We create chemistry

Safety data sheet

BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)
Date / Revised: 20.12.2023 Version: 4.0
Product: **AdBlue**

(ID no. 30183433/SDS_GEN_00/EN)
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1. Identification

Product identifier

AdBlue

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
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GERMANY
Division Monomers

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Emergency telephone number

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2. Hazards Identification

Classification of the substance or mixture

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

Not applicable

Mixtures

Chemical nature

Urea (Content (W/W): 32,5 %), Water (Content (W/W): 67,5 %)

Hazardous ingredients (GHS)
According to UN GHS criteria

Ammonia, aqueous solution

Content (W/W): >= 0 % - <= 0,2 %	Skin Corr./Irrit. 1B
CAS Number: 1336-21-6	Eye Dam./Irrit. 1
EC-Number: 215-647-6	STOT SE 3 (irr. to respiratory syst.)
INDEX-Number: 007-001-01-2	Aquatic Acute 1
	Aquatic Chronic 2
	H335, H314, H411, H400
	Specific concentration limit:
	STOT SE 3, irr. to respiratory syst.: >= 5 %

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:
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, carbon dioxide, dry powder, Dry sand

Special hazards arising from the substance or mixture
harmful vapours, carbon oxides
The substances/groups of substances mentioned can be released in case of 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
Information regarding personal protective measures, see section 8. Handle in accordance with good industrial hygiene and safety practice. Avoid inhalation.

Environmental precautions
No special precautions necessary.

Methods and material for containment and cleaning up
For small amounts: Rinse away with water. Dispose of absorbed material in accordance with regulations.
For large amounts: Rinse away with water. Dispose of absorbed material in accordance with regulations.

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

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), glass, Aluminium, Stainless steel 1.4306 (V2A), Stainless steel 1.4402 (V4A)
Unsuitable materials for containers: Paper/Fibreboard, iron, tinned carbon steel (Tinplate), Copper, Aluminium, glass, brass, Galvanized carbon steel (Zinc), zinc

Storage class according to TRGS 510 (originally VCI, Germany): (12) Non-combustible liquids

Storage stability:
Storage temperature: <= 25 °C
Storage duration: 18 Months

Protect from temperatures below: -11 °C
The packed product is not damaged by low temperatures or by frost.
Protect from temperatures above: 35 °C
It is not necessary to protect the packed product against exceeding the temperature indicated.

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

57-13-6: Urea
1336-21-6: Ammonia, aqueous solution

Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of inorganic compounds (e.g. EN 14387 Type B)

Hand protection:
Chemical resistant protective gloves (EN ISO 374-1)
natural rubber/natural latex (NR) - 0.5 mm coating thickness
chloroprene rubber (CR) - 0.5 mm coating thickness
nitrile rubber (NBR) - 0.4 mm coating thickness
butyl rubber (butyl) - 0.7 mm coating thickness

fluoroelastomer (FKM) - 0.7 mm coating thickness
polyvinylchloride (PVC) - 0.7 mm coating thickness

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
rubber boots with protection equipment

General safety and hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	faint specific odour, ammonia-like	
pH value:	9 - 10 (20 °C)	(DIN ISO 976)
solidification temperature:	-11 °C	(other)
Boiling point:	approx. 100 °C (1.013 bar)	(other)
Flash point:	No flash point - Measurement made up to the boiling point.	
Flammability:	not flammable	
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Ignition temperature:	not applicable	
Vapour pressure:	23 mbar (20 °C) Literature data.	
Density:	1,087 - 1,093 g/cm3 (20 °C)	(ISO 2811-3)
Solubility in water:	soluble (15 °C)	
Partitioning coefficient n-octanol/water (log Kow):	-1,73 The values mentioned are those of the active ingredient.	
Viscosity, dynamic:	2,5 mPa.s (20 °C, 313 1/s)	(internal method)
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	

Other information

Self heating ability:	It is not a substance capable of spontaneous heating.
Miscibility with water:	(15 °C) completely (e.g. >=90%)
pKA:	0,1 (21 °C)
Hygroscopy:	Non-hygroscopic
Adsorption/water - soil:	log KOC: 0,622 (calculated) Adsorption to solid soil phase is not expected.
Surface tension:	Based on chemical structure, surface activity is not to be expected.
Grain size distribution:	The substance / product is marketed or used in a non solid or granular form.
Solids content:	approx. 32,5 %
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.	
Reactions with water/air:	Flammable gases:	no
	Toxic gases:	no
	Corrosive gases:	no
	Smoke or fog:	no
	Peroxides:	no
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

Chemical stability
The product is chemically stable.

Peroxides: Substance contains no organic peroxides.

Possibility of hazardous reactions
The product is chemically stable.

Conditions to avoid
35 °C
Avoid heat.

Incompatible materials

Substances to avoid:
nitrites, nitrates, strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:
Ammonia, anhydrous

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
In animal studies the substance is virtually nontoxic after a single skin contact. In animal studies the substance is virtually nontoxic after a single ingestion. The product has not been tested. The statement has been derived from the properties of the individual components.

Experimental/calculated data:
LD50 rat (oral): 14.300 mg/kg

Irritation

Assessment of irritating effects:
Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/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

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

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:
EC10 (8 d) > 10.000 mg/l, Scenedesmus quadricauda
Literature data.

Microorganisms/Effect on activated sludge:

EC10 (16 h) > 10.000 mg/l, Pseudomonas putida
Literature data.

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) Biodegradable.

Assessment of stability in water:
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.

Additional information

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

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

RID

	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

Inland waterway transport

ADN

	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

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

	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

Air transport

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

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
STOT SE	Specific target organ toxicity — single exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H335	May cause respiratory irritation.
H314	Causes severe skin burns and eye damage.
H411	Toxic to aquatic life with long lasting effects.
H400	Very toxic to aquatic life.

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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