

1. IDENTIFICATION

Product Name	Boric acid
Other Names	Orthoboric acid; Borofax
Uses	No Data Available
Chemical Family	No Data Available
Chemical Formula	H ₃ BO ₃
Chemical Name	No Data Available
Product Description	No Data Available
Company	Arman sina.co
Contact Information	info@armansina.com www.armansina.com

2. HAZARD IDENTIFICATION

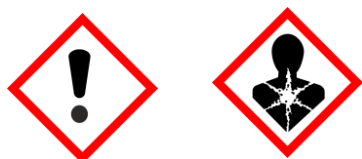
Hazard Categories	Serious Eye Damage/Eye Irritation Toxic to reproduction Specific Target Organ Toxicity - Single Exposure	Category 2B Category 1B Category 31
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Signal Word	Danger
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Hazard Statements	Causes eye irritation. May damage fertility or the unborn child. May cause respiratory irritation. May cause drowsiness or dizziness.
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Precautionary Statements	Prevention 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. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Avoid breathing dust. Response IF exposed or concerned: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Disposal: Store locked up. Store in a well-ventilated place. Keep container tightly closed.
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Symbol



3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Boric acid	H ₃ BO ₃	10043-35-3	99.5 – 100.5%

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.
Eye	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.
Skin	Wash skin thoroughly with soap and water. Wash contaminated clothing before reuse. Get medical attention if irritation persists after washing.
Inhaled	Move to fresh air. Get medical attention if symptoms persist.
Advice to Doctor	Treat symptomatically. Symptoms may be delayed

5. FIRE FIGHTING MEASURES

General Measures	No unusual fire or explosion hazards noted.
Flammability Conditions	No Data Available
Extinguishing Media	Use fire-extinguishing media appropriate for surrounding materials.
Fire and Explosion Hazard	During fire, gases hazardous to health may be formed.
Hazardous Products of Combustion	No Data Available
Special Fire Fighting Instructions	Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
Personal Protective Equipment	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure No Data Available

Clean Up Procedures Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.
Containment

Decontamination No Data Available

Environmental Precautionary Measures Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

Evacuation Criteria No Data Available

Personal Precautionary Measures Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust.

7. HANDLING AND STORAGE

Handling Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with skin. Avoid inhalation of dust.

Storage Store in a dry place. Store in a well-ventilated place.

Container Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.
Exposure Limits	No Data Available
Biological Limits	No Data Available
Engineering Measures	Showers; Eyewash stations; Ventilation systems.
Personal Protection Equipment	Eye/face protection: Wear safety glasses with side shields (or goggles). Skin Protection Hand Protection: Chemical resistant gloves Other: Wear suitable protective clothing. Respiratory Protection: In case of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.
Special Hazards Precautions	No Data Available
Work Hygienic Practices	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Granules or powder
Odour	Odorless
Colour	White
pH	5.1 (6.18 g/l, 20 ° C)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	300 ° C
Melting Point	170.9 °C
Freezing Point	170.9 °C
Solubility	Solubility in water: 50 g/l (25 °C) Solubility (other): methanol: 173.9 g/l (25 °C) ethanol: 94.4 g/l (25 °C)
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	436 °C
Evaporation Rate	No data available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	1.43 g/ml (20 ° C)
Specific Heat	No Data Available
Molecular Weight	61.84 g/mol (BH3O3)

Net Propellant Weight	No Data Available
Octanol Water Coefficient	0.175
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	No data available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	No dangerous reaction known under conditions of normal use.
Chemical Stability	Material is stable under normal conditions.
Conditions to Avoid	Water, moisture.
Materials to Avoid	Strong oxidizing agents. Alkalies. Potassium
Hazardous Decomposition Products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Information on likely routes of exposure
	Inhalation: Dust may irritate respiratory system.
	Skin Contact: Causes mild skin irritation.
	Eye contact: Causes eye irritation.
	Ingestion: May be harmful if swallowed.

Acute

Information on toxicological effects
Acute toxicity
Oral Product: LD 50 (Rat): 2,660 - 4,080 mg/kg
Dermal Product: LD 50 (Rabbit) > 2,000 mg/kg
Inhalation Product: LC 50 (Rat, 4 h) > 0.16 mg/l

Carcinogen Category	This substance has no evidence of carcinogenic properties
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12. ECOLOGICAL INFORMATION

Ecotoxicity	Acute hazards to the aquatic environment:	
	Fish	
	Product:	LC 50 (Colorado squawfish (<i>Ptychocheilus lucius</i>), 96 h): 216 - 360 mg/L
	Aquatic Invertebrates	
	Product	EC 50 (Water flea (<i>Daphnia magna</i>), 24 h): 264,300 - 496,700 mg/l
		LC 50 (Opossum shrimp (<i>Americamysis bahia</i>), 96 h): 52.8 - 148 mg/l
Persistence/Degradability	No Data Available	
Mobility	No data available.	
Environmental Fate	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Bioaccumulation Potential	No data available on bioaccumulation.	
Environmental Impact	Toxicity to Aquatic Plants	
	Product:	LC 50 (Waterweed (<i>Elodea canadensis</i>), 21 d): 5 mg/l

13. DISPOSAL CONSIDERATIONS

General Information	Since emptied containers retain product residue, follow label warnings even after container is emptied.
Special Precautions for Land Fill	Discharge, treatment, or disposal may be subject to national, state, or local laws.

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	Boric acid
Class	No Data Available
Subsidiary Risk(s)	No Data Available
EPG	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Sea Transport

Proper Shipping Name	Boric acid
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No Data Available

Air Transport

Proper Shipping Name	Boric acid
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

15. OTHER INFORMATION

Revision

3

Key/Legend

< Less Than
> Greater Than
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO₂ Carbon Dioxide
COD Chemical Oxygen Demand
deg C (° C) Degrees Celcius
deg F (° F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH₂O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or L Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission

OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight