

Safety data sheet

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BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)

Date / Revised: 03.01.2024

Version: 3.0

Product: **Urea Techn.**

(ID no. 30042932/SDS_GEN_IL/EN)

Date of print 06.02.2024

1. Identification

Product identifier

Urea Techn.

Chemical name: Urea BASF

CAS Number: 57-13-6

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

Relevant identified uses: Chemical

Recommended use: Chemical

Not recommended use: Technical information in support will be provided by BASF at the request of competent authorities.

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Division Monomers

Telephone: +49 621 60 42737

E-mail address: pss.monomers@basf.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

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According to UN GHS criteria

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

Label elements

Globally Harmonized System (GHS)

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

Other hazards

According to UN GHS criteria

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition/Information on Ingredients

Substances

Chemical nature

Urea

CAS Number: 57-13-6

EC-Number: 200-315-5

Hazardous ingredients (GHS)

According to UN GHS criteria

No particular hazards known.

Mixtures

Not applicable

4. First-Aid Measures

Description of first aid measures

Keep patient calm, remove to fresh air.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth and then drink 200-300 ml of water.

Most important symptoms and effects, both acute and delayed

Symptoms: (Further) symptoms and / or effects are not known so far

Hazards: No hazards anticipated.

Indication of any immediate medical attention and special treatment needed

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

5. Fire-Fighting Measures**Extinguishing media**

Suitable extinguishing media:
water spray

Special hazards arising from the substance or mixture

Ammonia, anhydrous

The substances/groups of substances mentioned can be released if the product is involved in a fire.

Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental Release Measures**Personal precautions, protective equipment and emergency procedures**

No special precautions necessary.

Environmental precautions

Discharge into the environment must be avoided. No special precautions necessary.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.

For large amounts: Pick up with suitable appliance and dispose of.

7. Handling and Storage**Precautions for safe handling**

No special measures necessary provided product is used correctly.

Protection against fire and explosion:

No special precautions necessary.

Conditions for safe storage, including any incompatibilities

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Suitable materials for containers: Stainless steel 1.4401, Stainless steel 1.4301 (V2), Aluminium, High density polyethylene (HDPE)

Further information on storage conditions: Keep container dry.

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.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

Exposure controls

Personal protective equipment

Respiratory protection:

Breathing protection if dusts are formed. (Particle filter EN 143 P1)

Hand protection:

Leather gloves

Chemical resistant protective gloves (EN ISO 374-1)

butyl rubber (butyl) - 0.7 mm coating thickness

chloroprene rubber (CR) - 0.5 mm coating thickness

polyvinylchloride (PVC) - 0.7 mm coating thickness

Eye protection:

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

Body protection:

Standard work clothes and shoes.

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. No eating, drinking, smoking or tobacco use at the place of work. Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	prills, crystalline	
Colour:	white	
Odour:	faint specific odour, ammonia-like	
Odour threshold:		
pH value:	not determined 9 - 10 (100 g/l, 20 °C)	(DIN ISO 976)
Melting point:	134 °C	(Directive 92/69/EEC, A.1)

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Boiling point:	(1.013,25 hPa) The substance / product decomposes therefore not determined.	
Flash point:	> 147 °C	
Evaporation rate:	The product is a non-volatile solid.	
Flammability:	not flammable	(Directive 92/69/EEC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Vapour pressure:	0,000016 hPa (25 °C)	(measured)
Density:	1,3350 g/cm ³ (20,00 °C)	
Solubility in water:	590 g/l (20 °C)	(Regulation 440/2008/EC, A.6)
Partitioning coefficient n-octanol/water (log Kow):	-1,59	
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
	Temperature: > 134 °C not self-igniting	Test type: Self-ignition at high temperatures. (Method: Directive 92/69/EEC, A.16)
Thermal decomposition:	Decomposes on heating.	
Viscosity, dynamic:	Study scientifically not justified.	
Viscosity, kinematic:	No data available.	
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	

Other information

Self heating ability:	It is not a substance capable of spontaneous heating.	
Bulk density:	780 - 830 kg/m ³	(DIN ISO 697)
pKA:	0,1 (21 °C)	
Adsorption/water - soil:	log KOC: 0,622 Adsorption to solid soil phase is not expected.	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Grain size distribution	1,9492 mm	(D50, Counted Distribution, Dynamic image analysis methods)

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Molar mass: 60,06 g/mol

10. Stability and Reactivity

Reactivity

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

Corrosion to metals: In the presence of water or moisture metal corrosion cannot be excluded.

Chemical stability

The product is chemically stable.

Possibility of hazardous reactions

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

Conditions to avoid

70 °C

Avoid excessive temperatures.

Incompatible materials

Substances to avoid:

nitrites, nitrates, strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:

Ammonia, anhydrous

Gaseous products of degradation can be given off if the product is greatly overheated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

In animal studies the substance is virtually nontoxic after a single ingestion.

Experimental/calculated data:

LD50 rat (oral): 14.300 mg/kg

Irritation

Assessment of irritating effects:

Not irritating to eyes and skin.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: non-irritant

Respiratory/Skin sensitization

Assessment of sensitization:

| No data available. The chemical structure does not suggest a sensitizing effect.

Experimental/calculated data:

| No data available.

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria.

Experimental/calculated data:

Ames-test

Bacteria: negative

Carcinogenicity

Assessment of carcinogenicity:

In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity:

| No data available.

Developmental toxicity

Assessment of teratogenicity:

| In animal studies the substance did not cause malformations.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

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

Assessment of repeated dose toxicity:

Repeated oral uptake of the substance did not cause substance-related effects. Repeated dermal uptake of the substance did not cause substance-related effects.

Aspiration hazard

not applicable

12. Ecological Information**Toxicity**

Assessment of aquatic toxicity:

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

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:

LC50 > 6.810 mg/l, *Leuciscus idus* (DIN 38412 Part 15)

Aquatic invertebrates:

LC50 (48 h) > 10.000 mg/l, *Daphnia magna*

Literature data.

Aquatic plants:

(8 d) > 10.000 mg/l, *Scenedesmus quadricauda*

Literature data.

Microorganisms/Effect on activated sludge:

(16 h) > 10.000 mg/l, *Pseudomonas putida*

Literature data. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Chronic toxicity to fish:

EC10 (28 d) 7.247 mg/l, Fish (other, semistatic)

Literature data.

Chronic toxicity to aquatic invertebrates:

EC10 (21 d) 140,7 mg/l, *Daphnia magna* (OECD Guideline 211, semistatic)

Assessment of terrestrial toxicity:

Toxic effects have been observed in studies with soil living organisms.

Soil living organisms:

LC50 (14 d) > 2.000 mg/kg, *Eisenia foetida* (OECD Guideline 207)

No observed effect concentration (14 d) > 2358 mg urea/kg dw, other (OECD Guideline 217)

Terrestrial plants:

No observed effect concentration (7 d) 9 mg/leaf/day, terrestrial plants (other)

EC10 (7 d) >= 1.000 mg/kg, terrestrial plants (other)

Other terrestrial non-mammals:

Study scientifically not justified.

Persistence and degradability**Assessment biodegradation and elimination (H₂O):**

Readily biodegradable (according to OECD criteria). The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Elimination information:

96 % DOC reduction (16 d) (OECD 302B; ISO 9888; 88/302/EWG, Teil C) Biodegradable.

Assessment of stability in water:

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According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):

Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential:

Significant accumulation in organisms is not to be expected.

Bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

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

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

Other adverse effects

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

13. Disposal Considerations

Waste treatment methods

Test for use in agriculture.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

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

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Packing group: Not applicable
Environmental hazards: Not applicable
Special precautions for user: None known

RID

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

Inland waterway transport

ADN

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

Transport in inland waterway vessel

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

Sea transport

IMDG

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

Air transport

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IATA/ICAO

	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

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information

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

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

16. Other Information

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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