

Safety Data Sheet
according to 1907/2006/EC, Article 31

Revision: 09.02.2009

Printing date 09.02.2009

1 Identification of substance**Product details**

Trade name

Boric acid

Stock number:

A10896
L13184

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Zeppelinstrasse 7
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com


Informing department:

Product safety department.
Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

Emergency information:

2 Hazards identification

Hazard designation:

 Xn Harmful

Information pertaining to particular dangers for man and environment

R 36/37/38 Irritating to eyes, respiratory system and skin.
R 62 Possible risk of impaired fertility.
R 63 Possible risk of harm to the unborn child.

GHS label elements

 **Warning**

3.7/2 - Suspected of damaging fertility or the unborn child.

 **Warning**
3.2/2 - Causes skin irritation.
3.3/2A - Causes serious eye irritation.
3.8/3 - May cause respiratory irritation.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

Prevention:

Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.

Response:

IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment (see label).If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Boric acid (CAS# 10043-35-3): 100%

Identification number(s):

233-139-2

EINECS Number:

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

Use fire fighting measures that suit the environment.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:

Boron oxide

Wear self-contained breathing apparatus.

Wear full protective suit.

Protective equipment:

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Ensure adequate ventilation

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

Additional information:

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

Handling

Information for safe handling:

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

The product is not flammable

Storage Requirements to be met by storerooms and containers:

No special requirements.

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Information about storage in one common storage facility:

Store away from water.
Do not store together with acids.

Further information about storage conditions:

This product is hygroscopic.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with critical values that require monitoring at the workplace:

Not required.

Additional information:

No data

Personal protective equipment**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.

Breathing equipment:

Use breathing protection with high concentrations.

Protection of hands:

Check protective gloves prior to each use for their proper condition.

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.

Eye protection:

Safety glasses

Face protection

Body protection:

Protective work clothing.

9 Physical and chemical properties:**General Information**

Form: Granulate
Colour: White
Smell: Odourless

Change in condition

Melting point/Melting range: 171°C
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: Not applicable**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Danger of explosion:** Product is not explosive.**Critical values for explosion:**

Lower: Not determined
Upper: Not determined

Steam pressure: Not determined**Density at 20°C** 1.435 g/cm³**Solubility in / Miscibility with Water at 30°C:** 63.5 g/l**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

Materials to be avoided:

Water/moisture
Acids

Dangerous reactions:

No dangerous reactions known

Dangerous products of decomposition:

Boron oxide

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	3450 mg/kg (mouse)
		2660 mg/kg (rat)
	LDLo	1780 mg/kg (dog)
		1 gm/kg (guinea pig)
		934 mg/kg (inf)
		429 mg/kg (man)
Dermal	LDLo	4 gm/kg (rabbit)
		200 mg/kg (wmn)
	LDLo	1500 mg/kg (child)
		1200 mg/kg (inf)
		2430 mg/kg (man)
Inhalative	LCLo/4H	28 mg/m ³ /4H (rat)
Irritation of skin	mild	15 mg/3D-1 (human)

Primary irritant effect:

Irritant for skin and mucous membranes.

on the skin:

Irritant effect.

on the eye:

No sensitizing effect known.

Sensitization:**Other information (about experimental toxicology):**

Reproductive effects have been observed on tests with laboratory animals.
Mutagenic effects have been observed on tests with bacteria.

Additional toxicological information:

Possible risk of impaired fertility.
Possible risk of harm to the unborn child.

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To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:
Recommendation**

Consult state, local or national regulations for proper disposal.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.

**Uncleaned packagings:
Recommendation:**

Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: None

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: None

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: None

Transport/Additional information:

Not dangerous according to the above specifications.

15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**

Xn Harmful

Risk phrases:

36/37/38 Irritating to eyes, respiratory system and skin.
62 Possible risk of impaired fertility.
63 Possible risk of harm to the unborn child.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37 Wear suitable protective clothing and gloves.

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
Employment restrictions concerning women of child-bearing age must be observed.
For use only by technically qualified individuals.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact: Paul V. Connolly

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent