

Product Safety Data Sheet

Conforms to REGULATION (EU) No. 453/2010



Group Number	4
Version	1.2
Issue Date	May-18
Last Updated	Jul-19

NPK/NP/NK containing less than 70% Ammonium Nitrate (Non-hazardous)

1.0 Identification of the substance/mixture and of the company/undertaking	
1.1 Product Identifier	
Product/Trade name Common chemical name Synonyms Chemical formula EU index number EC No CAS No. REACH Registration Number. National Product Registration Number, where applicable	Glasson Fertilizers 25-05-05, 20-10-10, 26-02-06, 24-00-15, 24-00-14+7.5%SO ₃ , 15-15-15, 12-15-20, and any other solid compound fertilizer containing less than 70% Ammonium Nitrate. AN based NPK, compound fertilizer, complex fertilizer, NP fertilizer, NK fertilizer Not applicable. Main ingredient: NH ₄ NO ₃ Not applicable. Not applicable. Not applicable. Not applicable as the fertilizer is a mixture. Not applicable.
1.2 Relevant identified uses of the substance or mixture and uses advised against	
Use of the substance/mixture Uses advised against	Fertilizer 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 Fertilizers 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) Hazard Statement(s) Classification in accordance with Directive 67/548 (DSD) Risk phrase(s)	Non-hazardous. Not applicable Not applicable Not applicable
2.2 Label elements	
Hazard pictogram(s) Signal word Hazard Statement(s) Precautionary statement(s)	None. Not applicable None. 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	According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since ammonium nitrate is inorganic.

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	The fertilizers are basically harmless products when handled correctly. However, prolonged or repeated contact with skin may cause discomfort, ingestion of large quantities may give rise to gastro-intestinal disorders and inhalation of dust at high concentrations may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. There are no known long term effects.
Environmental hazards	Heavy spillage of nitrate and phosphate may cause adverse environmental impact such as eutrophication in confined surface waters or nitrate contamination. See Section 12.

3 Composition/information on ingredients						
Mixture						
Hazardous ingredients						
Chemical name	CAS no.	EC no.	Generic REACH Reg No.)	Classification Regulation (EC) No. 1272/2008	Classification Directive 67/548/EEC	% (w/w)
Ammonium Nitrate	6484-52-2	229-347-8	01-2119490981-27-xxxx	Ox. Sol 3, H272 Eye Irrit. 2, H319	O; R8, Xi; R36	< 70%
Other ingredients						
Ammonium Sulphate	7783-20-2	231-984-1	01-2119455044-46-xxxx	-	-	Variable
Calcium Carbonate	471-34-1	207-439-9	Exempt	-	-	Variable
Potassium Chloride	7447-40-7	231-211-8	Exempt	-	-	Variable
Diammonium Phosphate	7783-28-0	231-987-8	01-2119490974-22-xxxx	-	-	Variable
Magnesium Sulphate	14168-73-1	231-298-2	Exempt	-	-	Variable
Potassium Sulphate	7778-80-5	231-915-5	01-2119489441-34-xxxx	-	-	Variable
EC no. means EINECS or ELINCS number.						
<i>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.</i>						

4.0 First aid measures	
4.1 Description of first aid measures	
	<p>General In some cases medical attention necessary (see below).</p> <p>Inhalation Remove from source of exposure to dusts. Obtain medical attention if ill effects occur.</p> <p>Ingestion Do not induce vomiting. Rinse mouth and then give water or milk to drink. Obtain medical attention if more than a small quantity has been swallowed.</p> <p>Skin contact Wash the affected area with water.</p> <p>Eye contact Flush/irrigate eyes with copious amounts of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Obtain medical attention if symptoms persist.</p>
4.2 Most important symptoms and effects, both acute and delayed	
Acute effects	None known.
Delayed effects	None known.
4.3 Indication of any immediate medical attention and special treatment needed	
Note to physician	Inhalation of fire and thermal decomposition gases, containing oxides of nitrogen, ammonia and other toxic gases can cause irritation and corrosive effects on the respiratory system. Some lung effects may be delayed. Give oxygen, especially if there is blueness around the mouth.

5.0	Fire-fighting measures	
5.1	Extinguishing media	
	Suitable extinguishing media	If fertilizer is not directly involved in the fire Use the best means available to extinguish the fire.. If fertilizer is involved in the fire Use plenty of water.
	Unsuitable extinguishing media	Do not use chemical extinguishers or foams or attempt to smother the fire with steam or sand.
5.2	Special hazards arising from the substance or mixture	
	Specific hazards	Potential explosion hazard under fire conditions when severely confined and/or contaminated with incompatible materials (e.g. organic materials, halogenated compounds - see Section 10). Do not allow molten fertilizers to run into drains.
	Hazardous thermal decomposition and combustion products	Oxides of nitrogen, ammonia and depending on composition HCl etc.
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	Use a self-contained breathing apparatus if fumes are being entered.

6.0	Accidental release measures	
6.1	Personal precautions, protective equipment and emergency procedures	Avoid walking through spilled product and exposure to dust.
6.2	Environmental precautions	Take care to avoid the contamination of watercourses and drains and inform the appropriate authority in case of accidental contamination of watercourses.
6.3	Methods and material for containment and cleaning up	Any spillage of fertilizer should be cleaned up promptly, swept up and placed in a clean labelled open container for safe disposal, avoiding dusty conditions. Do not mix with sawdust and other combustible or organic substances. Dilute any contaminated or fine grained fertilizer with inert materials such as limestone/dolomite, mineral phosphate, gypsum, sand or dissolve in water.
6.4	Reference to other sections	See section 1 for 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 generation of dust. Avoid contamination by combustible (e.g. diesel oil, grease, etc.) and/or other incompatible materials. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up. When handling the product over long periods use appropriate personal protective equipment, e.g. gloves. Carefully clean all equipment prior to maintenance and repair.
7.2	Conditions for safe storage, including any incompatibilities	Store in compliance with national and local regulations Locate away from the sources of heat or fire. Keep away from combustible materials and substances mentioned under Section 10. On farm, ensure that the fertilizer is not stored near hay, straw, grain, diesel oil, etc. When stored loose, take particular care to avoid mixing with other fertilizers. Ensure high standard of housekeeping in the storage area. Do not permit smoking and use of naked lights in the storage areas. Restrict stack size (according to local regulations) and keep at least 1m distance around the stacks of bagged products. Any building used for the storage should be dry and well ventilated. Where the nature of the bagged product and climatic conditions so require, store under conditions that will avoid product breakdown by thermal cycling (wide variation in temperature). The product should not be stored in direct sunlight to avoid physical breakdown due to thermal cycling. Packaging materials: Plastic synthetic materials, steel and aluminum are suitable. Avoid use of copper and zinc.
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	
	Regulated Exposure limit values	No specific EU official limit.

	Recommended occupational and consumer exposure limit values (following from the performed CSA):	Exposure pattern Derived No Effect Level (DNEL)			
	For ammonium nitrate	Workers	General population		
		Oral	Not applicable	12.8 mg/kg bw/day	
		Dermal	21.3 mg/kg bw/day	12.8 mg/kg bw/day	
		Inhalation	37.6 mg/m ³	11.1 mg/m ³	
		The long-term DNEL is considered sufficient to ensure that effects from acute exposure to the substance do not occur.			
	PNEC	fresh water: 0.45 mg/l	marine water: 0.045 mg/l	Intermittent use/release: 4.5 mg/l	Sewage treatment plant: 18 mg/l
8.2	Exposure controls				
	Appropriate engineering measures	Avoid high dust concentration and provide ventilation where necessary.			
	Hygienic measures	When handling the product do not eat, drink or smoke. Wash hands after handling and before eating, smoking and using the lavatory and at the end of the working period.			
	Individual protection				
	Respiratory system	If dust concentration is high and/or ventilation is inadequate, use suitable dust mask or respirator with an appropriate filter (e.g. EN 143, 149, filters P1).			
	Skin and body	Working clothes.			
	Hands	Wear suitable gloves (e.g. plastic, rubber or leather) when handling the product over long periods.			
	Eyes	Use appropriate safety eye wear depending on the task being carried out.			
	Environmental exposure controls	Avoid the contamination of watercourses and drains and inform the appropriate authority in case of accidental contamination of watercourses. Do not flush into surface water or sanitary sewer system.			

9.0	Physical and chemical properties				
	Appearance	White, grey, red, or brown granules or prills unless deliberately coloured during manufacture.			
	Odour	Odourless.			
	Odour threshold	Not applicable			
	pH	Usually > 4.5			
	Melting point/freezing point	160-170°C depending on moisture content, ammonium nitrate main component			
	Initial boiling point and boiling range	Decomposes.			
	Flash point	Not applicable, as the fertilizer is a mixture of inorganic solids			
	Flammability (solid, gas)	Not flammable			
	Upper/lower flammability or explosive limits	Not applicable.			
	Explosive properties	The fertilizer has a high resistance to detonation. This resistance is decreased by the presence of contaminants and/or high temperatures. Heating under strong confinement (e.g. in tubes or drains) may lead to a violent reaction or explosion especially if there is contamination by some of the substances mentioned under Section 10.			
	Auto-ignition temperature	Ammonium nitrate based NPK/NP/NK fertilizer is not combustible.			
	Decomposition temperature	May start to decompose above approx. 170°C.			
	Minimum ignition energy	Not applicable			
	Oxidising properties	Not classified as an oxidizer.			
	Critical temperature	Not applicable			
	Relative density	Not applicable			
	Density	1725 kg/m ³ for main ingredient ammonium nitrate as solid material			
	Loose bulk density	Normally between 900-1200 kg/m ³ .			
	Vapour pressure at 20°C	Not applicable			

Vapour density	Not applicable
Partition coefficient (n-octanol/water)	Not applicable.
Viscosity	Not applicable
Mean particle size	2-4mm approx.
Water solubility	Pure ammonium nitrate:1920 g/l at 20 °C Hygroscopic - readily picks up moisture from the air.
Surface tension	Not surface active (based on molecular structure)
Other information	
	Miscibility Not applicable
	Fat solubility Not available
	Gas group Not applicable
	Remarks Molecular weight 80 (For main ingredient ammonium nitrate).

10.0 Stability and reactivity	
10.1 Reactivity	Stable under recommended storage and handling conditions (see section 7, handling and storage).
10.2 Chemical stability	Stable under recommended storage and handling conditions (see section 7, handling and storage).
10.3 Possibility of hazardous reactions	When heated can decompose.
10.4 Conditions to avoid	Heating above 170°C (decomposes to gases). Contamination by incompatible materials. Unnecessary exposure to the atmosphere. Sources of heat or fire close to the product. Heating under confinement. Welding or hot work on equipment or plant which may have contained fertilizer without first washing thoroughly to remove all fertilizer.
10.5 Incompatible materials	Combustible materials, reducing agents, acids, alkalis, sulphur, chlorates, chromates, nitrites, permanganates, metallic powders and substances containing metals such as copper, nickel, cobalt, zinc and their alloys.
10.6 Hazardous decomposition products	For fire situation: see section 5. When strongly heated, it melts and decomposes releasing toxic fumes (e.g. NO _x , ammonia and other gases depending on composition) When in contact with alkaline material such as lime, may give off ammonia gas. See also Sections 2 and 9.

11.0 Toxicological information	
11.1 Information on toxicological effects	
Toxicokinetics, metabolism and distribution	Not available
Acute toxicity	Ingredients
Acute oral toxicity	Ammonium nitrate LD50: 2950 mg/kg bw (OECD 401)
Acute dermal toxicity	Ammonium nitrate LD50: > 5000 mg/kg bw (OECD 402)
Acute inhalation toxicity	Ammonium nitrate LC50: > 88.8 mg/l (no guideline followed)
Acute oral toxicity	Diammonium phosphate LD50: > 2000 mg/kg, rat, (OECD 425)
Acute dermal toxicity	Diammonium phosphate LD50: > 5000 mg/kg, rat, (OECD 402)
Acute inhalation toxicity	Diammonium phosphate LC50: > 5 mg/l, rat, 4hr duration of exposure, (OECD 403)
Acute oral toxicity	Potassium chloride LD50: > 3020 mg/kg
Acute oral toxicity	Ammonium sulphate LD50: 2840 mg/kg, rat.
Acute oral toxicity	Ammonium sulphate LD50: 4540 mg/kg, rat.
Acute oral toxicity	Ammonium sulphate LD50: 640 mg/kg, mouse.
Acute oral toxicity	Ammonium sulphate LDLO: 3500 mg/kg, domestic animals.
Acute dermal toxicity	Ammonium sulphate LD50: >2000 mg/kg, rat.
Acute inhalation toxicity	Ammonium sulphate >1000 mg/m ³ , (8 hours TWA), rat.
Local effects	
Skin irritation	Product No critical or specific hazard
Eye irritation	Product Not classified as irritating; see section 16.
Sensitisation	Not sensitizing (OECD 429, with magnesium nitrate, nitric acid ammonium calcium salt, sodium nitrate)
Other	For main ingredient ammonium nitrate
Sub-acute toxicity	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate) Oral 52-week NOAEL = 256 mg/kg bw/day (OECD 453, with ammonium sulfate) Inhalation 2-weeks NOAEL ≥ 185 mg/m ³ (OECD 412)
Mutagenicity	Negative (OECD 471, 473, with nitric acid ammonium calcium salt) Negative (OECD 476, with potassium nitrate)
Reproductive toxicity	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate)

	Carcinogenicity	Not carcinogenic (OECD 453, with ammonium sulfate)
	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	
	Ammonium Nitrate	Fish (short-term) 48-h LC50: 447 mg/l (no guideline followed)
		Fish (long-term) No data
		Daphnia magna (short-term) 48-h EC50: 490 mg/l (no guideline followed, with potassium nitrate)
		Daphnia magna (long-term) No data
		Algae 10-d EC50: > 1700 mg/l (seawater, no guideline followed, performed with potassium nitrate)
		Inhibition of microbial activity 3-h EC50: >1000 mg/l, NOEC: 180 mg/l (OECD 209, with sodium nitrate)
	Diammonium Phosphate	Acute algae toxicity EC50: > 100 mg/l, EC10/LC10 or NOEC = 100mg/l for freshwater algae, species; Selanastrum capricornutum, 72 hour period.
	Potassium Chloride	Fish LC50: 880 mg/l, species Pimephales Promelas, (fathead minnow), 96 hour period, OECD Test Guideline 203.
		Daphnia magna EC50: 440 - 880 mg/l, species Daphnia Magna, (water flea), 48 hour period, OECD Test Guideline 202.
		Algae EC50: >100 mg/l, species Desmodesmus Subspicatus, (green algae), 72 hour period, OECD Test Guideline 201.
		Bacteria EC50: >1000mg/l, activated sludge, 3 hour period, OECD Test Guideline 209.
	Ammonium Sulphate	Toxicity to fish LC50: 6.6 - 39.2 mg/l, species Oncorhynchus Mykiss, (rainbow trout), 96 hour period.
		LC50: >20 mg/l, species Pimephales Promelas, (fathead minnow), 96 hour period.
		Toxicity to daphnia and other aquatic invertebrates. LC50: >20 mg/l, species Daphnia Magna, (water flea), 96 hour period.
12.2	Persistence and degradability	
	Ingredient name	Ammonium Nitrate
	Biodegradation	Standard test is not applicable as the mixture is inorganic.
	Hydrolysis	No hydrolysable group is present, will completely dissociate into ions.
	Ingredient name	Diammonium Phosphate
	Biodegradation	Standard test is not applicable as the mixture is inorganic.
	Hydrolysis	No hydrolysable group is present, will completely dissociate into ions.
	Ingredient name	Potassium Chloride
	Biodegradation	Not applicable
	Hydrolysis	Not applicable
	Ingredient name	Ammonium Sulphate
	Biodegradation	Standard test is not applicable as the mixture is inorganic.
	Hydrolysis	Not applicable
	Ingredient name	Calcium Carbonate
	Biodegradation	Calcium Carbonate is non-volatile and inert, it is resistant to degradation and will persist in the environment
	Hydrolysis	Not applicable
12.3	Bioaccumulative potential	
	Octanol-water partition coefficient (Kow)	Not relevant as the mixture is inorganic, but considered to be low (based on high water solubility)
	Bioconcentration factor (BCF)	Low potential for bioaccumulation (based on main ingredient properties).
12.4	Mobility in soil	
	Low potential for adsorption (based on main ingredient properties)	
	Very soluble in water. The NO3- ion is mobile. The NH4+ ion is adsorbed by soil. Di-ammonium Phosphate (N & P); Phosphates whether citrate or water soluble, are translocated in the soil only over very short periods and are then immobilised. Potassium Chloride (K);	
	Not applicable. Ammonium Sulphate (S); easily soluble in cold water. Calcium	
	Carbonate is resistant to degradation and will persist in the environment.	
12.5	Results of PBT and vPvB assessment	
	According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since ammonium nitrate is inorganic. According to data available, Di-ammonium Phosphate (N & P), is not PBT and not VPvB. Potassium Chloride, (K), is inorganic so no PBT and vPvB assessment is required.	
	Ammonium Sulphate, (S), is not considered to be PBT or vPvB. Calcium Carbonate - not applicable.	
12.6	Other adverse effects	
	Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters.	



13.0 Disposal considerations	
Container	Containers should be cleaned by appropriate method and then re-used or disposed by landfill or incineration as appropriate, in accordance with local and national regulations. Do not remove label until container is thoroughly cleaned.
Methods of disposal	Depending on degree and nature of contamination dispose of by use as fertilizer on farm, as raw material for liquid fertilizer, or to an authorised waste facility. Do not empty into drains; dispose of this material and its container in a safe way and in accordance with all applicable local and national regulations. See chapters 06 03 and 06 10 of the list of wastes (Commission decision 2000/532/EC)
Package waste disposal	Empty the bag by shaking to remove as much as possible of its contents. If approved by local authorities, empty bags may be disposed of as non-hazardous material or returned for recycling.
<i>Note: see section 7 for safe handling and storage</i>	

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	EC 2003/2003, 96/82 EC; Seveso <i>Directive</i> .
Other regulations	Regulation EC 1907/2006 (REACH), EC 2003/2003, 96/82 EC. Decision No 1348/2008/EC of the European Parliament & of the Council and Commission Regulation (EC) No 552/2009. Notification and Marking of Sites Regulations 1990, (NAMOS), (as amended 2013).
15.2 Chemical safety assessment	In accordance with REACH Article 14, a Chemical Safety Assessment has been carried out for the main ingredient Ammonium Nitrate as a substance.

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.	
Classification in accordance with Regulation 1272/2008, as listed in Annex VI:	None.
Classification in accordance with Regulation 1272/2008, by self-classification based on the performed CSA	Not classified. No eye irritation (tested on mixtures with similar compositions according to OECD 437 and OECD 405)
Risk phrases	R8 Contact with combustible material may cause fire. R36 Irritating to eye.
Symbols	O oxidizing Xi irritant
Abbreviations and acronyms	Oxidizing solids category 3 (Ox. Sol 3) Eye irritation Category 2 (Eye Irrit. 2) Causes serious eye irritation (H319) May intensify fire; oxidisor (H272)
Training advice	
Date of previous SDS	September 2014
Modifications in this version	None.
References	EFMA/Fertilizers Europe Guidance documents, TFI HPV data; NOTOX gap analysis

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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