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>01-2119455044-46-XXXX</td>
<td>Ammonium sulphate</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>Exempt from REACH registration according to Article 2 (7) (a) and (b), Annex V: Category:7 Naturally occurring substance, not chemically modified.</td>
<td></td>
</tr>
</tbody>
</table>

Product code: 3242-30799; 4106-30799

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

Telephone number: 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 20 245 245
BULGARIA +359 2 9154 378; +359 887 435 325
CROATIA +385 1 2348 342
**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

<table>
<thead>
<tr>
<th>Country</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZECH REPUBLIC</td>
<td>+420 22 49 192 93</td>
</tr>
<tr>
<td>DENMARK</td>
<td>+45 82 12 12 12</td>
</tr>
<tr>
<td>ESTONIA</td>
<td>16662; +372 62 69 379</td>
</tr>
<tr>
<td>FINLAND</td>
<td>+358 9 471977</td>
</tr>
<tr>
<td>FRANCE</td>
<td></td>
</tr>
<tr>
<td>Angers</td>
<td>+33 (0)2 41 48 21 21</td>
</tr>
<tr>
<td>Bordeaux</td>
<td>+33 (0)5 56 96 40 80</td>
</tr>
<tr>
<td>Lille</td>
<td>0800 59 59 59 (national callers)</td>
</tr>
<tr>
<td>Lyon</td>
<td>+33 (0)4 72 11 69 11</td>
</tr>
<tr>
<td>Marseille</td>
<td>+33 (0)4 91 75 25 25</td>
</tr>
<tr>
<td>Nancy</td>
<td>+33 (0)3 83 22 50 50</td>
</tr>
<tr>
<td>Paris</td>
<td>+33 (0)1 40 05 48 48</td>
</tr>
<tr>
<td>Rennes</td>
<td>+33 (0)2 99 59 22 22</td>
</tr>
<tr>
<td>Strasbourg</td>
<td>+33 (0)3 88 37 37 37</td>
</tr>
<tr>
<td>Toulouse</td>
<td>+33 (0)5 61 77 74 47</td>
</tr>
<tr>
<td>GEORGIA</td>
<td>+995 99 53 33 20</td>
</tr>
<tr>
<td>GERMANY</td>
<td></td>
</tr>
<tr>
<td>Berlin</td>
<td>+49 30 192 40</td>
</tr>
<tr>
<td>Bonn</td>
<td>+49 228 192 40</td>
</tr>
<tr>
<td>Erfurt</td>
<td>+49 361 730 730</td>
</tr>
<tr>
<td>Freiburg</td>
<td>+49 761 192 40</td>
</tr>
<tr>
<td>Goettingen</td>
<td>+49 551 192 40</td>
</tr>
<tr>
<td>Homburg (Saar)</td>
<td>+49 6841 192 40</td>
</tr>
<tr>
<td>Mainz</td>
<td>+49 6131 192 40</td>
</tr>
<tr>
<td>Munich</td>
<td>+49 89 192 40</td>
</tr>
<tr>
<td>GREECE</td>
<td>+30 21 07 79 37 77</td>
</tr>
<tr>
<td>HUNGARY</td>
<td>+36 80 20 11 99</td>
</tr>
<tr>
<td>ICELAND</td>
<td>+354 543 22 22</td>
</tr>
<tr>
<td>IRELAND</td>
<td>+353 1 837 9964 (medical professionals) +353 1 809 2166 (public)</td>
</tr>
<tr>
<td>ISRAEL</td>
<td>+972 4 854 19 00</td>
</tr>
<tr>
<td>ITALY</td>
<td></td>
</tr>
<tr>
<td>Bergamo</td>
<td>+39 800 883 300</td>
</tr>
<tr>
<td>Firenze</td>
<td>+39 55 794 7819</td>
</tr>
<tr>
<td>Foggia</td>
<td>+39 881 732 326</td>
</tr>
<tr>
<td>Genoa</td>
<td>+39 10 563 62 45</td>
</tr>
<tr>
<td>Milan</td>
<td>+39 02 6610 1029</td>
</tr>
<tr>
<td>Padova</td>
<td>+39 49 827 50 78</td>
</tr>
<tr>
<td>Pavia</td>
<td>+39 38 224 444</td>
</tr>
<tr>
<td>Rome</td>
<td>+39 06 305 43 43</td>
</tr>
<tr>
<td>Turin</td>
<td>+39 011 663 7637</td>
</tr>
<tr>
<td>KAZAKHSTAN</td>
<td>+7 3272 925 868</td>
</tr>
<tr>
<td>LITHUANIA</td>
<td>+370 5 236 20 52; +370 687 533 78</td>
</tr>
<tr>
<td>NETHERLANDS</td>
<td>+31 30 274 88 88</td>
</tr>
<tr>
<td>NORWAY</td>
<td>+47 22 59 13 00</td>
</tr>
<tr>
<td>POLAND</td>
<td></td>
</tr>
<tr>
<td>Gdansk</td>
<td>+48 58 682 04 04</td>
</tr>
<tr>
<td>Krakow</td>
<td>+48 12 411 99 99</td>
</tr>
<tr>
<td>Łódz</td>
<td>+48 42 63 14 724</td>
</tr>
<tr>
<td>Sosnowiec</td>
<td>+48 32 266 11 45</td>
</tr>
<tr>
<td>Warszawa</td>
<td>+48 22 619 66 54</td>
</tr>
<tr>
<td>Wroclaw</td>
<td>+48 71 343 30 08</td>
</tr>
<tr>
<td>PORTUGAL</td>
<td>808 250 143 (national callers)</td>
</tr>
<tr>
<td>ROMANIA</td>
<td>+402 212 106 282</td>
</tr>
<tr>
<td>RUSSIAN FEDERATION</td>
<td></td>
</tr>
<tr>
<td>Ekaterinburg</td>
<td>+7 343 229 98 57</td>
</tr>
<tr>
<td>Moscow</td>
<td>+7 495 628 1687</td>
</tr>
<tr>
<td>Saint-Petersburg</td>
<td>+7 921 757 3228</td>
</tr>
<tr>
<td>SERBIA</td>
<td>+381 11 3608 440</td>
</tr>
<tr>
<td>SLOVAKIA</td>
<td>+421 2 5477 4166</td>
</tr>
<tr>
<td>SLOVENIA</td>
<td>+386 41 635 500</td>
</tr>
<tr>
<td>SPAIN</td>
<td>+34 91 562 0420</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision : 3/22/2019  Date of previous issue : 8/2/2018  Version : 1.5
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

SWEDEN  112 (national callers); +46 (0)10 456 6700
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

Hours of operation: 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]
Not classified.

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: Not applicable.

Signal word: Not applicable.

Hazard statements: Not applicable.

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: Not applicable.

Response: Not applicable.

Storage: Not applicable.

Disposal: Not applicable.

Supplemental label elements

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not applicable.

Special packaging requirements

Compound Fertiliser, Granular 15-15-15

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: Not available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures: Mixture

<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 hydrogenorthophosphate</td>
<td>REACH Reg.#: 01-2119490974-22-XXXX EC No.: 231-987-8 CAS: 7783-28-0</td>
<td>30-60</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>5-40</td>
<td>Non-hazardous substance.</td>
<td>[A]</td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>REACH Reg. #01-2119455044-46-XXXX EC No.:231-984-1 CAS #: 7783-20-2</td>
<td>5-40</td>
<td>Non-hazardous substance.</td>
<td>[A]</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>EC No.: 231-211-8 CAS #: 7447-40-7</td>
<td>25</td>
<td>Non-hazardous substance.</td>
<td>[A]</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: May cause irritation due to mechanical action. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation: No special measures are typically indicated. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or wristband. In case of inhalation of decomposition products in a fire, symptoms may be delayed.

Skin contact: Wash with soap and water.

Ingestion: Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if adverse health effects persist or are severe.
**SECTION 4: First aid measures**

<table>
<thead>
<tr>
<th>Protection of first-aiders</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

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

**Over-exposure signs/symptoms**

- **Eye contact**: May cause irritation due to mechanical action.
- **Inhalation**: No specific data.
- **Skin contact**: No specific data.
- **Ingestion**: No specific data.

**Notes to physician**

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. For professional, multilingual, medical support, in case of medical emergencies involving Nutrien products, telephone the Nutrien global 24 hour Emergency Number: 00-1-303-389-1654.

**Specific treatments**

No specific treatment.

**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**: None known.

**5.2 Special hazards arising from the substance or mixture**

- **Hazards from the substance or mixture**: Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- **Hazardous combustion products**: Decomposition products may include the following materials:
  - Sulfur oxides
  - 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. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- **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**

No specific fire or explosion hazard.
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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: May be harmful to the environment if released in large quantities. 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). Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill: Move containers from spill area. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recover the material and use it for its intended purpose.

or

Place spilt material in an appropriate container for disposal. Dispose of via a licensed waste disposal contractor.

Large spill: No additional information.

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.

7.1 Precautions for safe handling

Protective measures: Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Hygroscopic. Keep container tightly closed.

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: Fertiliser.

Industrial sector specific solutions: Not applicable. Non-hazardous product.
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>No exposure limit value known.</td>
<td>Check your local regulations to determine if exposure limits exist for soluble dusts.</td>
</tr>
</tbody>
</table>

**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 dihydrogen orthophosphate</td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>21,3 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>6,1 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>DNEL</td>
<td>Long term inhalation</td>
<td>11,2 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 dihydrogen orthophosphate</td>
<td>Fresh water</td>
<td>1,7 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>Fresh water</td>
<td>1,7 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td>Ammonium sulphate Ammonium sulphate</td>
<td>Freshwater</td>
<td>0,312</td>
<td>Assessment Factors</td>
</tr>
</tbody>
</table>

**PNEC Summary**

Low acute toxicity to fish.

8.2 Exposure controls

**Appropriate engineering controls**

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**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.

**Eye/face protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Possible: safety glasses with side-shields

**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**

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. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.

Compound Fertiliser, Granular 15-15-15

SECTION 8: Exposure controls/personal protection

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: Solid.

Colour: Off-white to Pink Red or Yellowish.

Odour: Odourless.

Odour threshold: Not available.

pH: 6 [Conc. (% w/w): 10%]

Melting point/freezing point: 190°C

Initial boiling point and boiling range: Decomposes.

Flash point: [Product does not sustain combustion.]

Evaporation rate: Not available.

Flammability (solid, gas): Non-flammable.

Upper/lower flammability or explosive limits: Not applicable. No flammable ingredients present.

Vapour pressure: Not available.

Vapour density: Not available.

Relative density: 1.62 - 1.81 g/cm³

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: 155°C

Viscosity: Not available.

Explosive properties: No specific fire or explosion hazard.

Oxidising properties: None. No oxidising ingredients present.

9.2 Other information

Solubility in water: Soluble in water in any proportion.

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity: Not considered to be reactive.

10.2 Chemical stability: The product is stable.

10.3 Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid: No specific data.
**SECTION 10: Stability and reactivity**

10.5 **Incompatible materials**
- May be incompatible with some materials of construction. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment.
- Incompatible with:
  - strong acids
  - strong alkalis

10.6 **Hazardous decomposition products**
- Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**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>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>Mouse - Male, Female</td>
<td>3040 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>LD50 Oral</td>
<td>Rat - Male, Female</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**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>Route of exposure</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>Skin - Oedema</td>
<td>Rabbit</td>
<td>0</td>
<td>72 hours</td>
<td>-</td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>Eyes - Adverse effects-None.</td>
<td>Rabbit</td>
<td>0</td>
<td>72 hours</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin irritation-Adverse effects-None.</td>
<td>Rabbit</td>
<td>0</td>
<td>72 hours</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**
- Skin: Non-irritating to the skin.
- Eyes: Non-irritating to the eyes.
- Respiratory: No known significant effects or critical hazards.

**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>Diammonium hydrogenorthophosphate</td>
<td>Skin</td>
<td>Mouse</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**
- Skin: Non-sensitiser to skin.
- Respiratory: Non-sensitiser to lungs.

**Date of issue/Date of revision**: 3/22/2019  
**Date of previous issue**: 8/2/2018  
**Version**: 1.5
## SECTION 11: Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Experiment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>OECD 473 In vitro Mammalian Chromosomal Aberration Test 471 Bacterial Reverse Mutation Test Ames test</td>
<td>Experiment: In vitro Mammalian-Animal Cell: Subject: Bacteria Subject: Bacteria</td>
<td>Negative</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion/Summary**
- No known significant effects or critical hazards.

### Carcinogenicity
- **Conclusion/Summary**: Not available.

### Reproductive toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Maternal toxicity</th>
<th>Fertility</th>
<th>Developmental toxin</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diammonium hydrogenorthophosphate</td>
<td>Negative</td>
<td>Negative</td>
<td>Negative</td>
<td>Mouse - Male, Female</td>
<td>Oral: 5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Ammonium sulphate</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>

**Conclusion/Summary**
- No known significant effects or critical hazards.

### Teratogenicity
- **Conclusion/Summary**: No known teratogenic effect.

### 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**
- Skin contact: Inhalation (dusts and mists)

### Potential acute health effects
- **Eye contact**: May cause irritation due to mechanical action.
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics
- **Eye contact**: May cause irritation due to mechanical action.
- **Inhalation**: No specific data.
- **Skin contact**: No specific data.
- **Ingestion**: No specific data.

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

#### Short term exposure
- **Potential immediate effects**: See above.
- **Potential delayed effects**: See above.

#### Long term exposure
**SECTION 11: Toxicological information**

**Potential immediate effects**
See above.

**Potential delayed effects**
See below.

**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>Diammonium hydrogenorthophosphate</td>
<td>Chronic NOAEL Oral</td>
<td>Rat - Male, Female</td>
<td>250 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

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

**General**
No known significant effects or critical hazards.

**Carcinogenicity**
No known significant effects or critical hazards.

**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.

**Potential immediate 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>Diammonium hydrogenorthophosphate</td>
<td>Acute LC50 1700 mg/l Fresh water</td>
<td>Fish - Cirrhinus mrigala/L. Rohita - Fry</td>
<td>96 hours</td>
<td></td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>Acute LC50 53 mg/l</td>
<td>Fish-Oncorhynchus mykiss</td>
<td>96 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion/Summary**
Practically non-toxic to aquatic organisms. Based on available data, the classification criteria are not met.

**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>Diammonium hydrogenorthophosphate</td>
<td>Acute LC50 1700 mg/l Fresh water</td>
<td>Fish - Cirrhinus mrigala/L. Rohita - Fry</td>
<td>96 hours</td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>Acute LC50 53 mg/l</td>
<td>Fish-Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**
According to EC criteria: Readily biodegradable

**12.2 Persistence and degradability**
According to EC criteria: Readily biodegradable

**12.3 Bioaccumulative potential**
Not available.

**12.4 Mobility in soil**
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.

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. 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: Non-hazardous waste

European waste catalogue (EWC)

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>06 10 99</td>
<td>wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>wastes not otherwise specified</td>
<td></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>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>ICAO</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</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: Not available.
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**

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**

: All components are 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**

<table>
<thead>
<tr>
<th>Country</th>
<th>List</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td></td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td>All components are listed or exempted.</td>
</tr>
</tbody>
</table>
| Japan            |      | Japan inventory (ENCS): All components are listed or exempted.  
|                  |      | Japan inventory (ISHL): Not determined. |
| Malaysia         |      | Not determined. |
| 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. |

**Date of issue/Date of revision**: 3/22/2019  
**Date of previous issue**: 8/2/2018  
**Version**: 1.5
SECTION 15: Regulatory information

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:
- ECHA, 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]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified.</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

Not applicable.

Full text of classifications [CLP/GHS]

Not applicable.

Date of issue/ Date of revision : 3/22/2019
Date of previous issue : 8/2/2018
Version : 1.5

Notice to reader
SECTION 16: Other information

DISCLAIMER AND LIMITATION OF LIABILITY

The information and recommendations contained in this Safety Data Sheet ("SDS") relate only to the specific material referred to herein (the "Material") and do not relate to the use of such Material in combination with any other material or process. The information and recommendations contained herein are believed to be current and correct as of the date of this SDS. HOWEVER, THE INFORMATION AND RECOMMENDATIONS ARE PRESENTED WITHOUT WARRANTY, REPRESENTATION OR LICENSE OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO THEIR ACCURACY, CORRECTNESS OR COMPLETENESS, AND THE SELLER, SUPPLIER AND MANUFACTURER OF THE MATERIAL AND THEIR RESPECTIVE AFFILIATES (COLLECTIVELY, THE "SUPPLIER") DISCLAIM ALL LIABILITY FOR RELIANCE ON SUCH INFORMATION AND RECOMMENDATIONS. This SDS is not a guarantee of safety. A buyer or user of the Material (a "Recipient") is responsible for ensuring that it has all current information necessary to safely use the Material for its specific purpose.

FURTHERMORE, THE RECIPIENT ASSUMES ALL RISK IN CONNECTION WITH THE USE OF THE MATERIAL. THE RECIPIENT ASSUMES ALL RESPONSIBILITY FOR ENSURING THE MATERIAL IS USED IN A SAFE MANNER IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL, HEALTH, SAFETY AND SECURITY LAWS, POLICIES AND GUIDELINES. THE SUPPLIER DOES NOT WARRANT THE MERCHANTABILITY OF THE MATERIAL OR THE FITNESS OF THE MATERIAL FOR ANY PARTICULAR USE AND ASSUMES NO RESPONSIBILITY FOR INJURY OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY OR RELATED TO THE USE OF THE MATERIAL.