

Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 30.11.2022

Version: 4.0

Product: **Baxxodur® EC 302**

(ID no. 30345000/SDS_GEN_00/EN)

Date of print 15.02.2024

1. Identification

Product identifier

Baxxodur® EC 302

Chemical name: Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)- .omega.-(2-aminomethylethoxy)-

CAS Number: 9046-10-0

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

Relevant identified uses: Chemical used in synthesis and/or formulation of industrial products

Recommended use: for industrial use only

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Intermediates

Telephone: +49 621 60-0

E-mail address: ci-qshe-request@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

Acute Tox. 5 (oral)
 Acute Tox. 5 (dermal)
 Skin Corr./Irrit. 1C
 Eye Dam./Irrit. 1
 Aquatic Acute 3
 Aquatic Chronic 3

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

Label elementsGlobally Harmonized System (GHS)

Pictogram:



Signal Word:

Danger

Hazard Statement:

H313	May be harmful in contact with skin.
H303	May be harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P273	Avoid release to the environment.
P261	Avoid breathing mist/vapours/spray.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P353	IF ON SKIN (or hair): Remove or Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Precautionary Statements (Storage):

P405	Store locked up.
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Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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According to UN GHS criteria

Hazard determining component(s) for labelling: alpha-(2-Aminomethylethyl)-omega-(2-aminomethylethoxy)- poly(oxy(methyl-1,2-ethanediyl))

Other hazardsAccording to UN GHS criteria

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.

3. Composition/Information on Ingredients

SubstancesChemical nature

Contains: polyamine, Polymer

Hazardous ingredients (GHS)

According to UN GHS criteria

alpha-(2-Aminomethylethyl)-omega-(2-aminomethylethoxy)- poly(oxy(methyl-1,2-ethanediyl))

Content (W/W): > 97 % - < 100 %	Acute Tox. 5 (oral)
CAS Number: 9046-10-0	Acute Tox. 5 (dermal)
	Skin Corr./Irrit. 1C
	Eye Dam./Irrit. 1
	Aquatic Acute 3
	Aquatic Chronic 3
	H313, H303, H314, H402, H412

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

Mixtures

Not applicable

4. First-Aid Measures

Description of first aid measures

Immediately remove contaminated clothing. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). If not breathing, give artificial respiration. First aid personnel should pay attention to their own safety.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

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On skin contact:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Do not induce vomiting. Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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 are possible

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote. Pulmonary odema prophylaxis. Medical monitoring for at least 24 hours.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, dry powder, alcohol-resistant foam, carbon dioxide

Special hazards arising from the substance or mixture

nitrogen oxides, carbon oxides

The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Advice for fire-fighters

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

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.

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Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Collect waste in suitable containers, which can be labeled and sealed. Incinerate or take to a special waste disposal site in accordance with local authority regulations.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances.

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place.

Storage stability:

Storage temperature: 20 °C

Storage duration: 24 Months

May discolour when exceeding the recommended storage temperature.

From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

Protect from temperatures above: 60 °C

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 substance specific occupational exposure limits known.

Exposure controls

Personal protective equipment

Respiratory protection:

Breathing protection if gases/vapours are formed. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials 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), polyvinylchloride (0.7 mm) and other
Manufacturer's directions for use should be observed because of great diversity of types.

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Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:

Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.

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 required additionally to the stated personal protection equipment. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	liquid	
Colour:	yellowish	
Odour:	amine-like	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	11 (10 g/l, 20 °C)	
glass transition temperature:	-88 °C (1.013 hPa)	(OECD Guideline 102)
Boiling point:	232 °C (1.013,25 hPa) Extrapolated value	(measured)
Flash point:	128 °C	(ISO 2719, closed cup)
Flammability:	not flammable	(derived from flash - and boiling point)
Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	235 °C	(DIN 51794)
Vapour pressure:	1 mbar (20 °C)	

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Density:	3 mbar (50 °C) 0,97 g/cm ³ (20 °C) 0,9480 g/cm ³ (50 °C)	
Relative density:	0,97 (20 °C)	(calculated)
Relative vapour density (air):	> 1 Heavier than air.	(estimated)
Solubility in water:	miscible (20 °C)	
Partitioning coefficient n-octanol/water (log Kow):	1,34 (25 °C)	(OECD Guideline 117)
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	140 °C, 50 kJ/kg (DSC (DIN 51007)) 290 °C, 430 kJ/kg (DSC (DIN 51007)) Thermal decomposition above the indicated temperature is possible. self-accelerating reaction	
Viscosity, dynamic:	24,4 mPa.s (25 °C)	
Viscosity, kinematic:	25,2 mm ² /s (25 °C)	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	

Other information

Self heating ability:	It is not a substance capable of spontaneous heating.	
SADT:	Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	
pKA:	9,3 (24 °C)	(OECD Guideline 112)
Volatility/water - air:	The substance will not evaporate into the atmosphere from the water surface. The data refer to the uncharged form of the substance. Under environmental conditions, the substance will almost completely be in its charged form.	
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.	

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Molar mass: approx. 480 g/mol

10. Stability and Reactivity

Reactivity

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

Corrosion to metals: Corrosive effects to metal are not anticipated.
Formation of flammable gases: Remarks: Forms no flammable gases in the presence of water.

Chemical stability

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

Possibility of hazardous reactions

Evolution of heat under influence of acids.

Conditions to avoid

Avoid extreme temperatures.

Incompatible materials

Substances to avoid:
acids

Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Of low toxicity after single ingestion. Of low toxicity after short-term skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.

Experimental/calculated data:
LD50 rat (oral): 2.885 mg/kg (similar to OECD guideline 401)

LC0 rat (by inhalation): > 0,74 mg/l 8 h (IRT)
No mortality was observed.

LD50 rabbit (dermal): 2.980 mg/kg (similar to OECD guideline 402)

Irritation

Assessment of irritating effects:

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Corrosive! Damages skin and eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Corrosive. (similar to OECD guideline 404)

Serious eye damage/irritation rabbit: irreversible damage (similar to OECD guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

As the substance is corrosive, conducting sensitization studies is not feasible.

Germ cell mutagenicity

Assessment of mutagenicity:

No mutagenic effect was found in various tests with mammalian cell culture and mammals. The substance was not mutagenic in bacteria.

Carcinogenicity

Assessment of carcinogenicity:

No data available.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422).

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies. Mortality observed in rabbits following oral gavage exposure to this corrosive substance. However, the relevance of this result for humans is unclear.

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:

No substance-specific organotoxicity was observed after repeated administration to animals. After repeated exposure the prominent effect is local irritation.

Aspiration hazard

No aspiration hazard expected.

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Other relevant toxicity information

No experimental evidence available for genotoxicity in vitro (Ames test negative). Literature data.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Acutely harmful for 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 (96 h) > 15 mg/l, *Oncorhynchus mykiss* (OECD Guideline 203, semistatic)

The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test).

LC50 (96 h) 772,14 mg/l, *Cyprinodon variegatus* (OECD Guideline 203, static)

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

Aquatic invertebrates:

EC50 (48 h) 80 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

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

EC50 (48 h) 418,34 mg/l, *Arcatia tonsa* (Daphnia test acute, static)

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

Aquatic plants:

EC50 (72 h) 15 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)

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

EC10 (72 h) 1,4 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)

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

EC50 (72 h) 141,72 mg/l, *Skeletonema costatum* (ISO/DIS 10253, static)

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

No observed effect concentration (72 h) 100 mg/l, *Skeletonema costatum* (ISO/DIS 10253, static)

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

Microorganisms/Effect on activated sludge:

EC20 (3 h) 380 mg/l, (OECD Guideline 209, aerobic)

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

Chronic toxicity to fish:

Study does not need to be conducted.

Chronic toxicity to aquatic invertebrates:

Study does not need to be conducted.

Assessment of terrestrial toxicity:

Study not necessary due to exposure considerations.

Persistence and degradability

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Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

Elimination information:

0 % CO₂ formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic)

Assessment of stability in water:

In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis):

t_{1/2} > 1 a (25 °C, pH value 7), (Directive 92/69/EEC, C.7)

In contact with water the substance will hydrolyse slowly.

Assessment photodegradation:

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Photodegradation:

t_{1/2} (Indirect photolysis) 1,6 h; OH radical

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Bioaccumulative potential

Assessment bioaccumulation potential:

No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

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

Adsorbable organically-bound halogen (AOX):

This product contains no organically-bound halogen.

Other ecotoxicological advice:

Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants.

13. Disposal Considerations

Waste treatment methods

Incinerate in suitable incineration plant, observing local authority regulations.

A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage.

The waste code in accordance with the European waste catalog (EWC) must be specified in cooperation with disposal agency/manufacturer/authorities.

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

UN number or ID number: UN2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (POLYETHERAMINE)

Transport hazard class(es): 8
Packing group: III
Environmental hazards: no
Special precautions for user: Tunnel code: E

RID

UN number or ID number: UN2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (POLYETHERAMINE)

Transport hazard class(es): 8
Packing group: III
Environmental hazards: no
Special precautions for user: None known

Inland waterway transport

ADN

UN number or ID number: UN2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (POLYETHERAMINE)

Transport hazard class(es): 8
Packing group: III
Environmental hazards: no
Special precautions for user: None known

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user:

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number or ID number: UN 2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (POLYETHERAMINE)

Transport hazard class(es): 8
Packing group: III
Environmental hazards: no
Marine pollutant: NO
Special precautions for user: EmS: F-A; S-B

Air transport

IATA/ICAO

UN number or ID number: UN 2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (POLYETHERAMINE)

Transport hazard class(es): 8
Packing group: III
Environmental hazards: No Mark as dangerous for the environment is needed
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**

Not applicable

16. Other Information

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

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation

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Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H313	May be harmful in contact with skin.
H303	May be harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

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.

Vertical lines in the left hand margin indicate an amendment from the previous version.