

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 1 of 11

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

1.1. Product identifier

Boric acid for analysis

REACH Registration Number: 01-2119486683-25-XXXX
CAS No: 10043-35-3
Index No: 005-007-00-2
EC No: 233-139-2

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0
Telefax: 0203/5194-290
E-mail: info@analytichem.de
Contact person: Abteilung Produktsicherheit
Telephone: 0203/5194-107/117
E-mail: produktsicherheit@analytichem.de
Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Repr. 1B; H360FD

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:



Hazard statements

H360FD May damage fertility. May damage the unborn child.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 2 of 11

Precautionary statements

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.

Special labelling of certain mixtures

Restricted to professional users.

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: H3BO3
Molecular weight: 61,83 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
10043-35-3	boric acid			100 %
	233-139-2	005-007-00-2	01-2119486683-25-XXXX	
	Repr. 1B; H360FD			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
10043-35-3	233-139-2	boric acid	100 %
	inhalation: LC50 = > 2,12 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 3450 mg/kg		

Further Information

This substance has been listed as SVHC (substance of very high concern) in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off immediately all contaminated clothing.
Self-protection of the first aider

After inhalation

Provide fresh air.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 3 of 11

Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

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

Agitation
Spasms
Gastrointestinal complaints
Vomiting

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible solids
Hazardous combustion products
In case of fire may be liberated:
boron

5.3. Advice for firefighters

Do not inhale explosion and combustion gases.
Avoid contact with skin, eyes and clothes.
In case of fire: Wear self-contained breathing apparatus.

Additional information

Suppress gases/vapours/mists with water spray jet.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Move undamaged containers from immediate hazard area if it can be done safely.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 4 of 11

Collect in closed and suitable containers for disposal.
Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Read label before use. Handle and open container with care.
Avoid dust formation. Do not breathe dust.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities
Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.
If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a well-ventilated place. Keep container tightly closed.
Store in a place accessible by authorized persons only.

Hints on joint storage

TRGS 510

Further information on storage conditions

Store in a dry place.
storage temperature +5°C - +30°C.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 5 of 11

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
10043-35-3	Borate compounds inorganic: boric acid	-	2		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
10043-35-3	boric acid			
Worker DNEL, long-term		inhalation	systemic	8,3 mg/m ³
Worker DNEL, long-term		dermal	systemic	392 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	4,15 mg/m ³
Consumer DNEL, long-term		dermal	systemic	196 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,98 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,98 mg/kg bw/day

PNEC values

CAS No	Substance	Value
10043-35-3	boric acid	
Freshwater		2,9 mg/l
Freshwater (intermittent releases)		13,7 mg/l
Marine water		2,9 mg/l
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		5,7 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.
If handled uncovered, arrangements with local exhaust ventilation have to be used.
Avoid dust formation. Do not breathe dust.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles
Wear eye/face protection.

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact
Trade name/designation: KCL 741 Dermatril® L
Suitable material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Trade name/designation: KCL 741 Dermatril® L
Suitable material: NBR (Nitrile rubber) 0,11 mm

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 6 of 11

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>, <) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

- Wear suitable protective clothing.
- Take off immediately all contaminated clothing.
- Wash hands before breaks and after work.

Respiratory protection

- Wear breathing apparatus if exposed to vapours/dusts/aerosols.
- Filtering device with filter or ventilator filtering device of type: P3

Environmental exposure controls

- Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid	
Colour:	white	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		70 °C
pH-Value (at 20 °C):		3,8-4,8 (33 g/l)
Viscosity / kinematic:		No data available
Water solubility: (at 20 °C)		49,2 g/L
Solubility in other solvents		No data available
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		No data available
Vapour pressure: (at 20 °C)		0 hPa
Vapour pressure:		No data available
Density (at 23 °C):		1,489 g/cm ³
Relative density:		No data available
Bulk density:		400-600 kg/m ³
Relative vapour density:		No data available
Particle characteristics:		No data available

9.2. Other information

Information with regard to physical hazard classes

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 7 of 11

Explosive properties

No data available

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

0

Solid content:

100%

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Protect against: Humidity

10.3. Possibility of hazardous reactions

Acetic anhydride

Oxidising agent

Alkali (lye)

10.4. Conditions to avoid

Humidity

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

Based on available data, the classification criteria are not met.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 8 of 11

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10043-35-3	boric acid				
	oral	LD50 mg/kg 3450	Rat	Toxicology and Applied Pharmacology 23:	other: No data
	dermal	LD50 mg/kg > 2000	Rabbit	Study report (1982)	other: FIFRA
	inhalation (4 h) dust/mist	LC50 mg/l > 2,12	Rat	Study report (1997)	OECD Guideline 403

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

May damage fertility. May damage the unborn child. (boric acid)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

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.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information

No data available

Further information

Agitation

Spasms

Gastrointestinal complaints

Vomiting

SECTION 12: Ecological information

12.1. Toxicity

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 9 of 11

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
10043-35-3	boric acid					
	Acute fish toxicity	LC50 mg/l	79,7	96 h	Pimephales promelas	Study report (2010) other: ASTM E729-95 Standard Guide for C
	Acute algae toxicity	ErC50	66 mg/l	72 h	Phaeodactylum tricornutum	Study report (2011) ISO 10253
	Acute crustacea toxicity	EC50	109 mg/l	48 h	Ceriodaphnia dubia	Study report (2010) other: ASTM E729-95 Standard Guide for C
	Fish toxicity	NOEC mg/l	11,2	32 d	Pimephales promelas	Study report (2010) other: ASTM E1241-05 Standard Guide for
	Algae toxicity	NOEC mg/l	17,5	3 d	Pseudokirchneriella subcapitata	Study report (2000) OECD Guideline 201
	Crustacea toxicity	NOEC mg/l	25,9	42 d	other aquatic crustacea: Hyalella azteca	Study report (2010) other: US EPA 2000 Methods for assessing
	Acute bacteria toxicity	(EC50 mg/l)	> 10000	3 h	activated sludge of a predominantly domestic sewage	Study report (2001) OECD Guideline 209

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
10043-35-3	boric acid	-1,09

BCF

CAS No	Chemical name	BCF	Species	Source
10043-35-3	boric acid	0,558	Oncorhynchus nerka	Water Research Vol.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 10 of 11

Do not allow to enter into surface water or drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Authorisations (REACH, annex XIV):

This substance has been listed as SVHC (substance of very high concern) in the Candidate List according to Article 59 of REACH.

Restrictions on use (REACH, annex XVII):

Entry 30

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

1 - slightly hazardous to water

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Boric acid for analysis

Revision date: 10.07.2023

Product code: 06138

Page 11 of 11

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 12.

Abbreviations and acronyms

Repr: Reproductive toxicity

Relevant H and EUH statements (number and full text)

H360FD May damage fertility. May damage the unborn child.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.