 1: All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.

Product characteristics : Solid, low dustiness.
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%
Physical state : Solid beads.
Dust : Solid, low dustiness.
Amounts used : Variable.
Frequency and duration of use : >4 Hours per shift
Human factors not influenced by risk management : Not applicable.
Other conditions affecting workers exposure : Indoor or outdoor use
Area of use: Indoor and outdoor use.
Technical conditions and measures at process level (source) to prevent release : Not applicable.
### Technical conditions and measures to control dispersion from source towards the worker

<table>
<thead>
<tr>
<th>Controls</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering controls</td>
<td>Provide adequate ventilation.</td>
</tr>
<tr>
<td>Ventilation control measures</td>
<td>Provide adequate ventilation and, if possible, use or install internal exhaust systems.</td>
</tr>
<tr>
<td>Product substance-related measures</td>
<td>Avoid contact with eyes.</td>
</tr>
<tr>
<td>Organisational measures to prevent/limit releases, dispersion and exposure</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

### Engineering controls

- Provide adequate ventilation.
- Controlled ventilation means air is supplied or removed by a powered fan.

### Ventilation control measures

- Provide adequate ventilation and, if possible, use or install internal exhaust systems.

### Product substance-related measures

- Avoid contact with eyes.

### Organisational measures to prevent/limit releases, dispersion and exposure

- Not applicable.

### Conditions and measures related to personal protection and hygiene

**Advice on general occupational hygiene**

- Avoid contact with eyes. Ensure good industrial hygiene. If operating conditions cause high dust concentrations to be produced, use dust goggles.

**Personal protection**

- Use suitable eye protection. If operating conditions cause high dust concentrations to be produced, use dust goggles.

### Section 3 - Exposure estimation and reference to its source

**Website:** Qualitative approach used to conclude safe use.

#### Exposure estimation and reference to its source - Environment

- **Exposure assessment (environment):** Not applicable.
- **EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE:** Not available.

#### Exposure estimation and reference to its source - Workers

- **Exposure assessment (human):** Qualitative approach used to conclude safe use.
- **EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE:** Not available.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment:** Not applicable.

**Health:** No additional risk management measures required.

### Additional good practice advice beyond the REACH CSA

**Environment:** Not available.

**Health:** Use containment as appropriate. Ensure control measures are regularly inspected and maintained. Pay attention to good general hygiene and housekeeping.