

SAFETY DATA SHEET

Compound Fertiliser, Granular 20-10-10 (3S)

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

1.1 Product identifier

Product name : Compound Fertiliser, Granular 20-10-10 (3S)

REACH Registration number

Registration number	Substance
01-2119490981-27-XXXX	Ammonium nitrate
01-2119488166-29-XXXX	Monoammonium phosphate
01-2119455044-46-XXXX	Ammonium sulphate
01-2119490064-41-XXXX	Calcium hydrogenorthophosphate
Exempt from REACH registration according to Article 2 (7) (a) and (b), Annex V: Category:7, Naturally occurring substance, not chemically modified.	Potassium chloride

Product code : 6016-31684

Product description : EC FERTILISER NPK(S) Fertiliser, Granulated 20-10-10 (3S)

Product type : Solid.

Other means of identification : Not available.

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

Identified uses	
Uses by workers in industrial settings: 1: Sampling, loading, filling, transfer, dumping, and bagging of substance at dedicated / non-dedicated facilities. 2: Storage 3: Transfer of substance into small containers (dedicated filling line, including weighing). 4: Quality control Uses by professional workers: 5: Professional use – solid fertiliser for fields	
Uses advised against	Reason
Not approved: Consumer use	EU Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Restricted to industrial use and to professional uses or as approved in certain EU Member States. Verify what usage is allowed.

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

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

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 70 245 245
BULGARIA +359 2 9154 378; +359 887 435 325
CROATIA +358 1 2348 342
CZECH REPUBLIC +420 22 49 192 93
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
Lodz +48 42 63 14 724
Sosnowiec +48 32 266 11 45

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

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
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

Supplier

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

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]

Ox. Sol. 3, H272

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity : 4.5 percent of the mixture consists of component(s) of unknown toxicity

Ingredients of unknown ecotoxicity : Contains 4.5 % of components with unknown hazards to the aquatic environment

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 : May intensify fire; oxidiser.

Precautionary statements

Prevention : P220 Keep away from clothing, incompatible materials and combustible materials.
P280 Wear protective gloves / protective clothing / eye protection / face protection.

Compound Fertiliser, Granular 20-10-10 (3S)

SECTION 2: Hazards identification

Response	: P371+P380+P375 In case of fire: Use flooding quantities of water to extinguish. Fight fire remotely due to the risk of explosion.
Storage	: P420 Store away from other materials.
Disposal	: Not applicable.
Hazardous ingredients	: Ammonium nitrate
Supplemental label elements	: EUH210 Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Restricted to industrial use and to professional uses or as approved in certain EU Member States. Verify what usage is allowed.
Special packaging requirements	
Containers to be fitted with child-resistant fastenings	: Not applicable.
Tactile warning of danger	: Not applicable.

2.3 Other hazards

P: Not available. B: Not available. T: Not available.
vP: Not available. vB: Not available.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Ammonium nitrate	REACH #: 01-2119490981-27-XXXX EC No.: 229-347-8 CAS: 6484-52-2	43-51	Ox. Sol. 3, H272 Eye Irrit. 2, H319	[A]
Potassium chloride	EC No.: 231-211-8 CAS #: 7447-40-7	16-17	NON-HAZARDOUS SUBSTANCE.	[A]
Monoammonium phosphate	REACH Reg.#: 01-2119488166-29-XXXX EC No.: 231-764-5 CAS #: 7722-76-1	13-16	NON-HAZARDOUS SUBSTANCE.	[A]
Ammonium sulphate	REACH Reg.#: 01-2119455044-46-XXXX EC No.: 231-984-1 CAS #: 7783-20-2	10-13	NON-HAZARDOUS SUBSTANCE.	[A]
Calcium hydrogenorthophosphate	REACH: 01-2119490064-41-XXXX EC No.: 231-826-1 CAS #:7757-93-9	3-6	NON-HAZARDOUS SUBSTANCE. See Section 16 for the full text of the H statements declared above.	[A]

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

SECTION 3: Composition/information on ingredients

[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 for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do. Seek medical attention if irritation persists.
- Inhalation** : In a fire, hazardous decomposition products may be produced. Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. 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.
- Skin contact** : Wash with plenty of soap and water. Get medical attention if irritation develops.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If unconscious, place in recovery position and get medical attention immediately. Get medical attention if adverse health effects persist or are severe.
- 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** : May cause irritation due to mechanical action. Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : May cause slight transient irritation.
- Skin contact** : No specific data.
- Ingestion** : Oxygen depletion, nausea or vomiting

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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases. Contains an oxidizing substance. Flood fire area with water from a distance.

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

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Contains an oxidizing substance. May intensify fire. Risk of explosion if heated under confinement.

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 : Contains an oxidizing substance. 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. Avoid contamination by any source including metals, dust and organic materials. Keep away from heat, sparks and flame. Separate from reducing agents and combustible materials. Store away from incompatible materials (see Section 10).

Seveso Directive - Reporting thresholds (in tonnes)

Named substances

Name	Notification and MAPP threshold	Safety report threshold
Ammonium nitrate fertilisers capable of self-sustaining decomposition.	5000	10000

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

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

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

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
Ammonium nitrate	DNEL	Long term Dermal	21.3 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	37.6 mg/m ³	Workers	Systemic

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

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Ammonium nitrate	Fresh water	0.45 mg/l	Assessment Factors

PNEC Summary : Very 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. 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 : 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. Recommended: safety glasses with side-shields or sealed eyewear

Skin protection

Hand protection : The personal protective equipment required varies, depending upon your risk assessment. No special measures are typically indicated.

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.]
- Colour** : Brownish-red.
- Odour** : Odourless.
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not available.

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range	: Decomposition temperature: >130°C
Flash point	: Not applicable. Non-flammable.
Evaporation rate	: Not applicable. Solid beads.
Flammability (solid, gas)	: Non-flammable. Material will not burn. May intensify fire; oxidiser.
Upper/lower flammability or explosive limits	: Not applicable. Inorganic salt.
Vapour pressure	: Not applicable.
Vapour density	: Not applicable.
Relative density	: 1.12
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	: >130°C
Viscosity	: Not applicable. Solid.
Explosive properties	: Contains an oxidizing substance. May react explosively when mixed with chlorinated materials such as hypochlorites.
Oxidising properties	: Oxidiser. May intensify fire.

9.2 Other information

Burning time	: Not applicable. Non-combustible. Decomposes.
Burning rate	: Not applicable. Non-combustible. Decomposes.
Solubility in water	: Soluble

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

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium nitrate	LD50 Dermal	Rat - Male, Female	>5000 mg/kg	-
	LD50 Oral	Rat - Male, Female	2950 mg/kg	-
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-

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

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ammonium nitrate	Skin - Oedema	Rabbit	0	-	72 hours
	Eyes - Oedema of the conjunctivae	Rabbit	3	-	3 days

Conclusion/Summary

Skin : Non-irritating to the skin.

Eyes : At the concentration found this product: May cause slight transient irritation. Effects are not sufficient for classification as hazardous.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Ammonium nitrate	Skin	Mouse	Not sensitizing

Conclusion/Summary

Skin : Non-sensitiser.

Respiratory : Non-sensitiser.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Ammonium nitrate	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

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

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Ammonium nitrate	Negative	Negative	Negative	Rat - Male, Female	Oral: 1500 mg/kg	53 days; 7 days per week

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

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium nitrate	Negative - Oral	Rat - Female	1500 mg/kg	53 days
Potassium chloride	Negative - Oral	Rat - Female	310 mg/m ³	-

SECTION 11: Toxicological information

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 : Inhalation

Potential acute health effects

Eye contact : May cause irritation due to mechanical action.
Inhalation : May cause irritation due to mechanical action.
Skin contact : No known significant effects or critical hazards.
Ingestion : May interfere with the oxygen carrying capacity of the blood if ingested in large quantities or over a prolonged period of time. Persons with anemia, bowel diseases, or infants, are more likely to develop effects. Over-exposure by ingestion is unlikely under normal working conditions.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : May cause irritation due to mechanical action. Adverse symptoms may include the following:
pain or irritation
watering
redness
Inhalation : May cause slight transient irritation.
Skin contact : No specific data.
Ingestion : Oxygen depletion, nausea or vomiting

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

Short term exposure

Potential immediate effects : Infant-methaemoglobinaemia
Potential delayed effects : See above.

Long term exposure

Potential immediate effects : See above.
Potential delayed effects : See below.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium nitrate	Chronic NOAEL Oral	Rat - Male, Female	256 mg/kg	-
Potassium chloride	Chronic NOAEL Oral	Rat - Female	1280 mg/kg	-

Conclusion/Summary : See below.

General : Repeated or prolonged overexposure may result in chronic health effects. Repeated or prolonged overexposure by ingestion can reduce the oxygen carrying capacity of the blood, producing anoxia in infants or individuals with preexisting bowel or blood diseases. Ensure that nitrate containing fertilizers are not applied near wells where contamination may occur. Consult your agronomist regarding the advisability and precautions for use of nitrate fertilizers on fruit or vegetable crops.

Carcinogenicity : See above.

Compound Fertiliser, Granular 20-10-10 (3S)

SECTION 11: Toxicological information

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.
Absorption	: 50 % by Oral Dermal Inhalation
Distribution	: Systemic

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Ammonium nitrate	NOEC >1700 mg/l Marine water Acute EC50 490 mg/l Fresh water Acute LC50 447 mg/l Fresh water	Algae Daphnia Fish	10 days 48 hours 48 hours
Ammonium chloride	NOEC: 26.8 mg/l Marine water	Algae	10 days

Conclusion/Summary : Excessive nutrient runoff to a body of water may result in eutrophication. May be harmful to the environment if released in large quantities.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Ammonium nitrate	-	-	Readily

12.3 Bioaccumulative potential

Not available.

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.

Compound Fertiliser, Granular 20-10-10 (3S)

SECTION 13: Disposal considerations

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)

Waste code	Waste designation
06 10 00	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture

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

	ADR/RID	ADN	IMDG	ICAO
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

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.

SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Restricted to industrial use and to professional uses or as approved in certain EU Member States. Verify what usage is allowed.

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 controlled under the Seveso Directive.

Named substances

Name
Ammonium nitrate fertilisers capable of self-sustaining decomposition.

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

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** :
- REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 DECEMBER 2006, with successive adaptations, amendments, and corrigenda.
 - REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 DECEMBER 2008, with successive adaptations, amendments, and corrigenda.
 - ECHA, European Chemicals Agency, Classification and Labelling Database
 - DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 4 JULY 2012 on the control of major-accident hazards involving dangerous substances
 - European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), latest revision.
 - Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods, with successive amendments.
 - REGULATION (EC) No 2003/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 13 OCTOBER 2003 RELATING TO FERTILISERS, with successive adaptations, amendments, and corrigenda.
 - American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Chemical Substances, latest edition.
 - Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers
 - ERG 2016 Emergency Response Guidebook
 - IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.
 - The Fertilizer Institute, Toxicity Testing Results, March 2003

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

Classification	Justification
Ox. Sol. 3, H272	Weight of evidence

Full text of abbreviated H statements

H272	May intensify fire; oxidiser.
------	-------------------------------

Full text of classifications [CLP/GHS]

Ox. Sol. 3, H272	OXIDISING SOLIDS - Category 3
------------------	-------------------------------

Date of issue/ Date of revision : 3/22/2019

Date of previous issue : 8/2/2018

Version : 1.3

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.

Product definition : Mixture
Identification of the substance or mixture
Code : 6016-31684
Product name : Compound Fertiliser, Granular 20-10-10 (3S)

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

Number of the ES : 1
Processes and activities covered by the exposure scenario : Applicable to all identified Process Categories.
An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.

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.

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	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. Ensure good industrial hygiene. Provide eye shower and mark its location conspicuously.
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 2: Clean-down and maintenance of equipment

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 or outdoor use
Area of use:	: Indoor and outdoor use.
Technical conditions and measures at process level (source) to prevent release	: 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.
Process control/change measures	: These controls may include segregation of areas, access only to authorised persons, permit to work systems, confined space working procedures, and hazard awareness training.
Technical conditions and measures to control dispersion from source towards the worker	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
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	
Advice 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

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	: Ensure the area is organised, well lit and ventilated with enough space to deal with spills easily.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Ensure sufficient ventilation when re-packing damaged packages. Only use product in a well-ventilated area.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. When using do not eat or drink.
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 estimation and reference to its source - Workers:3: Clean-down and maintenance of equipment

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

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

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.

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.

Product definition : Mixture
Identification of the substance or mixture
Code : 6016-31684
Product name : Compound Fertiliser, Granular 20-10-10 (3S)

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	: Use containment as appropriate. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Engineering controls	: Provide adequate ventilation.
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: 2: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.	
Exposure assessment (environment):	: Not applicable.
EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE	: Not available.
Exposure estimation and reference to its source - Workers:1: All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.	
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.