

## Safety data sheet according to 1907/2006/EC, Article 31

Printing date: 30.05.2023

Date of compilation / revision: 30.05.2023

Version/revision number: 6 (replaces version 5)

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

- **1.1 Product identifier** Ammonium sulphate
- **Trade name:** **UBESOL 45**
- **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 and uses advised against.**
- **Sector of Use**  
SU21 Consumer uses: Private households / general public / consumers  
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
SU1 Agriculture, forestry, fishery  
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
- **Uses advised against**  
Food additive  
Pharma Active ingredients
- **1.3 Details of the supplier of the safety data sheet**  
UBE Corporation Europe, S.A.U.  
Polígono El Serrallo s/n  
12100 Grao de Castellón (Spain)  
Tel: +34 964 73 80 00  
SDS.UBE.EU@ube.com
- **Commercial office:**  
UBE Corporation Europe, S.A.U.  
Fertilizers Unit  
Polígono El Serrallo s/n  
12100 Grao de Castellón (Spain)  
Tel: +34 964 73 80 00
- **1.4 Emergency telephone number:** Europe: +44 (0)1235 239670 (24h/7day)

### 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
- **2.3 Other hazards** No hazards to be particularly mentioned.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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- **vPvB:** Not applicable.
- **Determination of endocrine-disrupting properties**  
No endocrine disrupting properties are known for the substance.  
For information on endocrine disrupting properties see section 11.

### SECTION 3: Composition/information on ingredients

- **CAS No. Description**  
7783-20-2 UBESOL 45
- **EC number:** 231-984-1

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Take affected persons out into the fresh air.  
Avoid contact with eyes, skin and clothing.  
No special measures required.
- **After inhalation:**  
If breathing dust:  
After inhalation of decomposition products:  
Take affected persons into fresh air and keep quiet.  
Seek medical treatment.
- **After skin contact:** Generally the product does not irritate the skin.
- **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.
- **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.
- **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.
- **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  
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Not known

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#### · **5.2 Special hazards arising from the substance or mixture**

 Nitrogen oxides (NO<sub>x</sub>)

 SO<sub>3</sub>

 Ammonia (NH<sub>3</sub>)

#### · **5.3 Advice for firefighters**

##### · **Protective equipment:**

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

##### · **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.

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 to enter sewers/ surface or ground water.

#### · **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**

Avoid contact with eyes, skin and clothing.

Provide suction extractors if dust is formed.

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.

#### · **Information about fire - and explosion protection:** No special measures required.

#### · **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

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· **7.3 Specific end use(s)** See item 1.2

## SECTION 8: Exposure controls/personal protection

· **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 (Workers)
Inhalative	DNEL (Long-term exposure – systemic effects)	11,167 mg/m <sup>3</sup> (Workers)

· **DNEL (general population)**

Oral	DNEL(Systemic effects-Long-term)	6,4 mg/Kg bw/day (General population)
Dermal	DNEL (Systemic effects-Long-term exposure)	12,8 mg/Kg bw/day (General population)
Inhalative	DNEL (Systemic effects-Long-term exposure)	1,667 mg/m <sup>3</sup> (General population)

· **PNECs**

PNEC(fresh water)	0,312 mg/L (Hyaella azteca)
PNEC (marine water)	0,0312 mg/L (Hyaella azteca)
PNEC (intermittent release)	0,53 mg/L (rainbow trout)
PNEC (soil)	62,6 mg/kg d.w (none)
PNEC (STP)	16,12 mg/L (none)
PNEC (Sediment (freshwater))	0,063 mg/Kg sed (none)

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

· **8.2 Exposure controls**

· **Appropriate engineering controls** Mechanical ventilation at the point of escape of steam or fog.

· **Appropriate engineering controls** Ensure good ventilation/exhaustion at the workplace.

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

· **General protective and hygienic measures:**

In accordance with Directive 89/686/EEC on personal protective equipment

· **Respiratory protection:**



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.

· **Hand protection**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

· **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:  $\geq 0,7$  mm

Nitrile rubber, NBR

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Recommended thickness of the material:  $\geq 0,4$  mm

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.

· **Eye/face 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).

· **Environmental exposure controls**

Environmental dosage should follow the supplier's recommendations according to the information on the labelling or accompanying document.

## SECTION 9: Physical and chemical properties

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

· **General Information**

· **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**

Not applicable

Substance decomposes before boiling.

· **Flammability**

It doesn't release flammable gases in contact with water

· **Lower and upper explosion limit**

· **Lower:**

Product does not present an explosion hazard.

· **Upper:**

Product does not present an explosion hazard.

· **Flash point:**

Not applicable as it is a solid.

· **Ignition temperature**

>400 °C

· **Decomposition temperature:**

280 °C

· **pH**

5 - 6

· **Viscosity:**

· **Kinematic viscosity**

Not applicable for being a solid

· **Dynamic:**

Not applicable to solid

· **Solubility**

· **water at 25 °C:**

767 g/l

· **Partition coefficient n-octanol/water (log value)**

Not applicable to inorganics

· **Vapour pressure at 25 °C:**

4,053 e-9 hPa

· **Density and/or relative density**

· **Density:**

Not determined.

· **Relative density at 25 °C**

1,77

· **Bulk density:**

1070 g/l

· **Vapour density**

Not applicable.

· **Particle characteristics**

See section 3.

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- **9.2 Other information**
- **Appearance:**
- **Form:** Granulate
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Substance decomposes before self ignition can occur.
- **Explosive properties:** Product does not present an explosion hazard.
- **Freezing point**
- **Oxidising properties** No oxidising properties
- **Evaporation rate** Not applicable for being a solid

- **Information with regard to physical hazard classes**
- **Explosives** None
- **Flammable gases** None
- **Aerosols** None
- **Oxidising gases** None
- **Gases under pressure** None
- **Flammable liquids** None
- **Flammable solids** None
- **Self-reactive substances and mixtures** None
- **Pyrophoric liquids** None
- **Pyrophoric solids** None
- **Self-heating substances and mixtures** None
- **Substances and mixtures, which emit flammable gases in contact with water** None
- **Oxidising liquids** None
- **Oxidising solids** None
- **Organic peroxides** None
- **Corrosive to metals** None
- **Desensitised explosives** None
- **Molecular mass** 132,1395 g/mol

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** Reacts with oxidising agents.
- **10.2 Chemical stability** Stable at temperatures below 200 °C
- **Thermal decomposition / conditions to be avoided:** T<sup>a</sup> > 200°C
- **10.3 Possibility of hazardous reactions** Reacts with oxidising agents.
- **10.4 Conditions to avoid** High temperatures (> 200 °C)
- **10.5 Incompatible materials:** Oxidizing materials
- **10.6 Hazardous decomposition products:**  
 Ammonia  
 Sulphur trioxide (SO<sub>3</sub>) or SO<sub>3</sub>-mist  
 Nitrogen oxides (NO<sub>x</sub>)

## 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.

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

Oral	LD50	4.250 mg/kg (Gassner rat)
Dermal	LD50	> 2.000 mg/kg (Wister rat)
Inhalative	LC50(8h)	> 1.000 mg/m <sup>3</sup> (rat)

#### · 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.

#### · 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.

#### · Aspiration hazard

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 were observed after a single exposure.

#### · Additional toxicological information:

##### · Repeated dose toxicity

No STOT effects observed

##### · CMR effects (carcinogenicity, 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

#### · 11.2 Information on other hazards

##### · Endocrine disrupting properties

Substance is not listed.

## SECTION 12: Ecological information

#### · 12.1 Toxicity

##### · Aquatic toxicity:

LC50 (96 h)	53 mg/l (Oncorhynchus mykiss)
	57,2 mg/l (Prosopium williamsoni)
EC50 (48 h)	121,7 mg/l (Ceriodaphnia acanthina)
	169 mg/l (daphnia magna)
EC50 (18 d)	2.700 mg/L (Chlorella vulgaris)
EC10 (10wk)	3,12 mg/l (Hyalella azteca)
EC10(30d)	5,29 mg/l (Lepomis macrochirus)
EC50 (5d)	1.605 mg/L (Chlorella vulgaris)

##### · 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.

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- **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 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
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**  
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.

### SECTION 14: Transport information

<ul style="list-style-type: none"> <li>· <b>14.1 UN number or ID number</b></li> </ul>	The substance is not classified under transport regulations
<ul style="list-style-type: none"> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>	Not applicable
<ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> </ul>	The substance is not classified under transport regulations
<ul style="list-style-type: none"> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>	Not applicable
<ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> </ul>	The substance is not classified under transport regulations
<ul style="list-style-type: none"> <li>· <b>ADR, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul>	Not applicable
<ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> </ul>	The substance is not classified under transport regulations
<ul style="list-style-type: none"> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	Not applicable
<ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>14.7 Maritime transport in bulk according to IMO instruments</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	Not applicable



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### 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.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 65
- **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.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**  
Substance is not listed.
- **National regulations:**
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57**  
Product does not contain SVHCs.
- **Additional Information:**  
No obligation to perform SDS since it is not a hazardous substance/mixture  
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:**  
Although the Chemical Safety Assessment has been carried out, no Exposure Scenarios are required in this sheet because the substance is not classified as hazardous.  
A Chemical Safety Assessment has 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.

- **Training hints**  
Specific training of workers to comply with the requirements specified in the Safety Data Sheet is required.
- **Department issuing SDS:** Product Liability group
- **Contact:** Contact with business unit for any issue related to the safety data sheet
- **Version number of previous version:** 5
- **Abbreviations and acronyms:**  
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)  
DNEL: Derived No-Effect Level (REACH)

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PNEC: Predicted No-Effect Concentration (REACH)

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

· **Sources** Chemical Safety Report

· \* **Data compared to the previous version altered.**

Section 9: Modification of physical and chemical properties

Section 11: Toxicological data updated

Section 15: Update reglamentary substance information.

EU