

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Buffer pH 10.00 (20°C) boric acid/sodium hydroxide/potassium chloride traceable to NIST

Revision: 25.02.2025

Product code: AC18.05162

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

### 1.1. Product identifier

Buffer pH 10.00 (20°C) boric acid/sodium hydroxide/potassium chloride traceable to NIST

UFI: Q7J8-M0V9-F00Q-5NJP

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

#### Use of the substance/mixture

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

#### Uses advised against

Do not use for private purposes (household).

### 1.3. Details of the supplier of the safety data sheet

#### Details of the supplier of the safety data sheet

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: P-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: SDS service department

#### Supplier or manufacturer details

Company name: AnalytiChem GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
E-mail: info@analytichem.de  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.de  
Responsible Department: AnalytiChem  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

### 1.4. Emergency telephone

#### number:

+353 1 901 4670 (CHEMTREC)

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**Further Information**

This product is a mixture. REACH Registration Number see section 3.

**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****Hazard components for labelling**

boric acid

**Signal word:** Danger**Pictograms:****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 and eye protection/face protection.

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

**Special labelling**

Restricted to professional users.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

Mixtures in aqueous solution

**Relevant ingredients**

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

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

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#### 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	< 1 %
inhalation: LC50 = > 2,12 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 3450 mg/kg			

#### Further Information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: boric acid

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

No data available

#### After inhalation

Provide fresh air.

#### After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

#### After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

#### 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

No data available

### 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 liquids

### 5.3. Advice for firefighters

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

#### Additional information

Suppress gases/vapours/mists with water spray jet.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### General advice

Do not breathe vapour/aerosol.

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#### For non-emergency personnel

Provide adequate ventilation.  
Use personal protection equipment.  
Avoid contact with skin, eyes and clothes.  
Remove persons to safety.  
Emergency procedures  
Consult an expert  
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). Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

##### 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

Do not breathe vapour/aerosol.

##### Advice on protection against fire and explosion

No special fire protection measures are necessary.

##### Advice on general occupational hygiene

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

Take off contaminated clothing.  
Wash hands before breaks and after work.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep container tightly closed.  
Store in a dry place.  
storage temperature: +15°C - +25°C

##### Hints on joint storage

Take national regulations into account.

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#### Further information on storage conditions

Store in a dry place.

Store in a place accessible by authorized persons only.

#### 7.3. Specific end use(s)

Laboratory chemicals

## SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

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

##### DNEL/DMEL values

CAS No	Substance	DNEL type	Exposure route	Effect	Value
10043-35-3	boric acid				
	Worker DNEL, long-term		inhalation	systemic	8,3 mg/m <sup>3</sup>
	Worker DNEL, long-term		dermal	systemic	392 mg/kg bw/day
	Consumer DNEL, long-term		inhalation	systemic	4,15 mg/m <sup>3</sup>
	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	Environmental compartment	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.

##### Individual protection measures, such as personal protective equipment

###### Eye/face protection

Suitable eye protection: goggles.

###### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the

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supplier of these gloves.

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

Recommended 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

Recommended material: NBR (Nitrile rubber) 0,11 mm

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](http://www.kcl.de)).

#### Skin protection

Wear suitable protective clothing.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Thermal hazards

No data available

#### 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:	Liquid
Colour:	colourless
Odour:	odourless
Odour threshold:	not determined
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Flammability:	not determined
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	X
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	10,0

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Viscosity / kinematic:	not determined
Water solubility:	not determined
Solubility in other solvents	
not determined	
Dissolution rate:	not determined
Partition coefficient n-octanol/water:	not determined
Dispersion stability:	not determined
Vapour pressure:	not determined
Vapour pressure:	not determined
Density:	1,0082 g/cm <sup>3</sup>
Relative density:	not determined
Bulk density:	not determined
Relative vapour density:	not determined
Particle characteristics:	not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

not applicable

##### Sustained combustibility:

No data available

##### Self-ignition temperature

Solid:

not determined

Gas:

not applicable

##### Oxidizing properties

Not oxidising.

#### Other safety characteristics

##### Evaporation rate:

not determined

##### Solvent separation test:

not determined

##### Solvent content:

0%

##### Solid content:

0%

##### Sublimation point:

not determined

##### Softening point:

not determined

##### Pour point:

not determined

##### not determined:

##### Viscosity / dynamic:

not determined

##### Flow time:

not determined

#### Further Information

not determined

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No data available

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

No data available

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

No data available

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#### 10.6. Hazardous decomposition products

No data available

#### **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**

There are no data available on the mixture itself.

#### **Acute toxicity**

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

#### **ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: 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**

There are no data available on the mixture itself.

#### **Specific effects in experiment on an animal**

There are no data available on the mixture itself.

#### **Additional information on tests**

There are no data available on the mixture itself.

#### **Practical experience**

There are no data available on the mixture itself.

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## 11.2. Information on other hazards

## Endocrine disrupting properties

There are no data available on the mixture itself.

## Other information

There are no data available on the mixture itself.

## Further information

There are no data available on the mixture itself.

## SECTION 12: Ecological information

## 12.1. Toxicity

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

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	11,2 mg/l	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 sewag	Study report (2001)	OECD Guideline 209	

## 12.2. Persistence and degradability

There are no data available on the mixture itself.

## 12.3. Bioaccumulative potential

There are no data available on the mixture itself.

## 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

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There are no data available on the mixture itself.

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

#### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### 12.7. Other adverse effects

There are no data available on the mixture itself.

#### **Further information**

Discharge into the environment must be avoided.

## 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. Do not empty into 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.

## 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

not applicable

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## 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):

Substances of very high concern, SVHC (REACH, article 59):  
boric acid

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 30, Entry 75

Information according to Directive 2012/18/EU (SEVESO III)  
2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

#### 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):

- - non-hazardous to water

## SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 1,9,12.

#### Abbreviations and acronyms

Repr. 1B: Reproductive toxicity, hazard category 1B

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 Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

#### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Repr. 1B; H360FD	Calculation method

#### Relevant H and EUH statements (number and full text)

H360FD May damage fertility. May damage the unborn child.

#### Further Information

Provide appropriate information, instructions and training to users

*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*