



SAFETY DATA SHEET

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

1.1. Product identifier

Name of the substance	Ammonium Sulphate
Identification number	7783-20-2
Registration number	-
Synonyms	Sulphate of ammonia, Sulphate of ammonia (21(24+)), GAS, Granular ammonium sulphate
SDS number	JHB_(NH4)2SO4_EU_EN
Issue date	03-January-2013
Version number	01
Revision date	-
Supersedes date	-

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

Identified uses	Fertiliser
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name	Bunn Fertiliser Limited
Address	Lakeside 500, 1st Floor Old Chapel Way, Broadland Business Park Norwich, NR7 0WG UK
Telephone	(0845) 1662222
e-mail	info@bunnfertiliser.com
Contact person	Not available.

1.4. Emergency telephone number	For Chemical Emergency Call CHEMTREC day or night USA/Canada - 1-800-424-9300 Outside USA/Canada +1 703-527-3887 (collect calls accepted)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

This substance does not meet the criteria for classification according to Directive 67/548/EEC as amended.

Classification according to Regulation (EC) No 1272/2008 as amended

This substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.
Environmental hazards	Not classified for hazards to the environment.
Specific hazards	Dust may irritate the respiratory tract, skin and eyes. May cause discomfort if swallowed.
Main symptoms	Signs and symptoms may include: May cause redness and pain. Cough.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	Ammonium Sulphate
Identification number	7783-20-2
Hazard pictograms	None.
Signal word	None.

Hazard statements	The substance does not meet the criteria for classification.
Precautionary statements	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.
Supplemental label information	Not applicable.
2.3. Other hazards	Not assigned.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Ammonium Sulphate	100	7783-20-2	-	-	
Classification:	DSD: -				
	CLP: -				

Composition comments	The full text for all R- and H-phrases is displayed in section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.
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SECTION 4: First aid measures

General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
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4.1. Description of first aid measures

Inhalation	Move person to fresh air. Get medical attention if any discomfort continues.
Skin contact	Wash off with plenty of water. Get medical attention if irritation develops or persists.
Eye contact	Do not rub eye. Flush thoroughly with water for at least 15 minutes. Get medical attention.
Ingestion	Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort occurs.

4.2. Most important symptoms and effects, both acute and delayed	May cause redness and pain. Cough.
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4.3. Indication of any immediate medical attention and special treatment needed	Treat symptomatically.
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SECTION 5: Firefighting measures

General fire hazards	The product is non-combustible.
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5.1. Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.

5.2. Special hazards arising from the substance or mixture	During fire, gases hazardous to health may be formed.
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5.3. Advice for firefighters

Special protective equipment for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.
Special fire fighting procedures	Move container from fire area if it can be done without risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Avoid inhalation of dust. Avoid contact with skin and eyes. Avoid generation and spreading of dust. Wear protective clothing as described in section 8 of this safety data sheet.
For emergency responders	Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

6.2. Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

6.3. Methods and material for containment and cleaning up Collect spill using a vacuum cleaner with a HEPA filter. Flush area with plenty of water.

6.4. Reference to other sections For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Use with adequate ventilation. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Keep container tightly closed. Store in a cool, dry, well-ventilated place. Packaging materials: stainless steel, synthetic. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s) Fertiliser

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Not available.

Derived no-effect level (DNEL)

Material	Type	Route	Value	Form
Ammonium Sulphate (CAS 7783-20-2)	General Population	Dermal	2.8 mg/kg/day	Long-term - systemic effects
		Inhalation	1.667 mg/m3	Long-term - systemic effects
		Oral	6.4 mg/kg/day	Long-term - systemic effects
	Workers	Dermal	42.667 mg/kg/day	Long-term - systemic effects
		Inhalation	11.167 mg/m3	Long-term - systemic effects

Predicted no effect concentrations (PNECs)

Material	Type	Route	Value	Form
Ammonium Sulphate (CAS 7783-20-2)	Aqua (freshwater)	Water	0.312 mg/l	
	Aqua (intermittent releases)	Water	0.53 mg/l	
	Aqua (marine water)	Water	0.0312 mg/l	
	Sediment (freshwater)	Water	0.063 mg/kg	
	Sewage Treatment Plant	Not applicable	16.18 mg/l	
	Soil	Soil	62.6 mg/kg	

8.2. Exposure controls

Appropriate engineering controls Provide adequate ventilation. The risk of inhalation of dust must be minimised as much as possible.

Individual protection measures, such as personal protective equipment

General information	Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	Risk of contact: Wear dust goggles.
Skin protection	
- Hand protection	Risk of contact: Wear protective gloves (4-8h break through time). Rubber gloves are recommended. Suitable gloves can be recommended by the glove supplier.
- Other	No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Respiratory protection	In case of inadequate ventilation use suitable respirator. Use respiratory equipment with particle filter, type P2.
Thermal hazards	Not available.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Environmental exposure controls	Environmental manager must be informed of all significant spillages.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid.
Form	Crystals. Granules.
Colour	White.
Odour	Odourless.
Odour threshold	Not available.
pH	5 - 6 (Concentration 5%)
Melting point/freezing point	> 235 °C (> 455 °F) (Decomposes.)
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	> 1 (Air = 1)
Relative density	Not available.
Solubility(ies)	76g / 100 ml (20°C). Easily soluble in cold water.
Partition coefficient (n-octanol/water)	-5.1 at 25 °C
Decomposition temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not available.
Oxidizing properties	Not available.

9.2. Other information

Flammability	Not applicable.
Molecular formula	(N-H4)2-S-O4
Molecular weight	132.16

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Stable at normal conditions.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Avoid dust formation. Exposure to heat and contact with sources of ignition.
10.5. Incompatible materials	Acids. Bases. Oxidizing agents. Metals.
10.6. Hazardous decomposition products	Sulphur oxides. Ammonia. Nitrogen oxides (NOx).

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
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Information on likely routes of exposure

Ingestion	Ingestion may cause irritation and malaise.
Inhalation	Dust may irritate throat and respiratory system and cause coughing.
Skin contact	May cause irritation through mechanical abrasion.
Eye contact	May cause irritation through mechanical abrasion.
Symptoms	May cause redness and pain. Cough.

11.1. Information on toxicological effects

Acute toxicity	Dust may cause eye, skin and respiratory tract irritation.
Skin corrosion/irritation	May cause irritation through mechanical abrasion.
Serious eye damage/irritation	Product dust or powder may cause mechanical eye irritation.
Respiratory sensitisation	Not classified.
Skin sensitisation	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Mixture versus substance information	Not available.
Other information	Chronic effects are not expected when this product is used as intended.

SECTION 12: Ecological information

12.1. Toxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
12.2. Persistence and degradability	There is no evidence for photodegradation of ammonium sulfate. However, ammonium sulfate may be formed in atmospheric aerosols. The product itself and its products of degradation are not toxic.
12.3. Bioaccumulative potential	Not expected to bioaccumulate on the basis of the low octanol-water partition coefficient.
Partition coefficient n-octanol/water (log K_{ow})	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	This product is water soluble and may disperse in soil.
Mobility in general	The product is water soluble and may spread in water systems.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
12.6. Other adverse effects	It is recommended that the use of ammonium sulfate as a fertilizer is taken into account when assessing the exposure of nitrite and nitrate to humans through drinking water.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	06 13 99
Disposal methods/information	The packaging should be collected for reuse. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

The product is not covered by international regulation on the transport of dangerous goods.

RID

The product is not covered by international regulation on the transport of dangerous goods.

ADN

The product is not covered by international regulation on the transport of dangerous goods.

IATA

The product is not covered by international regulation on the transport of dangerous goods.

IMDG

The product is not covered by international regulation on the transport of dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 143/2011 Annex XIV Substances Subject to Authorisation

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not regulated.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not regulated.

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not regulated.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Not listed.

Directive 94/33/EC on the protection of young people at work

Not listed.

Other regulations

This product does not meet the criteria for classification according to Regulation (EC) 1272/2008 (CLP Regulation) and Directive 1999/45/EC and their amendments respectively. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended.

National regulations

Not available.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration.
CLP: Regulation No. 1272/2008.
DSD: Directive 67/548/EEC.
PBT: Persistent, bioaccumulative and toxic.
vPvB: Very Persistent and very Bioaccumulative.

References

ECHA CHEM

Information on evaluation method leading to the classification of mixture

The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

None.

Training information

Follow training instructions when handling this material.

Disclaimer

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.