acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: **5935** Version: **6.0 en** Replaces version of: 2021-10-12 Version: (5)

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

1.1 Product identifier

Identification of the substance	Boric acid ≥99,8 %
Article number	5935
Index No (GB CLP)	005-007-00-2
EC number	233-139-2
CAS number	10043-35-3

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

Relevant identified uses:

Uses advised against:

Laboratory chemical Laboratory and analytical use

Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data Department Health, Safety and Environment sheet:

e-mail (competent person):

sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.7	Reproductive toxicity	1B	Repr. 1B	H360FD





date of compilation: 2016-01-04

Revision: 2024-03-02

acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %



article number: 5935

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling

Signal word Danger

Pictograms

GHS08



Hazard statements

H360FD

May damage fertility. May damage the unborn child

Precautionary statements

Precautionary statements - prevention

P201	Obtain special instructions before use
P280	Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements - response

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

For professional users only

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

The substance has an endocrine disrupting potential.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Boric acid
Molecular formula	H ₃ BO ₃
Molar mass	61,83 ^g / _{mol}
CAS No	10043-35-3
EC No	233-139-2
Index No (GB CLP)	005-007-00-2

acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %



article number: 5935

Substance of Very High Concern (SVHC)					
Name of substance	CAS No	EC No	Listed in	Remarks	
Boric acid	10043-35-3	233-139-2	Candidate list	Repr. A57c	
Legend	-		•	•	

Legend

Candidate Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV

list Repr. A57c Toxic for reproduction (article 57c)

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings! water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

Unsuitable extinguishing media

water jet

acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: 5935

5.2 Special hazards arising from the substance or mixture

Non-combustible.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid exposure. Avoid dust formation.

Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Ventilation requirements

Use local and general ventilation.

Page 4 / 15



acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: 5935

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Coun try	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
GB	dust		WEL	10			i	EH40/2005
GB	dust		WEL	4			r	EH40/2005
Notation Ceiling-C i r STEL	ng-C Ceiling value is a limit value above which exposure should not occur Inhalable fraction Respirable fraction							

minute period (unless otherwise specified)
TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Human health values

Relevant DN	Relevant DNELs and other threshold levels								
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time					
DNEL	8,3 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects					
DNEL	392 mg/kg bw/ day	human, dermal	worker (industry)	chronic - systemic effects					

Environmental values

Relevant PNECs and other threshold levels							
End- point	Threshold level	Organism	Environmental com- partment	Exposure time			
PNEC	2,9 ^{mg} / _l	aquatic organisms	freshwater	short-term (single instance)			
PNEC	2,9 ^{mg} / _l	aquatic organisms	marine water	short-term (single instance)			
PNEC	10 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)			
PNEC	5,7 ^{mg} / _{kg}	terrestrial organisms	soil	short-term (single instance)			



acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: 5935

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a consider-able reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

NBR (Nitrile rubber)

• material thickness

>0,11 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.



acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: 5935

SECTION 9: Physical and chemical properties

9.1	Information on basic physical and chemical properties				
	Physical state	solid			
	Form	powder, crystalline			
	Colour	white			
	Odour	odourless			
	Melting point/freezing point	>100 °C (slow decomposition)			
	Boiling point or initial boiling point and boiling range	not determined			
	Flammability	non-combustible			
	Lower and upper explosion limit	not determined			
	Flash point	not applicable			
	Auto-ignition temperature	not determined			
	Decomposition temperature	>100 °C			
	pH (value)	3,8 – 4,8 (in aqueous solution: 30 ^g / _l , 20 °C)			
	Kinematic viscosity	not relevant			
	Solubility(ies)				
	Water solubility	49,2 ^g / _l at 20 °C (ECHA)			
	Partition coefficient				
	Partition coefficient n-octanol/water (log value):	-1,09 (pH value: 7,5, 22 °C) (ECHA)			
	Vapour pressure	not determined			
	Density and/or relative density				
	Density	1,489 ^g / _{cm³} at 23 °C			
	Relative vapour density	Information on this property is not available.			
	Bulk density	400 – 600 ^{kg} / _{m³}			
	Particle characteristics	No data available.			
	Other safety parameters				
	Oxidising properties	none			
9.2	Other information				
	Information with regard to physical hazard classes:	hazard classes acc. to GHS (physical hazards): not relevant			
	Other safety characteristics:	There is no additional information.			



acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: 5935

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: >100 °C.

- **10.5 Incompatible materials** There is no additional information.
- 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4. May be harmful if swallowed or in contact with skin.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	3.450 ^{mg} / _{kg}	rat		ECHA
dermal	LD50	>2.000 ^{mg} / _{kg}	rabbit		ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

May damage the unborn child. May damage fertility.



acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

® §ROTH

article number: 5935

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

Data are not available.

• If in eyes

Data are not available.

• If inhaled

Data are not available.

• If on skin

Data are not available.

Other information

- none
- 11.2 Endocrine disrupting properties

This substance is known as an "endocrine disruptor".

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

	n-octanol/water (log KOW)	-1,09 (pH value: 7,5, 22 °C) (ECHA)
--	---------------------------	-------------------------------------

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

This substance is known as an "endocrine disruptor".

12.7 Other adverse effects

Data are not available.

acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: 5935

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste

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

Properties of waste which render it hazardous

HP 10 toxic for reproduction

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information14.1UN number or ID numbernot subject to transport regulations14.2UN proper shipping namenot assigned14.3Transport hazard class(es)none14.4Packing groupnot assigned14.5Environmental hazardsnon-environmentally hazardous acc. to the dan-

gerous goods regulations

14.6 Special precautions for user There is no additional information.

- **14.7** Maritime transport in bulk according to IMO instruments The cargo is not intended to be carried in bulk.
- 14.8 Information for each of the UN Model Regulations

International Maritime Dangerous Goods Code (IMDG) - Additional information Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information Not subject to ICAO-IATA.



acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: 5935

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Directive

2012/18/EU (Seveso III)			
Νο	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements	Notes
	not assigned		

Deco-Paint Directive

VOC content	0 %
VOC content	0 ^g / _l

Industrial Emissions Directive (IED)

VOC content	0 %
VOC content	0 ^g /l

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

ist of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Boric acid	Substances and preparations, or the breakdown products of such, which have been proved to pos- sess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine- related functions in or via the aquatic environment		a)	

Legend

a)

Indicative list of the main pollutants

Regulation on the marketing and use of explosives precursors

not listed

Regulation on drug precursors

not listed



acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %



article number: 5935

Regulation on substances that deplete the ozone layer (ODS)

not listed

Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

Regulation on persistent organic pollutants (POP)

not listed

National regulations(GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

Substance of Very High Concern (SVHC) acc. to GB REACH and HSE			
Name of substance	CAS No	Listed in	Remarks
Boric acid	10043-35-3	Candidate list	Repr. A57c

Legend

Candidate Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV list

Repr. A57c Toxic for reproduction (Article 57c)

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	Name acc. to inventory	CAS No	Νο
Boric acid	toxic for reproduction		30

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)

acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

® Roth

article number: 5935

Country	Inventory	Status
VN	NCI	substance is listed
CICR CSCL-ENCS DSL ECSI IECSC INSQ KECI NCI NZIOC PICCS	Domestic Substances List EC Substance Inventory (I Inventory of Existing Chen National Inventory of Che Korea Existing Chemicals National Chemical Invent New Zealand Inventory of	iontrol Regulation hemical Substances (CSCL-ENCS) (DSL) EINECS, ELINCS, NLP) mical Substances Produced or Imported in China mical Substances Inventory ory of Chemicals nemicals and Chemical Substances (PICCS) nces ce Inventory

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.3		Endocrine disrupting properties: The substance has an endocrine disrupting po- tential.	yes
14.8	Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional in- formation: Not subject to ADR, RID and ADN.		yes
15.1	Restrictions according to REACH, Annex XVII		yes
15.1		Dangerous substances with restrictions (REACH, Annex XVII): change in the listing (table)	yes
15.1	List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list		yes
15.1		Substance of Very High Concern (SVHC): change in the listing (table)	yes

Safety data sheet Safety data sheet acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: **5935**

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
15.1		Deco-Paint Directive	yes
15.1		VOC content: 0 %	yes
15.1		VOC content: 0 ^g / _l	yes
15.1		Industrial Emissions Directive (IED)	yes
15.1		VOC content: 0 %	yes
15.1		VOC content: 0 ^g / _l	yes
15.1		National regulations(GB)	yes
15.1		List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list	yes
15.1		Substance of Very High Concern (SVHC) acc. to GB REACH and HSE: change in the listing (table)	yes
15.1		Restrictions according to GB REACH, Annex 17	yes
15.1		Dangerous substances with restrictions (GB REACH, Annex 17): change in the listing (table)	yes
15.1		National inventories: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concern- ing the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identi- fier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-li- cence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na- tions



acc. to Regulation (EC) No. 1907/2006 (REACH)

Boric acid ≥99,8 %

article number: **5935**

number: 5935	
Abbr.	Descriptions of used abbreviations
HSE	Health and Safety Executive
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H360FD	May damage fertility. May damage the unborn child.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

