

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

- **1.1 Product identifier**
- **Trade name:** Boric Acid
- **Article number:** 141015
- **CAS Number:**
10043-35-3
- **EC number:**
233-139-2
- **Index number:**
005-007-00-2
- **Registration number** 01-2119486683-25-XXXX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Process category** PROC15 Use as laboratory reagent
- **Environmental release category**
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
- **Application of the substance / the mixture**
Chemical analytics
Molecular biology
Pharmaceutical analysis
Biochemistry
Laboratory chemical
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
- Tel.: +49 (0)6151 93570
Fax.: +49 (0)6151 935711
msds@applichem.com
- **Further information obtainable from:** Dept. Compliance
- **1.4 Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Repr. 1B H360FD May damage fertility. May damage the unborn child.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.

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· Hazard pictograms



GHS08

· Signal word Danger

· Hazard statements

H360FD May damage fertility. May damage the unborn child.

· Precautionary statements

P201 Obtain special instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.1 Chemical characterisation: Substances

· CAS No. Description

10043-35-3 Boric Acid

· Identification number(s)

· EC number: 233-139-2

· Index number: 005-007-00-2

· SVHC

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SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information: Involve doctor immediately.

· After inhalation: Supply fresh air; consult doctor in case of complaints.

· After skin contact:

Wash off with plenty of water.

Immediately remove any clothing soiled by the product.

Seek medical treatment.

· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing:

make victim drink water (maximum of 2 drinking glasses)

Seek medical treatment.

· 4.2 Most important symptoms and effects, both acute and delayed

Nausea

Cramp

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· 5.2 Special hazards arising from the substance or mixture

Non-combustible.

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Ambient fire may liberate hazardous vapours.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

· **Additional information**

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

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid formation of dust.

Do not inhale dust.

Avoid substance contact.

Ensure adequate ventilation

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Pick up mechanically.

Avoid generation of dusts.

Dispose contaminated material as waste according to item 13.

Clean up affected area.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Open and handle receptacle with care.

Any unavoidable deposit of dust must be regularly removed.

Prevent formation of dust.

Work only in fume cupboard.

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Store under lock and key and with access restricted to technical experts or their assistants only.

Keep container sealed.

· **Recommended storage temperature:** +15 - +25°C

· **Storage class:** 6.1 D

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **DNELs**

Oral	Acute - systemic effects, general population	0.98 mg/kg
	Long-term - systemic effects, general population	0.98 mg/kg
Dermal	Long-term - systemic effects, worker	392 mg/kg

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Inhalative	Long term - systemic effects, general population	196 mg/kg
	Long-term - systemic effects, worker	8.3 mg/m ³
	Long-term - systemic effects, general population	4.15 mg/m ³

· PNECs

Aquatic compartment - freshwater	1.35 mg/L
Aquatic compartment - marine water	1.35 mg/L
Aquatic compartment - water, intermittent releases	9.1 mg/L
Aquatic compartment - sediment in freshwater	1.8 mg/kg
Aquatic compartment - sediment in marine water	1.8 mg/kg
Terrestrial compartment - soil	5.4 mg/kg
Sewage treatment plant	1.75 mg/L

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Vacuum clean contaminated clothing. Do not blow or brush off contamination.

· **Respiratory protection:**

- Required when dusts are generated.
- Filter P3

· **Protection of hands:**

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

- The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

- The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

- Nitrile rubber, NBR
- Recommended thickness of the material: ≥ 0.11 dap 133 mg/l

- Value for the permeation: Level ≥ 480 min dap 133 mg/l

· **As protection from splashes gloves made of the following materials are suitable:**

- Nitrile rubber, NBR
- Recommended thickness of the material: ≥ 0.11 dap 133 mg/l

- Value for the permeation: Level ≥ 480 min dap 133 mg/l

· **Eye protection:** Safety glasses

· **Body protection:**

- Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

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SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form: Solid
 - Colour: White
- **Odour:** Odourless
- **Odour threshold:** Not determined.
- **pH-value:** ~4
- **Change in condition**
 - Melting point/freezing point: >1,000 °C
 - Initial boiling point and boiling range: Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gas):** Product is not flammable.
- **Decomposition temperature:** >185 °C
- **Auto-ignition temperature:** Not determined.
- **Explosive properties:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower: Not determined.
 - Upper: Not determined.
- **Vapour pressure at 25 °C:** <0.000001 hPa
- **Density at 20 °C:** 1.51 g/cm³
- **Bulk density:** 900 kg/m³
- **Relative density** Not determined.
- **Vapour density** Not applicable.
- **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with water at 20 °C:** 49.2 g/l
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
 - Dynamic: Not applicable.
 - Kinematic: Not applicable.
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No dangerous reactions known.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Heating
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** strong reducing agents
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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· **LD/LC50 values relevant for classification:**

Components	Type	Value	Species
Oral	LD50	2,660 mg/kg	(rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **After inhalation:** No irritant effect.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity**
May damage fertility. May damage the unborn child.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**

Type of test	Effective concentration	Method	Assessment
EC50/48 h	133 mg/l	(daphnia magna)	(ECOTOX Database)
LC50/96 h	50-100 mg/l	(Oncorhynchus mykiss)	(ECOTOX Database)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow to enter waters, waste water, or soil.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, ADN, IMDG, IATA	Void

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· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I Substance is not listed.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 30
- National regulations:
- Other regulations, limitations and prohibitive regulations

· Substances of very high concern (SVHC) according to REACH, Article 57

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- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Dept. Compliance
- Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Repr. 1B: Reproductive toxicity – Category 1B
- * Data compared to the previous version altered.