

Product Safety Data Sheet

Conforms to REGULATION (EU) No. 453/2010



Group Number	5
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Ammonium Sulphate

1.0	Identification of the substance/mixture and of the company/undertaking	
1.1	Product Identifier	
	Product/Trade name	Glasson Fertilizers Ammonium Sulphate
	Common chemical name	Ammonium Sulphate
	Synonyms	AMS; AS
	Chemical formula	Main ingredient: $\text{NH}_4\text{2SO}_4$
	EU index number	Not listed.
	EC No	231-984-1
	CAS No.	7783-20-2
	REACH Registration Number.	01-2119455044-46
	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 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)	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)	None.
2.3	Other hazards	
	PBT/vPvB criteria	Ensure adequate ventilation, especially in confined areas
	Other hazards which do not result in classification	According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since ammonium sulphate is inorganic.
	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						
Other 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 Sulphate	7783-20-2	231-984-1	01-2119455044-46-xxxx	-	-	100%
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 No hazards which require special first aid measures.</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	Effects of contact or inhalation may be delayed. Burning feeling and temporary redness, coughing and/or wheezing.
4.3 Indication of any immediate medical attention and special treatment needed	
Note to physician	Treat symptomatically. Effects of contact or inhalation may be delayed.

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	Where combustible material is the source of the fire, extinguish this source as a matter of priority. Do not allow molten fertilizers to run into drains.
	Hazardous thermal decomposition and combustion products	Hazardous decomposition products formed under fire conditions; Sulphur oxides, Nitrogen oxides, (NOx), ammonia, amines.
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 sulphate	Workers	General population			
		Oral	Not applicable	12.8 mg/kg bw/day		
		Dermal	42.667 mg/kg bw/day	12.8 mg/kg bw/day		
		Inhalation	11.1 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: 0.312 mg/l	marine water: 0.0312 mg/l	Intermittent use/release: 0.53 mg/l	Sewage treatment plant: 16.18 mg/l	Freshwater sediment: 3 mg/kg/dw
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	Off-white, yellow, brown translucent coloured granules 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.			
	Flammability (solid, gas)	Not flammable.			
	Upper/lower flammability or explosive limits	Not applicable.			
	Explosive properties	No information available.			
	Auto-ignition temperature	No information available.			
	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 determined.			
	Density	Not determined.			
	Loose bulk density	Normally between 1000-1050 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	7.6 g/l Hygroscopic - readily picks up moisture from the air.
Surface tension	No information available.
Other information	
Miscibility	Not applicable.
Fat solubility	Not available.
Gas group	Not applicable.
Remarks	Not available.

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 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
Sub-acute toxicity	Oral 52-week NOAEL = 256 mg/kg bw/day (OECD 453, with ammonium sulphate)
Mutagenicity	Not known to cause heritable genetic damage, (OECD 471, OECD 476, OECD 473)
Reproductive toxicity	Not known to adversely affect reproductive functions and organs. Not known to cause birth defects or have a deleterious effect on a developing fetus.
Carcinogenicity	Contains no ingredient listed as a carcinogen, (OECD 453: Negative).
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 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 Sulphate
	Biodegradation	Standard test is not applicable as the mixture is inorganic.	
	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	Ammonium Sulphate (S); easily soluble in cold water.	
12.5	Results of PBT and vPvB assessment	Ammonium Sulphate, (S), is not considered to be PBT or vPvB.	
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	Not applicable	Not applicable	Not applicable	Not applicable	
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 Sulphate 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.
Risk phrases	None.
Symbols	None.
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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