

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 09.04.2024

Version number 21 (replaces version 20)

Revision: 09.04.2024

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

· **1.1 Product identifier**

- **Molecular formula:** H8 N2 O4 S
- **Structure formula:** (N H4) 2 S O4
- **Trade name:** Ammonium sulphate
- **SDS number:** CH0115
- **CAS Number:**
7783-20-2

· **EC number:**

231-984-1

· **Registration number** 01-2119455044-46

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

No further relevant information available.

· **Life cycle stages**

IS Use at industrial Sites

F Formulation or re-packing

· **Sector of Use**

SU9 Manufacture of fine chemicals

SU24 Scientific research and development

· **Product category**

PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents

PC21 Laboratory chemicals

PC29 Pharmaceuticals

PC40 Extraction agents

· **Process category**

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

· **Environmental release category**

ERC1 Manufacture of the substance

ERC2 Formulation into mixture

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC6a Use of an intermediary

· **Application of the substance / the mixture** Chemicals products for laboratory

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

CARLO ERBA REAGENTS

Chaussée du Vexin

Parc d'Affaires des Portes - BP616

27106 VAL DE REUIL Cedex

Téléphone: +33 (0)2 32 09 20 00

Télécopie: +33 (0)2 32 09 20 20

· **Further information obtainable from:**

Q.A / Normative

email: MSDS_CER-SDS@cer.dgroup.it

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- **1.4 Emergency telephone number:**
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)
EU Tel : 112

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2 H319 Causes serious eye irritation.
- STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



- **Signal word** Warning
- **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
- **Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves / eye protection / face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
CAS: 7783-20-2 Ammonium sulphate

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- **Identification number(s)**
- **EC number: 231-984-1**

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Seek immediate medical advice.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
If some symptoms persist seek for medical advice.
- **Information for doctor:** Show the doctor this Material Safety Data Sheet.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
Sulfur Oxides (SO_x)
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
In the absence of oxygen: Ammonia (NH₃).
- **5.3 Advice for firefighters**
- **Protective equipment:** Do not inhale gases in case of fire or combustion.
- **Additional information** Keep receptacles cool with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Ensure adequate ventilation.
Provide suction extractors if dust is formed.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.

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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**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

Provide suction extractors if dust is formed.

· **Information about fire - and explosion protection:** The product is not flammable.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** None.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:** TLV not established.

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

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Use suitable respiratory protective device only when aerosol or mist is formed.



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Use suitable respiratory protective device in case of insufficient ventilation.

Filter P1

The selected respiratory protection must comply with standard EN 136/140/143/145/149.

· **Hand protection**

The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

Rubber gloves

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· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Thin, disposable gloves in PVC or PE

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

The penetration time has to be at least 480 minutes

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.35 mm

· **Eye/face protection**



Tightly sealed goggles

· **Environmental exposure controls**

In case of unintended release of the product: See section 6 of the Safety Data Sheet.

· **Risk management measures** Keep good industrial hygiene.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· Molecular weight	132.14 g
· Physical state	Solid
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not determined.
· Melting point/freezing point:	280 °C
· Boiling point or initial boiling point and boiling range	Undetermined.
· Flammability	Product is not flammable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable.
· Decomposition temperature:	Not determined.
· pH	5
· Viscosity:	
· Kinematic viscosity	Not applicable.
· Dynamic:	Not applicable.
· Solubility	
· water at 20 °C:	760 g/l
· organic solvents:	Insoluble
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not applicable.
· Vapour pressure (2):	
· Density and/or relative density	
· Density at 20 °C:	1.77 g/cm ³
· Relative density	Not determined.
· Bulk density:	960 kg/m ³
· Vapour density	Not applicable.

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· Particle characteristics

See section 3.

· 9.2 Other information
· Appearance:
· Form:

Crystalline

· Important information on protection of health and environment, and on safety.
· Ignition temperature:

Not determined.

· Explosive properties:

Product does not present an explosion hazard.

· Change in condition
· Evaporation rate

Not applicable.

· Information with regard to physical hazard classes
· Explosives

Void

· Flammable gases

Void

· Aerosols

Void

· Oxidising gases

Void

· Gases under pressure

Void

· Flammable liquids

Void

· Flammable solids

Void

· Self-reactive substances and mixtures

Void

· Pyrophoric liquids

Void

· Pyrophoric solids

Void

· Self-heating substances and mixtures

Void

· Substances and mixtures, which emit flammable gases in contact with water

Void

· Oxidising liquids

Void

· Oxidising solids

Void

· Organic peroxides

Void

· Corrosive to metals

Void

· Desensitised explosives

Void

SECTION 10: Stability and reactivity

· 10.1 Reactivity See 10.3

· 10.2 Chemical stability
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· 10.3 Possibility of hazardous reactions No dangerous reactions known.

· 10.4 Conditions to avoid No further relevant information available.

· 10.5 Incompatible materials: Metals

· 10.6 Hazardous decomposition products:

Sulphur dioxide

 Nitrogen oxides (NO_x)

 In case of fire: Sulphur oxides (SO_x)

SECTION 11: Toxicological information

· 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
· Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

Oral	LD50	3,000 mg/kg (rat)
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- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation**
Strong irritant with the danger of severe eye injury.
Irritating effect.
Causes serious eye irritation.
- **Ingestion:** It can be harmful if swallowed.
- **Inhalation:**
Harmful if inhaled. May cause respiratory tract irritation.
May cause respiratory irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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** May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Other information (about experimental toxicology):** No further relevant information available.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **Method**
- **Ecological information** Not available
- **Other information:** The product is biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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.
Reutilise if possible or contact a waste processors for recycling or safe disposal.
- **Waste disposal key:**
The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste.
2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC.

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Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008, in its latest valid version.

· European waste catalogue

HP4	Irritant - skin irritation and eye damage
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HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
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· Uncleaned packaging:

The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products.

Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.

· Recommendation:

Disposal must be made according to official regulations.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

Chemical treatment of contaminated water.

· Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR/RID, ADN, IMDG, IATA Void

· 14.2 UN proper shipping name

· ADR/RID, ADN, IMDG, IATA Void

· 14.3 Transport hazard class(es)

· ADR/RID, ADN, IMDG, IATA

· Class Void

· 14.4 Packing group

· ADR/RID, IMDG, IATA Void

· 14.5 Environmental hazards:

· Marine pollutant: No

· 14.6 Special precautions for user

Not applicable.

· 14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

· UN "Model Regulation":

Void

SECTION 15: Regulatory information

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

· SARA Section 355 (extremely hazardous substances) Substance is not listed.

· SARA Section 313 (specific toxic chemical listings) Substance is listed.

· Prop 65 - Chemicals known to cause cancer Substance is not listed.

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I Substance is not listed.

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP) Substance is not listed.

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV) Substance is not listed.

· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 65

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- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
- **National regulations:**
- **Waterhazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

- **Department issuing SDS:** Q.A./Normative
- **Date of previous version:** 22.03.2021
- **Version number of previous version:** 20
- **Abbreviations and acronyms:**
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organisation
 ADR: Accord relatif au transport international 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)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 ATE: Acute toxicity estimate values
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- **Sources**
 Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in the latest valid version.
 Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.
 Globally Harmonized System, GHS
 ADR/RID, IMDG, IATA
 PubChem : an open chemistry database at the National Institutes of Health (NIH)
 ECHA : European CHEmicals Agency
 GESTIS : Information system on hazardous substances of the German Social Accident Insurance
- *** Data compared to the previous version altered. .**