Product Safety Data Sheet

Conforms to REGULATION (EU) No. 453/2010

Group Number	**N/A**
Version	**1.0**
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Last Updated	**Oct-23**

NPK 10-15-21 + 20% SO_3 Granular Compound

1.0	**Identification of the substance/mixture and of the company/undertaking**	
1.1	**Product Identifier**	
	Product/Trade name	NPK 10-15-21 + 20%SO_3 Granular Compound / Polifoska 10-15-21
	Common chemical name	NPK fertilizer, compound fertilizer
	Synonyms	Not applicable.
	Chemical formula	Not applicable.
	EU index number	Not applicable.
	EC No	Not applicable.
	CAS No.	Not applicable.
	REACH Registration Number.	Not applicable as the fertilizer is a mixture.
	National Product Registration Number, where applicable	Not applicable.
1.2	**Relevant identified uses of the substance or mixture and uses advised against**	
	Use of the substance/mixture	Fertilizer
	Uses advised against	The use of this substance should be limited to those specified in this SDS.
1.3	**Details of the supplier of the safety data sheet**	
	Manufacturer/Importer/Supplier	**Glasson Fertilisers** West Quay, Glasson Dock Lancaster, LA2 0DB Tel: +44 (0) 1524 753600 fertilizers@glassongrain.co.uk
1.4	**Emergency telephone number**	+44 (0)1524 753600 (7:30am - 5:00pm)

2	**Hazards identification**		
2.1	**Classification of the substance or mixture**		
	Classification in accordance with Regulation 1272/2008 (CLP)	Non-hazardous	
	Hazard Statement(s)	Not applicable	
	Classification in accordance with Directive 67/548 (DSD)	Not applicable	
	Risk phrase(s)	Not applicable	
2.2	**Label elements**		
	Hazard pictogram(s)	None	
	Signal word	Not applicable	
	Hazard Statement(s)	None	
	Precautionary statement(s)	P210	Keep away from heat, sparks, open flames & hot surfaces. — No smoking.
		P220	Keep/Store away from combustible materials & chemicals.
		P370+P378	In case of fire: Use copious quantities of water.
		P264	Wash hands thoroughly after handling.
2.3	**Other hazards**		
	PBT/vPvB criteria	Components of fertilizers do not meet the criteria neither for a PBT nor a vPvB substance.	
	Other hazards which do not result in classification		

Physical and chemical hazards	Fertilizers are basically harmless products when handled correctly. However, the following points should be noted for fire, heating and detonation: The fertilizer is not itself combustible but it can support combustion, even in the absence of air. On heating it melts and further heating can cause decomposition, releasing toxic fumes containing nitrogen oxides, ammonia and other gases depending on composition. It has high resistance to detonation. Heating under strong confinement can lead to explosive behaviour.	
Health hazards	Skin effect	Longer contact may cause skin irritation.
	Eyes effect	Longer contact may cause eye irritation.
	Swallowing	There is no toxic effect when ingesting small amounts. Ingestion of a high amount leads to gastrointestinal discomforts.
	Inhalation	High concentration of wafting dust may cause nose irritation and irritation of the upper respiratory tract and produce symptoms like sore throat and cough.
Environmental hazards	Because fertilizers contain phosphates, in case of large scatterings unfavourable influence on environment is possible by eutrophication of inland waters (See section 12).	

3 Composition/information on ingredients

Mixture

Chemical name	CAS no.	EC no.	Generic REACH Reg No.)	Classification Regulation (EC) No. 1272/2008	Classification Directive 67/548/EEC	% (w/w)
Ammonium Dihdrogenorthphosphate	10124-34-9	233-330-0	01-2119488166-29-0027	-	-	Variable
Ammonium Sulphate	7783-20-2	231-984-1	01-2119455044-46-0038	-	-	Variable
Ammonium Chloride	12125-02-9	235-186-4	01-2119489385-24-0012	-	-	Variable
Urea	57-13-6	200-315-5	01-2119463277-33-0044	-	-	Variable
Potassium Chloride	7447-40-7	231-211-8	Exempt	-	-	Variable
Magnesite (natural $MgCO_3$)	999999-99-4	-	Exempt	-	-	Variable

EC no. means EINECS or ELINCS number.

This safety data sheet is not a guarantee of product specification or NPK value(s). NPK content is specified on sales orders, customer invoices, or product specifications.

4.0 First aid measures

4.1 Description of first aid measures

General	In some cases medical attention necessary (see below).
Inhalation	Remove the injured from dusted area. Provide medical assistance if disease symptoms occur.
Ingestion	Rinse out mouth and then drink plenty of water (approx. 500 ml). Do not bring on vomiting. Consult a doctor in case of ingestion of large amount.
Skin contact	Treat contaminated skin with water and soap.
Eye contact	Wash eyes with plenty of water, for at least 10 minutes. If irritation maintains, provide medical aid.

4.2 Most important symptoms and effects, both acute and delayed

Acute effects	Acute and delayed symptoms and effects of exposure do not occur under normal conditions (see section 11)
Delayed effects	None known.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physician	Medical assistance is needed in case of inhalation of large amounts of dust.

5.0	Fire-fighting measures	
5.1	Extinguishing media	
	Suitable extinguishing media	Use fire fighting measures suitable for burning materials. CO_2, extinguishing powder or water jet. Fight larger fires with foam.
	Unsuitable extinguishing media	None
5.2	**Special hazards arising from the substance or mixture**	
	If the fertilizer is exposed to fire	Call fire brigade. Avoid inhaling of acrid smokes (they are toxic). Stand with a face towards fire, always back to a wind. If vapors are released (acrid smokes), use breathing apparatus. Use plenty of water. Prevent release of a melted fertilizer to sewage ducts. If water containing dissolved fertilizer is released to sewage or waters, inform immediately local authorities. Do not allow molten fertilizers to run into drains.
	Fire and products of thermal decomposition	Contact with skin: A contaminated skin to be treated with water and soap. Seek medical aid. Inhalation: Remove injured from area of acrid smokes. Provide injured with warmth and calmness even if poisoning symptoms do not occur. Persons exposed to inhalation of gases coming from thermal decomposition of a fertilizer should be provided with immediate medical attention.
	Fire, heating, explosion	Fertilizers are not combustible mixtures and they do not maintain burning. During thermal decomposition, water vapour and toxic gases like: ammonia, sulphur oxides, chlorine and hydrogen chloride may be released. In case of urea-containing fertilizers release of toxic gases containing nitrogen oxides (NOx) is possible.
5.3	**Advice for firefighters**	
	Special fire fighting procedures	Open doors and windows of the store to give maximum ventilation. Avoid breathing the fumes (toxic); stand up-wind of the fire. Prevent any contamination of fertilizer by oils or other combustible materials.
	Special protective equipment for fire-fighters	Standard protective equipment for firefighters.

6.0	Accidental release measures	
6.1	**Personal precautions, protective equipment and emergency procedures**	When there is excessive dusting use dustproof glasses and masks protecting the respiratory system.
6.2	**Environmental precautions**	Avoid pouring large amounts of the mixture to the environment or into watercourses. Pay attention to avoid pollution of waters or sewage ducts. Inform proper authorities in case of their pollution.
6.3	**Methods and material for containment and cleaning up**	All scatterings of fertilizers should be immediately cleaned up and placed in a special labelled container. Depending on a degree and type of contamination, use collected fertilizer for agricultural purposes or pass it on to a specialized company for neutralization.
6.4	**Reference to other sections**	See section 1 for emergency contact information, section 8 for personal protective equipment and section 13 for waste disposal.

7.0	Handling and storage	
	The information in this section contains generic advice and guidance. The list of identified uses given in section 1 should be considered for any use-specific information provided in the Exposure Scenario(s).	
7.1	**Precautions for safe handling**	Avoid excessive formulation of dusts. Avoid unnecessary exposure to atmospheric air to prevent moisture absorption. While handling the product for a longer time, wear proper protective clothes, e.g. protective gloves.
7.2	**Conditions for safe storage, including any incompatibilities**	Keep away products from ignition sources. Storage buildings should be dry and well vented. Storage rooms should be kept clean.
7.3	**Specific end use(s)**	Fertiliser.

8.0	Exposure controls/personal protection						
	The information in this section contains generic advice and guidance. The list of identified uses given in section 1 should be considered for any use-specific information provided in the Exposure Scenario(s).						
8.1	**Control parameters**						
	DNEL			**ammonium dihydrogen orthophosphate**	**ammonium sulphate**	**urea**	**ammonium chloride**
	DNEL1 for workers	**Long-term - systemic effects**	Dermal	42.667 mg/kg b.m./d	34.7 mg/kg b.m./d	580 mg/kg b.m./d	190 mg/kg b.m./d
		Long-term - systemic effects	Inhalation	11.167 mg/m³	6.1 mg/m³	292 mg/m³	33.5 mg/m³
				ammonium dihydrogen orthophosphate	**ammonium sulphate**	**urea**	**ammonium chloride**
	DNELs for the general population	**Long-term - systemic effects**	Dermal	20.8 mg/kg b.m./d	12.8 mg/kg b.m./d	580 mg/kg b.m./d	114 mg/kg b.m./d

DNELs for the general population	**Long-term - systemic effects**	Inhalation	1.8 mg/m³	3.04 mg/m³	125 mg/m³	9.9 mg/m³
	Long-term - systemic effects	Oral	2.1 mg/kg b.m./d	-	42 mg/kg b.m./d	11.4 mg/kg b.m./d

PNEC	**ammonium dihydrogen orthophosphate**	**ammonium sulphate**	**urea**	**ammonium chloride**
PNEC aqua freshwater	1.7 mg/L	0.312 mg/L	0.047 mg/L	1.2 mg/L
PNEC aqua marine	0.17 mg/L	0.031 mg/L	0.047 mg/L	11.2 mg/L
PNEC intermittent release	17 mg/L	0.53 mg/L	-	1.2 mg/L
PNEC STP	10 mg/L	16.18 mg/L	-	16.2 mg/L
PNEC soil	-	-	-	0.163 mg/kg soil

8.2 Exposure controls

Precautions and technical undertakings Avoid high accumulation of dusts and provide ventilation, where necessary.

Individual protection During continuous work with the product use protective gloves. If concentration of dust is high, use dust-masks. Wash hands and follow general hygiene principles. Avoid skin and eyes contact with the product.

Respiratory system Use breathing protection in case of insufficient ventilation. Dust mask according to DIN EN 140 or 149 (FFP1 or FFP2).

Skin and body Light weight protective clothing.

Hands In case of contact with thrown fertilizer at least protection index 2 is recommended, according to more than 30 min. penetration time (EN 374).

Eyes Safety glasses (DIN 58211, EN 166).

9.0 Physical and chemical properties

Appearance	White, grey, or brown granules unless deliberately coloured during manufacture.
Initial boiling point and boiling range	There is no need for testing (according to annex VII)
Flash point	Does not apply to inorganic substances
Flammability (solid, gas)	Not flammable
Explosive properties	No explosive properties
Auto-ignition temperature	Not self-ignition temperature
Oxidising properties	No oxidizing properties
Vapour pressure at 20°C	There is no need for testing (according to annex VII)
Partition coefficient (n-octanol/water)	Does not apply to inorganic substances
Viscosity	No study is necessary – solid
Mean particle size	2-5mm approx.
Water solubility	Soluble in water, forms of water suspensions. Solubility depends on composition. Urea-containing fertilizers are hygroscopic.
Surface tension	There is no need for testing (according to annex VII)
Other information	No other information

10.0 Stability and reactivity

10.1	**Reactivity**	No reactivity during storage, handling and application under normal conditions.
10.2	**Chemaical stability**	Stable during storage, handling and application under normal conditions.
10.3	**Possibility of hazardous reactions**	No dangerous reactions known.
10.4	**Conditions to avoid**	Unnecessary exposure to atmospheric conditions. Proximity of ignition sources. Welding or heat treatment of equipment on the installation, where a fertilizer may be present without earlier thorough washing to remove all residue of a fertilizer.
10.5	**Incompatible materials**	Strong acids, alkalis, sodium hypochlorite, copper and its alloys.
10.6	**Hazardous decomposition products**	During reactions with alkalis and alkaline materials like lime, gas ammonia is released.

11.0 Toxicological information

11.1 Information on toxicological effects

Toxicokinetics, metabolism and distribution Not available

Acute toxicity

Ingredients	
Acute oral toxicity	LD503 > 2000 mg/kg b.w./d - rat (Sprague-Dawley) male/female - ammonium dihydrogenorthophosphate
	LD50 = 4250 mg/kg b.w./d - rat (Gassner) male/female - ammonium sulphate

		LD50 = 14300 mg/kg bw – rat (Wistar) male/female – urea
		LD50 = 1410 mg/kg b.w./d - rat (Wistar) male/female - ammonium chloride
	Acute dermal toxicity	LD50 > 5000 mg/kg b.w./d - rat (Sprague-Dawley) male/female - ammonium dihydrogenorthophosphate
		LD50 = 2000 mg/kg b.w./d - rat (Wistar) male/female - ammonium sulphate
		LD50 > 2000 mg/kg b.w./d – rat (Wistar) male/female – ammonium chloride
	Acute inhalation toxicity	LD50>5000mg/m3-rat(Crl:WI(Han))male/female-ammonium dihydrogenorthophosphate
		LD50 = 1000 mg/m3 - rat (Sprague-Dawley) male - ammonium sulphate
	Local effects	
	Skin irritation	Not sensitizing
	Irritation/Corrosivity	Not irritating
	Repeated dose toxicity	NOAEL4 (oral): 2250 mg/kg bw/day (rat, mouse) – urea NOAEL (oral): 684 mg/kg b.w./d (rat (Sprague-Dawley) male) - ammonium chloride
	Other	
	Mutagenicity	Genetic toxicity: negative
	Reproductive toxicity	Effects on fertility No laboratory studies are provided for the endpoint “toxicity to reproduction”. Phosphates are broadly used as food additives, urea is naturally present in human organism. There is no evidence that main fertilizer components are harmful for reproduction. Developmental toxicity Lack of standard tests for main fertilizer components. Tests on diammonium hydrogenorthophosphate showed NOAEL > 1500 mg/kg b.w./d. LOAEL5: 500 mg/kg bw/day - urea
	Carcinogenicity	NOAEL (oral): 2250 mg/kg bw/day (NCI screening studies in the rat and mouse) - urea
	Remarks	Adverse health effects are considered unlikely when the product is handled and used correctly. If large quantities are ingested may give rise to gastro-intestinal disorders.

12.0	**Ecological information**		
12.1	**Toxicity**	The fertilizer has a low toxicity of its own, but significantly increases the oxygen demand, if in large quantities is introduced into the water and can cause damage to aquatic organisms. No main fertilizer component fulfills the T criteria.	
	Short-term toxicity to fish	ammonium dihydrogenorthophosphate	LC506 for freshwater fish: >85.9 mg/L (Oncorhynchus mykiss)
		ammonium sulphate	LC50 for freshwater fish: 53 mg/L (Oncorhynchus mykiss)
		urea	LC50 for freshwater fish: >6810 mg/L
		ammonium chloride	LC50 for freshwater fish: 209 mg/L (Cyrpinus Carpio) LC50 for marine water fish: 174 mg/L
	Long-term toxicity to fish	ammonium chloride	EC10/LC10 or NOEC for freshwater fish: 11.8 mg/L (Pimephales promelas) EC10/LC10 or NOEC for marine water fish: 8 mg/L
	Short-term toxicity to aquatic invertebrates	ammonium dihydrogenorthophosphate	EC507/LC50 for freshwater invertebrates: 1790 mg/L (Daphnia carinata (water flea))
		ammonium sulphate	EC50/LC50 for freshwater invertebrates: 169 mg/L (Daphnia magna)
		urea	EC50 /LC50 for freshwater invertebrates: 10000 mg/L(Daphnia, freshwater snails and Aedes egypti larvae)
		ammonium chloride	EC50/LC50 for freshwater invertebrates: 101 mg/L
	Long-term toxicity to aquatic invertebrates	ammonium chloride	EC10/LC10 or NOEC for freshwater invertebrates: 14.6 mg/L (Daphnia magna)
	Algae and aquatic plants	ammonium dihydrogenorthophosphate	EC50/LC50 for freshwater algae: >100 mg/L EC10/LC10 or NOEC8 for freshwater algae: >100 mg/L
		ammonium sulphate	EC50 for freshwater algae: 1600 mg/L (Chlorella vulgaris (algae))
		urea	EC10/LC10 lub NOEC for freshwater algae: 47 mg/L – blue-green algae.
		ammonium chloride	EC50/LC50 for freshwater algae: 1300 mg/L EC50/LC50 for marine water algae: 90.4 mg/L EC10/LC10 or NOEC for marine water algae: 26.8 mg/L
	Toxicity to aquatic micro- organisms	Key studies to assess the toxicity of ammonium dihydrogenorthophosphate and calcium bis(dihydrogenorthophosphate) to STP microorganisms are those conducted on an analogous substance. On this basis sodium, potassium, calcium and magnesium phosphates are not considered to be toxic to STP microorganisms. EC50/LC50 for aquatic micro-organisms: 1000 mg/L EC10/LC10 or NOEC for aquatic micro-organisms: 1000 mg/L Ammonium sulphate and urea are not considered toxic for STP microorganisms. The 72 hour toxicity threshold of Entosiphon sulcatum to urea was 29 mg/l, and the 16 hour toxicity threshold of urea to Pseudomonas putida was > 10000 mg/L. ammonium chloride EC50/LC50 for aquatic micro-organisms: 1618 mg/L	
12.2	**Persistence and degradability**	Nitric compounds pass through a natural cycle of nitrification or denitrification producing nitrogen or nitric oxides. Ammonium phosphates are transformed to calcium phosphates, ferrous phosphates or aluminium phosphates or they combine with organic soil matter. Phosphate compounds are absorbed mainly by clayey materials or they remain in a form of K+ ion in soil solutions. Main fertilizer components do not fulfill the P or vP criteria.	

12.3	**Bioaccumulative potential**	The fertilizer has a low potential.	Main fertilizer components do not fulfill the B or vB criteria.
12.4	**Mobility in soil**	Ammonium NH4+ is absorbed by soil particles. Phosphates, both dissolving in water and in citrate are transferred in soil only for a short period time, and then they are immobilized in soil. Potassium ion K+ dissolved in soil solutions is absorbed by clayey minerals; but in light soils, where these minerals are not present, a part of potassium can be rinsed.	
12.5	**Results of PBT and vPvB assessment**	Main fertilizer components are neither PBT nor vPvB substances.	
12.6	**Other adverse effects**	No data	

13.0	Disposal considerations	
		Remains of the product, including packaging waste transfer to the specialized companies with an appropriate waste management permit. Depending on a degree and type of contamination, the product is either used as a fertilizer for agricultural purposes or passed on to the specialized company to neutralization purposes. In case of spill of fertilizer, - see Section 6 of the safety data sheet
	Note: see section 7 for safe handling and storage	

14.0	Transport information					
		ADR/RID	**ADN/ADNR**	**IMDG**	**ICAO/IATA**	
14.1	**UN Number**	Not classified	Not classified	Not classified	Not classified	
14.2	**UN Proper shipping name**	Fertilizer	Fertilizer	Fertilizer	Fertilizer	
14.3	**Transport hazard class(es)**	Not classified	Not classified	Not classified	Not classified	
14.4	**Packing group**	Not applicable	Not applicable	Not applicable	Not applicable	
	Label	Not applicable	Not applicable	Not applicable	Not applicable	
14.5	**Environmental hazards**	Not applicable.				
14.6	**Special precautions for user**	None.				
14.7	**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.				

15.0	Regulatory information	
15.1	**Safety, health and environmental regulation/legislation specific for the substance or mixture**	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EEC and 2000/21/EC. (Official Journal of the European Union of 30.12.2006, L 396. with later changes)
	Other regulations	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of the European Union of 31.12.2008, L353. with later changes)
15.2	**Chemical safety assessment**	The chemical safety assessments for main fertilizer components have been made.

16.0	Other information	
	The information provided in this safety data sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any proceed, unless specified in the text.	
	Training advice	Employees should be trained in the proper mixture handling. Read the safety data sheet before use.
	Date of previous SDS	September 2014
	Modifications in this version	None.
	References	

Disclaimer

The information in this Safety Data Sheet is given in good faith and belief in its accuracy based on our knowledge of the substance/preparation concerned at the date of publication. It does not imply the acceptance of any legal liability or responsibility whatsoever by Glasson Fertilizers for the consequences of its use or misuse in any particular circumstances.

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