

# Safety data sheet

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

Date / Revised: 18.06.2021

Version: 5.0

Product: **Baxxodur® EC 301**

(ID no. 30643715/SDS\_GEN\_00/EN)

Date of print 19.06.2021

## 1. Identification

### Product identifier

## Baxxodur® EC 301

Chemical name: Reaction products of propane-1,2-diol, propoxylated by amination of the terminal hydroxyl groups

CAS Number: 9046-10-0

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

Relevant identified uses: Chemical

### 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

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## 2. Hazards Identification

### Classification of the substance or mixture

According to UN GHS criteria

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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 elements

### Globally 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.
P260	Do not breathe dust or mist.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
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):

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P501 Dispose of contents and container to hazardous or special waste collection point.

According to UN GHS criteria

Hazard determining component(s) for labelling: Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

**Other hazards**According 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****Substances**Chemical nature

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia  
CAS Number: 9046-10-0

Hazardous ingredients (GHS)

According to UN GHS criteria

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

Content (W/W): >= 100 % - <= 100 %  
CAS Number: 9046-10-0

Acute Tox. 5 (oral)  
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

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

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

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.

### 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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## 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:

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Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

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## 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 large amounts: Pump off product.

For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

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.

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## 7. Handling and Storage

### **Precautions for safe handling**

Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. 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:

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

To protect product purity, maintain indicated storage temperature.

### **Specific end use(s)**

See exposure scenario(s) in the attachment to this safety data sheet.

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## 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:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):

butyl rubber (butyl) - 0.7 mm coating thickness

fluoroelastomer (FKM) - 0.7 mm coating thickness

Polyethylene-Laminate (PE laminate) - ca. 0.1 mm coating thickness

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:

| chemical-protection suit (f.e. according to EN 14605)

#### General safety and hygiene measures

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

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Form: liquid  
Colour: colourless to yellow  
Odour: amine-like

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Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	11,3 (10 g/l, 20 °C)	
glass transition temperature:	-88 °C	(DSC (DIN 51007))
Boiling point:	232 °C (1.013,25 hPa) Extrapolated <u>value</u>	<u>(measured)</u>
Flash point:	128 °C	(ISO 2719, closed cup)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	hardly combustible	(derived from flash point)
Lower explosion limit:	0,7 %(V)	
Upper explosion limit:	5,0 %(V)	
Ignition temperature:	230 °C	(DIN EN 14522)
Vapour pressure:	0,9 hPa (20 °C) static, Extrapolated value	(OECD Guideline 104)
Density:	0,9475 g/cm <sup>3</sup> (20 °C) 0,9240 g/cm <sup>3</sup> (50 °C)	(ISO 2811-3)
Relative density:	0,9476 (20 °C)	(ISO 2811-3)
Solubility in water:	miscible (20 °C, pH 13,1)	(internal method)
Solubility (qualitative) solvent(s):	organic solvents soluble	
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:	280 °C, 440 kJ/kg (DSC (DIN 51007)) Thermal decomposition above the indicated temperature is possible. self-accelerating reaction	
Viscosity, dynamic:	10,3 mPa.s (20 °C)	(DIN 51562)
Viscosity, kinematic:	10,9 mm <sup>2</sup> /s (20 °C)	(calculated (from dynamic viscosity))
Explosion hazard:	not explosive	(other)
Fire promoting properties:	not fire-propagating	

**Other information**

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Self heating ability:	It is not a substance capable of spontaneous heating.	
Miscibility with water:	(20 °C) miscible	
pKA:	9,3 (24 °C)	(OECD Guideline 112)
Adsorption/water - soil:	KOC: 52,1; log KOC: 1,72 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:	The substance / product is marketed or used in a non solid or granular form.	

## 10. Stability and Reactivity

### Reactivity

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

### Possibility of hazardous reactions

Evolution of heat under influence of acids.

### Conditions to avoid

Temperature: > 60 °C

Avoid all sources of ignition: heat, sparks, open flame.

### Incompatible materials

Substances to avoid:  
acids

### Hazardous decomposition products

Possible thermal decomposition products:  
nitrogen oxides, carbon oxides

## 11. Toxicological Information

### Information on toxicological effects

Acute toxicity



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#### 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. The vapour was tested.

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

#### Irritation

##### Assessment of irritating effects:

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 concerning carcinogenic effects.

#### 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:

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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.

#### Other relevant toxicity information

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

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## 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:

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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:  
No data available regarding toxicity to fish.

Chronic toxicity to aquatic invertebrates:  
No data available regarding toxicity to daphnids.

Assessment of terrestrial toxicity:  
No data available.

### **Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):  
Not readily biodegradable (by OECD criteria).

Elimination information:  
0 % CO<sub>2</sub> 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:  
Experimental data did not show abiotic degradation by hydrolysis  
Information on Stability in Water (Hydrolysis):  
 $t_{1/2} > 1$  a (25 °C, pH value 7), (Directive 92/69/EEC, C.7, pH 7)

### **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).

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**

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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 local regulations on waste-water treatment must be followed.

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## 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.

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## 14. Transport Information

### Land transport

ADR

UN number UN2735  
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (contains POLYETHERDIAMINE)  
Transport hazard class(es): 8

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Packing group: III  
Environmental hazards: no  
Special precautions for user: Tunnel code: E

**RID**

UN number: UN2735  
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (contains POLYETHERDIAMINE)  
Transport hazard class(es): 8  
Packing group: III  
Environmental hazards: no  
Special precautions for user: None known

**Inland waterway transport****ADN**

UN number: UN2735  
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (contains POLYETHERDIAMINE)  
Transport hazard class(es): 8  
Packing group: III  
Environmental hazards: no  
Special precautions for user: None known

**Transport in inland waterway vessel**

Not evaluated

**Sea transport****IMDG**

UN number: UN 2735  
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (contains POLYETHERDIAMINE)  
Transport hazard class(es): 8  
Packing group: III  
Environmental hazards: no  
Marine pollutant: NO  
Special precautions for user: None known

**Air transport**

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IATA/ICAO

UN number:	UN 2735
UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (contains POLYETHERDIAMINE)
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

### Transport in bulk according to Annex II of MARPOL and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

## 15. Regulatory Information

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

Not applicable

## 16. Other Information

| Work limitations for youth should be observed.

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
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.

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