

Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue:
Supersedes edition of

31.05.2005
06.01.2003

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No.: 100162
Product name: Boric acid powder EMPROVE® Ph Eur, BP, NF

Use of the substance/preparation

Pharmaceutical production and analysis

Company/undertaking identification

Company: Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Emergency telephone No.: Please contact the regional Merck representation
in your country.

2. Composition/information on ingredients

CAS-No.: 10043-35-3
M: 61.83 g/mol
Formula Hill: BH_3O_3
Chemical formula: H_3BO_3
EC-No.: 233-139-2

3. Hazards identification

No hazardous product as specified in Directive 67/548/EEC.

4. First aid measures

After inhalation: fresh air.
After skin contact: wash off with plenty of water. Remove contaminated clothing.
After eye contact: rinse out with plenty of water with the eyelid held wide open.
After swallowing: immediately make victim drink plenty of water. Consult doctor if feeling unwell.

5. Fire-fighting measures

Suitable extinguishing media:
In adaption to materials stored in the immediate neighbourhood.

Special risks:
Non-combustible.

Special protective equipment for fire fighting:
Do not stay in dangerous zone without self-contained breathing apparatus.

Other information:
Prevent fire-fighting water from entering surface water or groundwater.

Merck Safety Data Sheet

According to EC Directive 91/155/EEC

Catalogue No.: 100162
Product name: Boric acid powder EMPROVE® Ph Eur,BP,NF

6. Accidental release measures

Person-related precautionary measures:
Avoid inhalation of dusts.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up dry. Forward for disposal. Clean up affected area. Avoid generation of dusts.

7. Handling and storage

Handling:

No further requirements.

Storage:

Tightly closed. Dry. Storage temperature: no restrictions.

8. Exposure controls/personal protection

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when dusts are generated. Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances.

Eye protection: required

Hand protection: In full contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.
In splash contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example KCL 741 Dermatril® L (full contact), 741 Dermatril® L (splash contact). 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 and supplied by us as well as to the purpose specified by us. 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).

Industrial hygiene:
Change contaminated clothing. Wash hands after working with substance.

Merck Safety Data Sheet

According to EC Directive 91/155/EEC

Catalogue No.: 100162
Product name: Boric acid powder EMPROVE® Ph Eur, BP, NF

9. Physical and chemical properties

Form:	solid		
Colour:	white		
Odour:	odourless		
pH value at 33 g/l H ₂ O	(20 °C)	3.8-4.8	
Melting point		185 °C	(decomposition)
Boiling point		not available	
Ignition temperature		not combustible	
Flash point		not flammable	
Explosion limits	lower	not applicable	
	upper	not applicable	
Vapour pressure	(20 °C)	2.7 hPa	
Density	(20 °C)	1.44 g/cm ³	
Bulk density		~ 400-600 kg/m ³	
Solubility in water	(21 °C)	50 g/l	
log Pow	(25 °C)	0.757	(experimental) (IUCLID)

10. Stability and reactivity

Conditions to be avoided

Strong heating.

Substances to be avoided

Exothermic reaction with: / Risk of explosion with: acetic acid anhydride (heat).

Hazardous decomposition products

no information available

11. Toxicological information

Acute toxicity

LD₅₀ (dermal, rat): >2000 mg/kg (External MSDS).

LD₅₀ (oral, rat): 2660 mg/kg (RTECS).

Specific symptoms in animal studies:

Eye irritation test (rabbit): Slight irritations (IUCLID).

Skin irritation test (rabbit): Slight irritations (IUCLID).

Subacute to chronic toxicity

NTP evaluation for carcinogenicity: negative in animals.

Sensitization:

Sensitization test (guinea pig): No sensitizing effect. (OECD 406)

Bacterial mutagenicity: Ames test: negative. (IUCLID)

Merck Safety Data Sheet

According to EC Directive 91/155/EEC

Catalogue No.: 100162
Product name: Boric acid powder EMPROVE® Ph Eur,BP,NF

Further toxicological information

After skin contact: Slight irritations.
After eye contact: Slight irritations.
After swallowing: Possible symptoms: nausea, vomiting, diarrhoea.
After absorption of large quantities: agitation, spasms, tiredness, ataxia (impaired locomotor coordination), drop in temperature.

Further data

The product should be handled with the care usual when dealing with chemicals.

12. Ecological information

Biologic degradation:
Methods for the determination of biodegradability are not applicable to inorganic substances.

Behavior in environmental compartments:
Distribution: log Pow: 0.757 (25 °C) (experimental) (IUCLID).
No bioaccumulation is to be expected (log Pow <1).

Ecotoxic effects:
Biological effects:
Fish toxicity: *Gambusia affinis* LC₅₀: 5600 mg/l /96 h (Lit).
Daphnia toxicity: *Daphnia magna* EC₅₀: 133 mg/l /48 h (External MSDS).

Further ecologic data:
Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging:

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

Not subject to transport regulations.

15. Regulatory information

Labelling according to EC Directives

Symbol: ---
R-phrases: ---
S-phrases: ---

16. Other information

Merck Safety Data Sheet

According to EC Directive 91/155/EEC

Catalogue No.: 100162
Product name: Boric acid powder EMPROVE® Ph Eur, BP, NF

Reason for alteration

Chapter 1: change in product name.

General update.

Regional representation:

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.