

Safety Data Sheet

MERCK

According to EC Directive 91/155/EEC

Date of issue: 05.10.2001 Supersedes edition of 01.09.2000

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

Identification of the product

Catalogue No.: 100160
Product name: Boric acid cryst. extra pure Ph Eur,BP,NF

Company/undertaking identification

Company: Merck KGaA * 64271 Darmstadt * Germany * Tel: +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 EC-No.: 233-139-2
Formula Hill: BH₃O₃
Chemical formula: H₃BO₃

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 water. Call in ophthalmologist if necessary.
After swallowing: make victim drink plenty of water, induce vomiting. call in physician if feeling unwell.

5. Fire-fighting measures

Suitable extinguishing media:
In adaption to materials stored in the immediate neighbourhood.
Special risks:
Non-combustible. Ambient fire may liberate hazardous vapours.
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.

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.

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No further requirements.

Storage:

Tightly closed. Dry. Storage temperature: no restrictions.

8. Exposure controls/personal protection*Specific control parameter**German regulations*

MAK Germany (max. workplace conc.)

Name	boric acid
Value	see MAK-List - Substances for which, as yet, no MAK Value can be Established

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.

Eye protection: required

Hand protection: Use recommended

Industrial hygiene:

Change contaminated clothing. Wash hands after working with substance.

9. Physical and chemical properties

Form: solid

Colour: white

Odour: odourless

pH value

at 33 g/l H₂O (20 °C) 3.8-4.8

Melting point 185 °C (decomposition)

Boiling point not applicable

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/cm³Bulk density ~ 400-600 kg/m³

Solubility in

water (21 °C) 50 g/l

log Pow: (25 °C) 0.76

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10. Stability and reactivity

Conditions to be avoided

Strong heating.

Substances to be avoided

acetic acid anhydride (heat)

Hazardous decomposition products

no information available

11. Toxicological information

Acute toxicity

LD₅₀ (oral, rat): 2660 mg/kg.
LD₅₀ (dermal, rat): >2000 mg/kg.

Specific symptoms in animal studies:
Skin irritation test (rabbit): Slight irritations.
Eye irritation test (rabbit): Slight irritations.

Subacute to chronic toxicity

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

Bacterial mutagenicity: Ames-Test: negative.
NTP evaluation for carcinogenicity: negative in animals.
Not mutagenic in the acute test.

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:
log p(o/w): 0.76 (25 °C).
No bioaccumulation is to be expected (log P(o/w) <1).

Ecotoxic effects:
Biological effects:
Fish toxicity: *Gambusia affinis* LC₅₀: 5600 mg/l /96 h.
Daphnia toxicity: *Daphnia magna* EC₅₀: 133 mg/l /48 h.
Algal toxicity: *Desmodesmus subspicatus* IC₁₀: 24 mg/l /96 h (sodium salt).
Bacterial toxicity: *Ps.putida* EC₁₀: 1580 mg/l /30 min (sodium salt).

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

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There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

Packaging:

Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14. Transport information

Entire package: not subject to transport regulations.

15. Regulatory information*Labelling according to EC Directives*

Symbol: ---

R-phrases: ---

S-phrases: ---

16. Other information

Change in the chapter on toxicology.

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.