

# Safety data sheet

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Date / Revised: 23.05.2024  
Date / Previous version: 05.01.2024  
Product: **Turbo**

Version: 4.1  
Previous version: 4.0

(ID no. 30716395/SDS\_GEN\_EU/EN)

Date of print 29.10.2024

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

### 1.1. Product identifier

## Turbo

Chemical name: Ammonium sulphate  
CAS Number: 7783-20-2

REACH registration number: 01-2119455044-46-0000, 01-2119455044-46-0001

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

Relevant identified uses: adjuvant

### 1.3. Details of the supplier of the safety data sheet

Company:  
BASF SE  
67056 Ludwigshafen  
GERMANY  
Operating Division Crop Protection

Telephone: +49 621 60-27777  
E-mail address: Produktinformation-Pflanzenschutz@basf.com

### 1.4. Emergency telephone number

International emergency number:  
Telephone: +49 180 2273-112

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## SECTION 2: Hazards Identification

### 2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

No need for classification according to GHS criteria for this product.

### 2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

The product does not require a hazard warning label in accordance with GHS criteria.

### 2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

## SECTION 3: Composition/Information on Ingredients

### 3.1. Substances

Chemical nature

Contains:

Ammonium sulphate

Content (W/W): 100 %

CAS Number: 7783-20-2

EC-Number: 231-984-1

### 3.2. Mixtures

Not applicable

## SECTION 4: First-Aid Measures

### 4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

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Keep patient calm, remove to fresh air.

On skin contact:

Wash thoroughly with soap and water Remove contaminated clothing.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open. Remove contact lenses, if present.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

#### **4.2. Most important symptoms and effects, both acute and delayed**

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

#### **4.3. Indication of any immediate medical attention and special treatment needed**

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## **SECTION 5: Fire-Fighting Measures**

### **5.1. Extinguishing media**

Suitable extinguishing media:  
water spray, foam, dry powder

Unsuitable extinguishing media for safety reasons:  
carbon dioxide

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

Endangering substances: ammonia, anhydrous, nitrogen oxides, sulfur oxides  
Advice: The substances/groups of substances mentioned can be released in case of fire.

### **5.3. Advice for fire-fighters**

Special protective equipment:  
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official

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regulations. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

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## SECTION 6: Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

### 6.2. Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

### 6.3. Methods and material for containment and cleaning up

For small amounts: Contain with dust binding material and dispose of.

For large amounts: Sweep/shovel up.

Avoid raising dust. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

### 6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

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## SECTION 7: Handling and Storage

### 7.1. Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

### 7.2. Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Protect from direct sunlight. Keep away from heat. Protect against moisture.

Storage stability:

Storage duration: 60 Months

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### 7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

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## SECTION 8: Exposure Controls/Personal Protection

### 8.1. Control parameters

Components with occupational exposure limits

7783-20-2: Ammonium sulphate

### 8.2. Exposure controls

#### Personal protective equipment

Respiratory protection:

Breathing protection if dusts are formed. Suitable respiratory protection for higher concentrations or long-term effect: Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:

Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

Eye protection:

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

Body protection:

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).

#### General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

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## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

State of matter:	solid
Form:	solid, crystalline
Colour:	colourless to white
Odour:	odourless

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Odour threshold:	not applicable, odour not perceivable	
Melting point:	> 280 °C (1,013 hPa) Literature data. The substance / product decomposes.	
Boiling point:	The substance / product decomposes therefore not determined.	
Flammability:	not flammable	
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Flash point:	not applicable	
Thermal decomposition:	> 235 °C	
pH value:	approx. 5 - 6 (approx. 20 °C)	
Viscosity, dynamic:	not applicable, the product is a solid	
Solubility in water:	767 g/l (25 °C)	
Partitioning coefficient n-octanol/water (log Kow):	not applicable	
Vapour pressure:	approx. < 0.1 hPa (25 °C)	
Density:	approx. 1.77 g/cm <sup>3</sup> (approx. 25 °C, approx. 1,013 hPa)	(other)
Relative vapour density (air):	negligible	

## 9.2. Other information

### Information with regard to physical hazard classes

#### Explosives

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Explosion hazard: Based on the chemical structure there is no indication of explosive properties.  
Impact sensitivity: not shock-sensitive  
Based on the chemical structure there is no shock-sensitivity.

#### Oxidizing properties

Fire promoting properties: Based on its structural properties the product is not classified as oxidizing.

#### Pyrophoric properties

Self-ignition temperature: Test type: Spontaneous self-ignition at room-temperature.

not self-igniting

#### Self-heating substances and mixtures

Self heating ability: It is not a substance capable of spontaneous heating.

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

Formation of flammable gases: Forms no flammable gases in the presence of water.

#### **Other safety characteristics**

Evaporation rate: < 0.01  
(20 °C)

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## **SECTION 10: Stability and Reactivity**

### **10.1. Reactivity**

No hazardous reactions if stored and handled as prescribed/indicated.

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.
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### **10.2. Chemical stability**

The product is stable if stored and handled as prescribed/indicated.

### **10.3. Possibility of hazardous reactions**

Reacts with oxidizing agents.

### **10.4. Conditions to avoid**

Temperature: > 200 °C  
Avoid heat.

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See SDS section 7 - Handling and storage.

### 10.5. Incompatible materials

Substances to avoid:  
strong oxidizing agents, nitrites, nitrates, water

### 10.6. Hazardous decomposition products

Hazardous decomposition products:  
Hydrogen sulphide, ammonia, anhydrous, Sulphur trioxide  
nitrogen oxides

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## SECTION 11: Toxicological Information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion. Of low toxicity after short-term skin contact. Virtually nontoxic by inhalation.

Experimental/calculated data:

LD50 rat (oral): 4,250 mg/kg (OECD Guideline 401)

LD50 rat (dermal): > 2,000 mg/kg

#### Irritation

Assessment of irritating effects:

Not irritating to eyes and skin.

Experimental/calculated data:

Skin corrosion/irritation

rabbit: non-irritant (BASF-Test)

Serious eye damage/irritation

rabbit: non-irritant (BASF-Test)

#### Respiratory/Skin sensitization

Assessment of sensitization:

No sensitizing effect.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing.

#### Germ cell mutagenicity

Assessment of mutagenicity:

Mutagenicity tests revealed no genotoxic potential.



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Experimental/calculated data:

Ames-test  
negative (OECD Guideline 471)

Cytogenetic assay  
negative (OECD Guideline 473)  
Literature data.

HGPRT assay  
CHO cells: negative (OECD Guideline 476)

#### Carcinogenicity

Assessment of carcinogenicity:  
Not classified, due to lack of data.

#### Reproductive toxicity

Assessment of reproduction toxicity:  
Not classified, due to lack of data.

#### Developmental toxicity

Assessment of teratogenicity:  
Not classified, due to lack of data.

#### Specific target organ toxicity (single exposure)

Assessment of STOT single:  
The available information is not sufficient for the evaluation of specific target organ toxicity.

#### Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:  
No substance-specific organotoxicity was observed after repeated administration to animals.

#### Aspiration hazard

not applicable

#### Interactive effects

No data available.

## **11.2. Information on other hazards**

#### Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of

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substances of very high concern according to EU REACH Article 59 for having endocrine disrupting properties.

#### Other information

Other relevant toxicity information

Misuse can be harmful to health.

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## **SECTION 12: Ecological Information**

### **12.1. Toxicity**

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:

LC50 (96 h) 53 mg/l, *Oncorhynchus mykiss* (Fish test acute)

Aquatic invertebrates:

EC50 (48 h) 121.7 mg/l, *Ceriodaphnia* sp. (Daphnia test acute, static)

Aquatic plants:

EC50 (18 d) 2,700 mg/l (growth rate), *Chlorella vulgaris* (other)

The details of the toxic effect relate to the nominal concentration.

Chronic toxicity to aquatic invertebrates:

EC10 (70 d) 3.12 mg/l (semistatic)

### **12.2. Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):

Inorganic product which cannot be eliminated from water by biological purification processes. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

### **12.3. Bioaccumulative potential**

Assessment bioaccumulation potential:

Accumulation in organisms is not to be expected.

### **12.4. Mobility in soil**

Assessment transport between environmental compartments:

Adsorption in soil: Adsorption to solid soil phase is not expected.

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## 12.5. Results of PBT and vPvB assessment

Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria.

Not fulfilling vPvB (very persistent/very bioaccumulative) criteria.

## 12.6. Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACH Article 59 for having endocrine disrupting properties.

## 12.7. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

### Additional information

Other ecotoxicological advice:  
Do not discharge product into the environment without control.

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## SECTION 13: Disposal Considerations

### 13.1. Waste treatment methods

Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging:  
Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

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## SECTION 14: Transport Information

### Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable

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Special precautions for user      None known

#### RID

UN number or ID number:      Not classified as a dangerous good under transport regulations  
UN proper shipping name:      Not applicable  
Transport hazard class(es):      Not applicable  
Packing group:      Not applicable  
Environmental hazards:      Not applicable  
Special precautions for user      None known

#### **Inland waterway transport**

##### ADN

UN number or ID number:      Not classified as a dangerous good under transport regulations  
UN proper shipping name:      Not applicable  
Transport hazard class(es):      Not applicable  
Packing group:      Not applicable  
Environmental hazards:      Not applicable  
Special precautions for user:      None known

#### Transport in inland waterway vessel

Not evaluated

#### **Sea transport**

##### IMDG

UN number or ID number:      Not classified as a dangerous good under transport regulations  
UN proper shipping name:      Not applicable  
Transport hazard class(es):      Not applicable  
Packing group:      Not applicable  
Environmental hazards:      Not applicable  
Special precautions for user      None known

#### **Air transport**

##### IATA/ICAO

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	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

#### **14.1. UN number or ID number**

See corresponding entries for "UN number or ID number" for the respective regulations in the tables above.

#### **14.2. UN proper shipping name**

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

#### **14.3. Transport hazard class(es)**

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

#### **14.4. Packing group**

See corresponding entries for "Packing group" for the respective regulations in the tables above.

#### **14.5. Environmental hazards**

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

#### **14.6. Special precautions for user**

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

#### **14.7. Maritime transport in bulk according to IMO instruments**

Maritime transport in bulk is not intended.

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## **SECTION 15: Regulatory Information**

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

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):  
Listed in above regulation: no

Classification applies for standard conditions of temperature and pressure.

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

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## 15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

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## SECTION 16: Other Information

### Abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road.  
ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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