Safety Data Sheet
acc. to OSHA HCS

Printing date 05/03/2018 *Reviewed on 03/31/2016*

1 Identification

· **Product identifier**

· **Trade name: Boric acid**

· **Article number:** 15165
· **CAS Number:**
10043-35-3
· **EC number:**
233-139-2
· **Index number:**
005-007-00-2
· **Application of the substance / the mixture** Laboratory chemicals

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de

· **Information department:** Product Safety department Tel.: +49 6221 13840-35
· **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

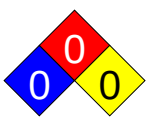
2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS08

Repr. 1B H360 May damage fertility or the unborn child.

· **Label elements**
· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS08
· **Signal word** Danger
· **Hazard statements**
May damage fertility or the unborn child.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 0

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/03/2018 *Reviewed on 03/31/2016*

Trade name: Boric acid

(Contd. of page 1)

· **HMIS-ratings (scale 0 - 4)**

*Health = *1*
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** *PBT - assessment not available.*
· **vPvB:** *vPvB - assessment not available.*

*
3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description**
10043-35-3 boric acid
· **Identification number(s)**
· **EC number:** *233-139-2*
· **Index number:** *005-007-00-2*
· **Description:**
· **Empirical formula:** H_3BO_3
· **MW:** *61.8*

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
· **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*
· **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist In case of complaints.
· **After swallowing:**
Wash out mouth. Call a doctor immediately.
Do not induce vomiting!
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
Nausea
Gastric or intestinal disorders
Cramp
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO_2, *extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
· **Special hazards arising from the substance or mixture**
In case of fire formation of toxic pyrolysis products is possible.
· **Advice for firefighters**
· **Protective equipment:** *Wear self-contained respiratory protective device.*

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Boric acid

(Contd. of page 2)

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective clothing.
Avoid contact with the eyes and skin.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose contaminated material as waste according to item 13.
· **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.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of dust.
Avoid contact with eyes and skin.
· **Information about protection against explosions and fires:** The product is not flammable.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
· **Information about storage in one common storage facility:** Do not store together with oxidizing materials.
· **Further information about storage conditions:**
Store under lock and key and with access restricted to technical experts or their assistants only.
Keep receptacle tightly sealed and store in dry conditions.
· **Specific end use(s)** No further relevant information available.

*
8 Exposure controls/personal protection

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

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
10043-35-3 boric acid (80-100%)	
TLV	Short-term value: 6* mg/m³ Long-term value: 2* mg/m³ *as inhalable fraction

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

· **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.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
Short term filter device:

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/03/2018 Reviewed on 03/31/2016

Trade name: Boric acid

(Contd. of page 3)

Filter P3

· **Protection of hands:**
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Natural rubber, NR
Nitrile rubber, NBR

· **Eye protection:** Safety glasses

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Crystalline
Color:	White
· **Odor:**	Odorless
· **pH-value (20 g/l) at 20 °C (68 °F):**	3.8 - 4.8
· **Change in condition**	
Melting point/Melting range:	176 - 180 °C (349 - 356 °F)
Boiling point/Boiling range:	Undetermined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Product is not flammable.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Vapor pressure at 20 °C (68 °F):**	2.7 hPa (2 mm Hg)
· **Density at 20 °C (68 °F):**	1.44 g/cm³ (12.017 lbs/gal)
· **Bulk density at 20 °C (68 °F):**	400 - 600 kg/m³
· **Solubility in / Miscibility with**	
Water at 20 °C (68 °F):	50 g/l
· **Partition coefficient (n-octanol/water) at 25 °C (77 °F):**	0.757 log POW
· **Other information**	There are no more data available.

10 Stability and reactivity

· **Reactivity** No further relevant informations available

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Boric acid

(Contd. of page 4)

· **Possibility of hazardous reactions** Explosive reaction with acetic anhydride.
· **Conditions to avoid** high ttemperatures
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:**
Metaboric acid
In case of fire: See Section 5

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
Oral	LD50	2660 mg/kg (rat)
	LC50/96h	5600 mg/l (Forelle)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Other information (about experimental toxicology):**
The classification of BORIC ACID as toxic to reproduction category 1B, H360-FD (May damage fertility or the unborn child)
according to Regulation (EC) No 1272/2008 (CLP Regulation) and the inclusion in Annex VI, part 3, Table 3.1 (list of harmonised classification and labelling of hazardous substances) shows:
BORIC ACID meets the criteria for classification as toxic for reproduction in accordance with Article 57(c) of REACH.
(ECHA SVHC Support Document - BORIC ACID)
Supplementary Information on human health effects concerning Boric acid: SVHC SUPPORT DOCUMENT - BORIC ACID, ANNEX 1
· **Additional toxicological information:**

· **Carcinogenic categories**
· **IARC (International Agency for Research on Cancer)** Substance is not listed.
· **NTP (National Toxicology Program)** Substance is not listed.
· **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

*
12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
EC50/48h	658 - 875 mg/l (Daphnia magna)

· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential**
Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow product to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/03/2018 Reviewed on 03/31/2016

Trade name: Boric acid

(Contd. of page 5)

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

· **Uncleaned packagings:**
· **Recommendation:**
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT, ADR, ADN, IMDG, IATA**	Void
· **UN proper shipping name**	
· **DOT, ADR, ADN, IMDG, IATA**	Void
· **Transport hazard class(es)**	
· **DOT, ADN**	
· **Class**	Void
· **ADR, IMDG, IATA**	
· **Class**	Void
· **Label**	-
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	Void

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Section 355 (extremely hazardous substances):** Substance is not listed.
· **Section 313 (Specific toxic chemical listings):** Substance is not listed.
· **TSCA (Toxic Substances Control Act):** Substance is listed.
· **Proposition 65** Substance is not listed.
· **Chemicals known to cause cancer:** Substance is not listed.
· **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
· **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
· **Chemicals known to cause developmental toxicity:** Substance is not listed.

· **Cancerogenity categories**
· **EPA (Environmental Protection Agency)** Substance is not listed.
· **TLV (Threshold Limit Value established by ACGIH)** A4
· **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/03/2018 *Reviewed on 03/31/2016*

Trade name: Boric acid

(Contd. of page 6)

· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS08
· **Signal word** Danger
· **Hazard statements**
May damage fertility or the unborn child.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.
Employment restrictions concerning women of child-bearing age must be observed.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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:** Product safety department
· **Contact:** +49 6221 13840-35
· **Date of preparation / last revision** 05/03/2018 / 6
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
SVHC: Substance of Very High Concern (REACH)
PBT: persistent, bioaccumulative, toxic substance (REACH)
vPvB: very persistent, very bioaccumulative substance (REACH)
REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP: Regulation on classification, labelling and packaging of substances and mixtures
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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Repr. 1B: Reproductive toxicity – Category 1B
· ***** Data compared to the previous version altered.**