

1. Identification of the substance/preparation and of the company/undertaking**1.1 Identification of the product****Product number:** B5010**Name of material:** Boric Acid**CAS No.:** 10043-35-3**1.2 Recommended use and restriction on use**

General use : for experimental, research and industrial use

Restriction on use : Never drink, Not used except for experimental, research and industrial applications.

1.3 Manufacturer / Supplier / Distributor information**Importer/distributors identification**

Company : ASIA CHEMIE (THAILAND) CO., LTD.

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2. Hazards identification**2.1 GHS Classification**

Skin corrosion/irritation: Category2

Serious eye damage/irritation: Category2A

Reproductive toxicity: Category1B

Specific target organ toxicity (Single exposure): Category1

Specific target organ toxicity (Single exposure): Category3(Respiratory tract irritation)

Specific target organ toxicity (Repeated exposure): Category1

2.2 GHS label elements**Hazard symbols****Signal word:** Danger**Hazard Statements**

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation.

H360 May damage fertility or the unborn child

H370 Causes damage to organs (Refer Section SDS 11)

H372 Causes damage to organs through prolonged or repeated exposure (Refer Section SDS 11)

Precautionary Statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P307+P311 If exposed: Call a POISON CENTER or doctor/physician.

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

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P321 Specific treatment

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

- P362 Take off contaminated clothing and wash before reuse
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up
 P501 Dispose of contents/container in accordance with local/regional/national/international regulation

2.3 Other hazards which do not result in classification : (NFPA Classification)

NFPA grade (0 ~ 4 level)

- Health : 2 , Flammability : 0, Reactivity : 0

3. Composition/information on ingredients

Chemical Name	Synonyms	CAS Number	Concentration %
Boric acid	-	10043-35-3	100

4. First aid measures

4.1 Eye contact

- Do not rub your eyes
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Remove contact lenses if worn.

4.2 Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Remove contaminated clothing, shoes and isolate.
- Wash thoroughly after handling.
- Wear gloves when washing the patient, and please avoid contact with contaminated clothing.

4.3 Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen

4.4 Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Get medical attention immediately.

4.5 Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

4.6 Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.
- If exposed or concerned, get medical attention/advice

5. Fire-fighting measures

5.1 Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

5.2 Specific hazards arising from the chemical

- Not available

5.3 Special protective actions for firefighters

- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Avoid inhalation of materials or combustion by-products.
- Do not access if the tank on fire.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Keep containers cool with water spray.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Wear proper personal protective apparatus as indicated in Section 8 and avoid skin contact and inhalation.
- Ventilate closed spaces before entering.
- Do not touch spilled material. Stop leak if you can do it without risk.
- Handle the damaged containers or spilled material after wearing appropriate protective equipment.
- Avoid skin contact and inhalation.
- Keep unauthorized people away, isolate hazard area and deny entry.

6.2 Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

6.3 Methods and materials for containment and cleaning up

- Large spill: Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount.
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Spilled material should be treated as a potential risk of waste collected

7. Handling and storage

7.1 Precautions for safe handling

- Avoid direct physical contact.
- Since emptied containers retain product residue (vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.
- Comply with all applicable laws and regulations for handling
- Dealing only with a well-ventilated place.
- Contaminated work clothing should not be allowed out of the workplace.

7.2 Conditions for safe storage, including any incompatibilities

- Save in cool, dry and well ventilated place.
- Do not apply direct heat.
- Do not apply any physical shock to container.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- Collected them in sealed containers.

8. Exposure controls/personal protection

8.1 Exposure limits

ACGIH TLV

- [Boric acid, crude natural] : TWA, 2 mg/m³, Inhalable Particulate mass

OSHA PEL

- Not available

8.2 Engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume

8.3 Individual protection measures, such as personal protective equipment

Respiratory protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use

Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

Hand protection

- Wear appropriate glove.

Skin protection

- Wear appropriate clothing.

Others

- Not available

9. Physical and chemical properties

A. Appearance	
- Appearance	white crystal or crystalline powder
- Color	Not available
B. Odor	odorless
C. Odor threshold	Not available
D. pH	5.1 (0.6% solution)
E. Melting point/Freezing point	171 °C
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability (solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	5 g/100 ml (25°C)
M. Vapour density	Not available
N. Specific gravity (Relative density)	1.4
O. Partition coefficient of n-octanol/water	0.18
P. Autoignition temperature	Not available
Q. Decomposition temperature	170-180 °C
R. Viscosity	Not available
S. Molecular weight	61.84

10. Stability and reactivity**10.1 Chemical Stability**

- This material is stable under recommended storage and handling conditions.

10.2 Possibility of hazardous reactions

- Hazardous Polymerization will not occur

10.3 Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid: Accumulation of electrostatic charges, Heating, Flames and hot surfaces

10.4 Incompatible materials

- Not available

10.5 Hazardous decomposition products

- May emit flammable vapour if involved in fire

11. Toxicological information**11.1 Information on the likely routes of exposure****Respiratory tracts**

- May cause respiratory irritation

Oral

- Not available

Eye · Skin

- Causes serious eye irritation
- Causes skin irritation

11.2 Delayed and immediate effects and also chronic effects from short and long term exposure**Acute toxicity***** Oral**

- [Boric acid, crude natural]: LD50 = 2660 mg/kg Rat (HSDB, NITE)

*** Dermal**

- [Boric acid, crude natural]: LD50 > 2000 mg/kg Rabbit (HSDB)

*** Inhalation**

- Not available

Skin corrosion/irritation

- Causes skin irritation

Serious eye damage/irritation

- Causes serious eye irritation

Respiratory sensitization

- Not available

Skin sensitization

- Not available

Carcinogenicity*** IARC**

- Not available

*** OSHA**

- Not available

*** ACGIH**

- [Boric acid, crude natural]: A4

*** NTP**

- Not available

*** EU CLP**

- Not available

Germ cell mutagenicity

- Not available

Reproductive toxicity

- May damage fertility or the unborn child

STOT-single exposure

- Causes damage to organs

- May cause respiratory irritation

STOT-repeated exposure

- Causes damage to organs through prolonged or repeated exposure

Aspiration hazard

- Not available

12. Ecological information**12.1 Ecotoxicity****Fish**

- [Boric acid, crude natural]: LC50 600 mg/l 96 hr

Crustaceans

- Not available

Algae

- Not available

12.2 Persistence and degradability**Persistence**

- Not available

Degradability

- Not available

12.3 Bioaccumulative potential**Bioaccumulative potential**

- [Boric acid, crude natural] : (90 day (12°C), Oncorhynchus tshawytscha (Fis hr, fresh water, marine), 34 mg/l)

Biodegradation

- Not available

12.4 Mobility in soil

Not available

12.5 Other adverse effects

Not available

13. Disposal considerations

13.1 Disposal methods

- Since more than two kinds of designated waste is mixed, it is difficult to treat separately, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration

13.2 Special precautions for disposal

- The user of this product must dispose by oneself or entrust it to a waste disposer, a person who recycles other's waste or establishes and operates waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations

14. Transport information

14.1 UN No. (IMDG CODE/IATA DGR)

- Not applicable

14.2 Proper shipping name

- Not applicable

14.3 Hazard Class

- Not applicable

14.4 IMDG CODE/IATA DGR Packing group

- Not applicable

14.5 Marine pollutant

- Not applicable

14.6 Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE: Not available
- EmS SPILLAGE SCHEDULE: Not available
- Air transport (IATA): Not subject to IATA regulations.

15. Regulatory information

15.1 National and/or international regulatory information

POPs Management Law

- Not applicable

Information of EU Classification

* Classification

- [Boric acid, crude natural]: H360FD

U.S. Federal regulations

* OSHA PROCESS SAFETY (29CFR1910.119)

- Not applicable

* CERCLA Section 103 (40CFR302.4)

- Not applicable

* EPCRA Section 302 (40CFR355.30)

- Not applicable

* EPCRA Section 304 (40CFR355.40)

- Not applicable

* EPCRA Section 313 (40CFR372.65)

- Not applicable

Rotterdam Convention listed ingredients

- Not applicable

Stockholm Convention listed ingredients

- Not applicable

Montreal Protocol listed ingredients

- Not applicable

16. Other information

Reason for the revision: General update.

Date: 10/7/2014

SDS : B5010 Boric Acid

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Revision #3

Date: 04/02/2020

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