We create chemistry

Safety data sheet

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

1.1. Product identifier

Baxxodur® EC 201

Chemical name: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine
CAS Number: 2855-13-2

REACH registration number: 01-2119514687-32-0001, 01-2119514687-32-0000

1.2. 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: Chemical

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. 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

1.4. Emergency telephone number

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

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

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

Acute Tox. 4 (oral)
Acute Tox. 4 (dermal)
Skin Corr./Irrit. 1B
Eye Dam./Irrit. 1
Skin Sens. 1
Aquatic Chronic 3

H314, H312, H302, H317, H412

According to BASF current knowledge and application of the criteria given in Annex I of Regulation (EC) No. 1272/2008, the following classification exceeding the classification given in Regulation (EC) No 1272/2008, Annex VI, Table 3.1 is required.

Acute Tox. 4 (oral)
Acute Tox. 4 (dermal)
Skin Corr./Irrit. 1B
Eye Dam./Irrit. 1
Skin Sens. 1A
Aquatic Chronic 3

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

2.2. Label elements

Globally Harmonized System, EU (GHS)

Pictogram:



Signal Word:
Danger

Hazard Statement:

H314	Causes severe skin burns and eye damage.
H312	Harmful in contact with skin.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe dust/gas/mist/vapours.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or doctor/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 + P352	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P361	Take off immediately all contaminated clothing.
P301 + P330	IF SWALLOWED: rinse mouth.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):

P405	Store locked up.

Precautionary Statements (Disposal):

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

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

Hazard determining component(s) for labelling: 3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE

<u>According to Directive 67/548/EEC or 1999/45/EC</u>

as in Annex I of Directive 67/548/EEC

Hazard symbol(s)

C Corrosive.



R-phrase(s)

R34	Causes burns.
R21/22	Harmful in contact with skin and if swallowed.
R43	May cause sensitization by skin contact.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Hazard determining component(s) for labelling: 3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE

2.3. Other hazards

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

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.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

Contains:
3-aminomethyl-3,5,5-trimethylcyclohexylamine (Content (W/W): >= 99.7 %)
CAS Number: 2855-13-2
EC-Number: 220-666-8
INDEX-Number: 612-067-00-9

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Content (W/W): >= 99.7 % - <= 100 % CAS Number: 2855-13-2 EC-Number: 220-666-8 INDEX-Number: 612-067-00-9	Acute Tox. 4 (oral) Acute Tox. 4 (dermal) Skin Corr./Irrit. 1B Eye Dam./Irrit. 1 Skin Sens. 1 Aquatic Chronic 3 H312, H302, H317, H314, H412 Differing classification according to current knowledge and the criteria given in Annex I of Regulation (EC) No. 1272/2008 Acute Tox. 4 (oral) Acute Tox. 4 (dermal) Skin Corr./Irrit. 1B Eye Dam./Irrit. 1 Skin Sens. 1A Aquatic Chronic 3 H312, H302, H317, H314, H412

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Immediately remove contaminated clothing. If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary. 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.

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:
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: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

4.3. 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.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

5.2. 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.

5.3. 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.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Avoid inhalation. Avoid contact with the skin, eyes and clothing.

6.2. Environmental precautions
Do not discharge into drains/surface waters/groundwater.

6.3. 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). Dispose of absorbed material in accordance with regulations.
Cleaning operations should be carried out only while wearing breathing apparatus. 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.

6.4. Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. 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:
The product is combustible. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances. Segregate from isocyanates. Segregate from epoxides.

Suitable materials for containers: Carbon steel (Iron), Stainless steel 1.4401, Stainless steel 1.4301 (V2), High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)
Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Keep tanks under inert gas.

Storage stability:
Storage duration: 24 Months
From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

7.3. Specific end use(s)

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

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

PNEC
freshwater: 0.06 mg/l

marine water: 0.006 mg/l

intermittent release: 0.23 mg/l

sediment (freshwater): 5.784 mg/kg

sediment (marine water): 0.578 mg/kg

soil: 1.121 mg/kg

STP: 3.18 mg/l

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Respiratory protection in case of vapour/aerosol release. 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 374):
nitrile rubber (NBR) - 0.4 mm coating thickness
natural rubber/natural latex (NR) - 0.5 mm coating thickness
chloroprene rubber (CR) - 0.5 mm coating thickness
polyvinylchloride (PVC) - 0.7 mm coating thickness
butyl rubber (butyl) - 0.7 mm coating thickness
fluoroelastomer (FKM) - 0.7 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.
Manufacturer's directions for use should be observed because of great diversity of types.

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
Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Take off immediately all contaminated clothing. Store work clothing separately.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

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

Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	11.6 (8.5 g/l, 20 °C)	
Melting point:	10 °C	
Boiling point:	247 °C	
Flash point:	112 °C Literature data.	(open cup)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	Product is combustible.	
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:	380 °C	(DIN 51794)
Vapour pressure:	0.0157 hPa (20 °C) dynamic	(measured)
Density:	0.92 g/cm3 (20 °C)	
Solubility in water:	approx. 492 g/l (23.8 °C)	(OECD Guideline 105)
Partitioning coefficient n-octanol/water (log Kow):	0.99 (23 °C; pH value: 6.3)	(Directive 92/69/EEC, A.8)
Self ignition:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	< 400 °C No exothermic decomposition within the mentioned temperature range. No decomposition if used as directed. It is not a self-decompositionable substance.	
Viscosity, dynamic:	18 mPa.s (20 °C)	
Viscosity, kinematic:	19 mm2/s (20 °C)	(OECD 114)
Explosion hazard:	Based on the chemical structure there is no indicating of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	

9.2. Other information

Burning rate:	Study technically not feasible.	
pKA:	10.7 (20 °C)	(calculated)
Adsorption/water - soil:	KOC: 928; log KOC: 2.97	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Grain size distribution:	Test substance	The substance / product is marketed or used in a non solid or granular form.
Molar mass:	170.30 g/mol	

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.

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

10.3. Possibility of hazardous reactions
Reacts with acids and strong oxidizing agents. Reacts with halogenated compounds. Strong exothermic reaction.

10.4. Conditions to avoid
Avoid all sources of ignition: heat, sparks, open flame. See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, acids, halogenated compounds

10.6. Hazardous decomposition products

Hazardous decomposition products:
carbon oxides, nitrogen oxides, nitrous gases

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Of moderate toxicity after short-term skin contact. Of moderate toxicity after single ingestion.

Experimental/calculated data:
LD50 rat (oral): 1,030 mg/kg (similar to OECD guideline 401)

LC50 rat (by inhalation): > 5.01 mg/l 4 h (OECD Guideline 403)

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)
The European Union (EU) has classified this substance as 'harmful'.

Irritation

Assessment of irritating effects:
Corrosive! Damages skin and eyes.

Experimental/calculated data:
Skin corrosion/irritation rabbit: Corrosive.

Serious eye damage/irritation rabbit: irreversible damage (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:
Sensitization after skin contact possible.

Experimental/calculated data:
Guinea pig maximization test guinea pig: skin sensitizing (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:
No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals.

Carcinogenicity

Assessment of carcinogenicity:
Study scientifically not justified.

Reproductive toxicity

Assessment of reproduction toxicity:
Repeated oral uptake of the substance did not cause damage to the reproductive organs. Study scientifically not justified.

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
The available information is not sufficient for evaluation.

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

Assessment of repeated dose toxicity:
The substance may cause damage to the kidney after repeated ingestion of high doses, as shown in animal studies.

Aspiration hazard

No aspiration hazard expected.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms.

Toxicity to fish:
LC50 (96 h) 110 mg/l, Leuciscus idus (Directive 84/449/EEC, C.1, semistatic)
Nominal values (confirmed by concentration control analytics)

Aquatic invertebrates:
EC50 (48 h) 23 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
Nominal values (confirmed by concentration control analytics)

EC50 (48 h) 388 mg/l, Chaetogammarus marinus (semistatic)
The details of the toxic effect relate to the nominal concentration.

Aquatic plants:
EC50 (72 h) > 50 mg/l (growth rate), Scenedesmus subspicatus (Directive 88/302/EEC, part C, p. 89)
Nominal concentration.

EC10 (72 h) 11.2 mg/l (growth rate), Scenedesmus subspicatus (Directive 88/302/EEC, part C, p. 89)
Nominal concentration.

Microorganisms/Effect on activated sludge:
EC10 (18 h) 1,120 mg/l, Pseudomonas putida (DIN 38412 Part 8)
Nominal concentration.

Chronic toxicity to fish:
Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:
No observed effect concentration (21 d) 3 mg/l, Daphnia magna (OECD Guideline 202, part 2, semistatic)
Nominal values (confirmed by concentration control analytics)

Assessment of terrestrial toxicity:
Study scientifically not justified.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

Elimination information:
8 % DOC reduction (28 d) (Directive 92/69/EEC, C.4-A) (aerobic, predominantly domestic sewage)

Assessment of stability in water:
In contact with water the substance will hydrolyse slowly.
Information on Stability in Water (Hydrolysis):
< 10 % (5 d) (50 °C, pH value 7), (OECD Guideline 111, pH 7)

12.3. Bioaccumulative potential

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

12.4. 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.

12.5. 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

12.6. Other adverse effects

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

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

SECTION 13: Disposal Considerations

13.1. 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.

SECTION 14: Transport Information

Land transport

ADR

UN number	UN2289
UN proper shipping name:	ISOPHORONEDIAMINE
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no
Special precautions for user:	Tunnel code: E

RID

UN number	UN2289
UN proper shipping name:	ISOPHORONEDIAMINE
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no
Special precautions for user:	None known

Inland waterway transport
ADN

UN number	UN2289
UN proper shipping name:	ISOPHORONEDIAMINE
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 2289
UN proper shipping name:	ISOPHORONEDIAMINE
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no Marine pollutant: NO
Special precautions for user:	None known

Air transport

IATA/ICAO

UN number:	UN 2289
UN proper shipping name:	ISOPHORONEDIAMINE
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

14.1. UN number
See corresponding entries for “UN 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. 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

SECTION 15: Regulatory Information

15.1. 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.

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Aquatic Acute 3
Aquatic Chronic 3
Skin Corr./Irrit. 1B
Acute Tox. 4 (dermal)
Acute Tox. 4 (oral)
Eye Dam./Irrit. 1
Skin Sens. 1A

Work limitations for pregnant woman and for woman nursing babies should be observed. Work limitations for youth should be observed.

Full text of the classifications, including the hazard classes and the 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
Skin Sens.	Skin sensitization
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H314	Causes severe skin burns and eye damage.
H312	Harmful in contact with skin.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
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. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.