Safety data sheet
according to Regulation (EC) 1907/2006

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

· **1.1 Product identifier** Ammonium sulphate

· **Trade name: Ammonium sulphate**
· **CAS Number:**
7783-20-2
· **EC number:**
231-984-1
· **Registration number** 01-2119455044-46-0020
· **1.2 Relevant identified uses of the substance or mixture**
· **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
· **Application of the substance / the mixture**
Fertiliser
pH-corrective agent
Use in insecticides, herbicides and fungicides
Flame retardants
Chemical intermediate
Laboratory chemicals
Pharma Active ingredients

· **1.3 Details of the supplier of the safety data sheet**
UBE Chemical Europe, S.A.
Polígono El Serrallo s/n
12100 Grao de Castellón (Spain)
Tel: +34 964 73 80 00
sds.ube.eu@ube.es
· **1.4 Emergency telephone number:** +44 (0)1235 239670 (24h/7day)

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
The substance is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** None
· **Hazard pictograms** None
· **Signal word** None
· **Hazard statements** None
· **Precautionary statements**
P102 Keep out of reach of children.
P270 Do not eat, drink or smoke when using this product.
· **2.3 Other hazards** No hazards to be particularly mentioned.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Chemical characterisation: Substances**
· **CAS No. Description**
7783-20-2 ammonium sulphate

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· **EC number:** 231-984-1

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Take affected persons out into the fresh air.
Avoid contact with eyes, skin and clothing.
· **After inhalation:**
If breathing dust:
Supply fresh air and to be sure call for a doctor.
After inhalation of decomposition products:
Take affected persons into fresh air and keep quiet.
Seek medical treatment.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Flush eyes with water for at least 15 minutes, keeping eyelids open.
Seek medical treatment.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Seek immediate medical advice.
· **4.2 Most important symptoms and effects, both acute and delayed**
After inhalation of the product or decomposition: Risk of pulmonary edema. Symptoms can appear later.
· **Information for doctor:**
After inhalation of the product or decomposition: Risk of pulmonary edema. Symptoms can appear later.
Prophylaxis of pulmonary edema
Later observation for pneumonia and pulmonary oedema.
· **Hazards**
After inhalation of decomposition products: Risk of pulmonary edema. Symptoms can appear later.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No specific treatment information is available. Symptomatic treatment is advisable

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
Fire-extinguishing powder
Carbon dioxide
Water haze
· **For safety reasons unsuitable extinguishing agents:** Not known
· **5.2 Special hazards arising from the substance or mixture**
Nitrogen oxides (NOx)
SO3
Ammonia (NH3)
· **5.3 Advice for firefighters**
· **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Mouth respiratory protective device.
Wear fully protective suit.

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· **Additional information**
The product is not combustible, the fire extinguishing method of surrounding areas should be considered
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Handle in accordance with good industrial hygiene and safety practice.
Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation
· **6.2 Environmental precautions:**
Keep contaminated washing water and dispose of appropriately.
Do not allow product to reach sewage system or any water course.
· **6.3 Methods and material for containment and cleaning up:**
Sweep/ shovel up
Rinse affected area with water
Collect the solid product with shovel and deposit it in a suitable container.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Prevent formation of dust.
Avoid contact with eyes, skin and clothing.
Provide suction extractors if dust is formed.
Ensure good ventilation/exhaustion at the workplace.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not eat, drink, smoke or sniff while working.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store in a dry place with low humidity.
· **Information about storage in one common storage facility:**
Store away from water.
Do not store together with alkalis, nitrites and nitrates.
Store away from oxidising agents.
· **Further information about storage conditions:**
Store in dry conditions.
The substance may cake under the influence of moisture
· **7.3 Specific end use(s)** See item 1.2

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SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:**
Mechanical ventilation at the point of escape of steam or fog.

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **DNEL (workers)**		
Dermal	DNEL (Long-term exposure – systemic effects)	42.667 mg/kg bw/day (-)
Inhalative	DNEL (Long-term exposure – systemic effects)	11.167 mg/m3 (-)

· **DNEL (general population)**		
Oral	DNEL(Systemic effects-Long-term)	6.4 mg/Kg bw/day (-)
Dermal	DNEL (Systemic effects-Long-term exposure)	12.8 mg/Kg bw/day (-)
Inhalative	DNEL (Systemic effects-Long-term exposure)	1.667 mg/m³ (-)

· **PNECs**	
PNEC (STP)	16.12 mg/L (-)
PNEC (Sediment (freshwater))	0.063 mg/Kg sed (Hyalella azteca)
PNEC (intermittent release)	0.53 mg/L (rainbow trout)
PNEC (marine water)	0.0312 mg/L (Hyalella azteca)
PNEC (soil)	62.6 mg/kg d.w (-)
PNEC(fresh water)	0.312 mg/L (Hyalella azteca)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
In accordance with Directive 89/686/EEC on personal protective equipment
The usual precautionary measures are to be adhered to when handling chemicals.
· **Respiratory protection:**
Suitable respiratory protective device recommended.

Use respiratory protection in the case of formation or release of dust / aerosols.

Use a European Standards approved filtering half mask, with a P2 medium efficiency or P3 high efficiency filter.
· **Protection of hands:**

Protective gloves

· **Material of gloves**
Suitable materials also with prolonged, direct contact
(Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374)
Butyl rubber, BR
Recommended thickness of the material: ≥ 0.7 mm
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.4 mm

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· **Eye protection:**

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

· **Skin and body protection:**

Skin and body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

· **Limitation and supervision of exposure into the environment**
Prevent the material from spreading into the environment.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Solid Crystalline
Colour:	White
· **Odour:**	Odourless
· **pH-value:**	5-6
· **Change in condition**	
Melting point/Melting range:	>280 °C
Boiling point/Boiling range:	Substance decomposes before boiling.
· **Flash point:**	Not applicable for being an inorganic solid
· **Flammability (solid, gaseous):**	Product is not flammable. It doesn't release flammable gases in contact with water
· **Ignition temperature**	Not determined
· **Decomposition temperature:**	280 °C
· **Self-igniting:**	Substance decomposes before self ignition can occur.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidising properties**	No oxidising properties
· **Vapour pressure at 20 °C:**	4.053E-9 hPa
· **Density:**	
Bulk density:	1131 kg/m³
Relative density at 25 °C	1.77
Vapour density	Not determined.
Evaporation rate	Not applicable for being a solid
· **Solubility in / Miscibility with water at 20 °C:**	767 g/l

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· **Partition coefficient (n-octanol/water):** Not applicable to inorganics	
· **Viscosity:**	
Dynamic:	Not applicable to solid
· **9.2 Other information**	No further relevant information available.
· **Molecular mass**	132.1395 g/mol

SECTION 10: Stability and reactivity

· **10.1 Reactivity** Reacts with oxidising agents.
· **10.2 Chemical stability** Stable at tempteratures below 200 °C
· **Thermal decomposition / conditions to be avoided:** Tª > 200ºC
· **10.3 Possibility of hazardous reactions** Reacts with oxidising agents.
· **10.4 Conditions to avoid** High temperatures (> 200 º C)
· **10.5 Incompatible materials:** Oxidizing materials
· **10.6 Hazardous decomposition products:**
Ammonia
Sulphur trioxide (SO3) or SO3-mist
Nitrogen oxides (NOx)

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity**

· **LD/LC50 values relevant for classification:**

Oral	LD50	4250 mg/kg (Gassner rat)
Dermal	LD50	2000 mg/kg (Wister rat)
Inhalative	LD50	>1000 mg/Kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation**
Not irritating (rabbit)
Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Not irritating to the eyes of rabbits
Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation**
Not sensitizing (guinea pig, maximation test)
Based on available data, the classification criteria are not met.
· **Other information (about experimental toxicology):** Aspiration hazard, not anticipated.
· **Subacute to chronic toxicity:** No STOT effects observed, following single exposure.
· **Repeated dose toxicity** No STOT effects observed
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
No developmental or reproductive effects observed in rats or mice.
Ames test: Negative
Chromosomal aberration test: positive
No mutagenic or clastogenic potential
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

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· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
EC10 (10wk)	3.12 mg/l (Hyalella azteca)
EC10(30d)	5.29 mg/l (Lepomis macrochirus)
EC50 (18 d)	2700 mg/L (Chlorella vulgaris)
EC50 (48 h)	121.7 mg/l (Ceriodaphnia acanthina)
	169 mg/l (daphnia magna)
EC50 (5d)	1605 mg/L (Chlorella vulgaris)
LC50 (96 h)	53 mg/l (Oncorhynchus mykiss)
	57.2 mg/l (Prosopium williamsoni)

· **12.2 Persistence and degradability** Not applicable, as the substance is inorganic.
· **12.3 Bioaccumulative potential** Not likely because of hydrolysis.
· **12.4 Mobility in soil**
The substance is not expected to be fixed in the soil solid phase, as it is hydrolytically unstable
· **12.5 Results of PBT and vPvB assessment**
· **PBT:**
As ammonium sulfate is an inorganic substance, the PBT and vPvB don't have to be carry out in accordance with Annex XIII of REACH.
· **vPvB:**
As ammonium sulfate is an inorganic substance, the PBT and vPvB don't have to be carry out in accordance with Annex XIII of REACH.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Collect substance in suitable container
After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**	The substance is not classified under transport regulations
· **ADR, ADN, IMDG, IATA**	None
· **14.2 UN proper shipping name**	The substance is not classified under transport regulations

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· **ADR, ADN, IMDG, IATA**	None
· **14.3 Transport hazard class(es)**	The substance is not classified under transport regulations
· **ADR, ADN, IMDG, IATA**	
· **Class**	None
· **14.4 Packing group**	The substance is not classified under transport regulations
· **ADR, IMDG, IATA**	None
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	-

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Chemical safety assessment**
Although the Chemical Safety Assessment has been carried out, Exposure Scenarios are not required in this SDS because the substance is not classified as dangerous.
· **Additional Information:**
This substance/mixture does not legally require an SDS based on Regulation 1907/2006 (REACH). However,this SDS format, is utilized to supply information required according to Article 32 of REACH.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Training hints**
Specific training of workers to comply with the requirements specified in the Safety Data Sheet is required.

· **Department issuing MSDS:** Corporate Social Responsibility-Product liability
· **Contact:** Contact with business unit for any issue related to the safety data sheet
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
· *** Data compared to the previous version altered.**
Section 2: adaptation to Annex II of REACH, amended by Commision Regulation (EU) 2015/830.
Section 2: P frases introduced in order to comply with fertilizers legislations.