



SAFETY DATA SHEET

This safety data sheet complies with the requirements of:
SS586: 2008 (2014)

Revision date 21-Feb-2023

Revision Number 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product Name ANTIBODY PREPARATION - #10077

Other means of identification

Safety data sheet number 10077

Pure substance/mixture Mixture

Contains Borax ($B_4Na_2O_7 \cdot 10H_2O$), Boric acid (H_3BO_3)

Recommended use of the chemical and restrictions on use

Recommended use For research use only

Uses advised against No information available

Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS): SS586: 2008 (2014)

Carcinogenicity	Classification not possible
Reproductive toxicity	Category 1B

Label elements

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS): SS586: 2008 (2014)



Signal word
Danger

Precautionary Statements - Prevention

Obtain special instructions before use

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

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other hazards which do not result in classification

SECTION 3: Composition/information on ingredients

Substance

Not applicable

Mixture

Chemical name	EC No (EU Index No)	CAS No	Weight-%
Borax (B ₄ Na ₂ O ₇ ·10H ₂ O)	-	1303-96-4	0.3 - 0.99
Boric acid (H ₃ BO ₃)	233-139-2	10043-35-3	0.3 - 0.99
Sodium chloride	231-598-3	7647-14-5	0.3 - 0.99
Sodium azide	247-852-1	26628-22-8	0.01 - 0.099

Non-hazardous
ingredients

Proprietary

Balance

SECTION 4: First aid measures

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.

Skin contact

In the case of skin irritation or allergic reactions see a doctor. Wash skin with soap and water.

Ingestion

Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available.

For emergency responders

Self-protection of the first aider No information available.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures**Suitable Extinguishing Media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical None known.

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and

immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store locked up.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical name	Singapore	ACGIH TLV
Borax (B ₄ Na ₂ O ₇ ·10H ₂ O) 1303-96-4	PEL: 5 mg/m ³	STEL: 6 mg/m ³ inhalable particulate matter TWA: 2 mg/m ³ inhalable particulate matter
Boric acid (H ₃ BO ₃) 10043-35-3		STEL: 6 mg/m ³ inhalable particulate matter TWA: 2 mg/m ³ inhalable particulate matter
Sodium azide 26628-22-8	STEL: 0.29 mg/m ³ STEL: 0.11 ppm	Ceiling: 0.29 mg/m ³ Sodium azide Ceiling: 0.11 ppm Hydrazoic acid vapor

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing.

Hand protection Wear suitable gloves.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Clear to semi-clear
Colour Varies
Odour No information available.
Odour threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		None known
Melting point / freezing point	No data available	None known

Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Soluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>	No information available	

SECTION 10: Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materials None known based on information supplied.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

Oral LD50 No information available
Dermal LD50 No information available
Inhalation LC50 No information available
Inhalation LC50 **No information available**

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)		
Borax (B ₄ Na ₂ O ₇ ·10H ₂ O)	= 3493 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	> 2 mg/m ³ (Rat) 4 h
Boric acid (H ₃ BO ₃)	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 2.12 mg/L (Rat) 4 h
Sodium chloride	= 3 g/kg (Rat)	> 10000 mg/kg (Rabbit)	> 42 mg/L (Rat) 1 h
Sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

Chemical name	European Union
Borax (B ₄ Na ₂ O ₇ ·10H ₂ O)	Repr. 1B
Boric acid (H ₃ BO ₃)	Repr. 1B

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Classification not possible.

SECTION 12: Ecological information

Ecotoxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
Boric acid (H ₃ BO ₃)	-	-	EC50: 115 - 153mg/L (48h, Daphnia magna)
Sodium chloride	-	LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus) LC50: =12946mg/L (96h, Lepomis macrochirus) LC50: 6020 - 7070mg/L (96h, Pimephales promelas) LC50: =7050mg/L (96h, Pimephales promelas) LC50: 6420 - 6700mg/L (96h, Pimephales promelas) LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss)	EC50: =1000mg/L (48h, Daphnia magna) EC50: 340.7 - 469.2mg/L (48h, Daphnia magna)
Sodium azide	-	LC50: =0.8mg/L (96h, Oncorhynchus mykiss) LC50: =0.7mg/L (96h, Lepomis macrochirus) LC50: =5.46mg/L (96h, Pimephales promelas)	-

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Boric acid (H ₃ BO ₃)	-1.09

Mobility

Mobility in soil No information available.

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Boric acid (H ₃ BO ₃)	The substance is not PBT / vPvB PBT assessment does not apply
Sodium chloride	The substance is not PBT / vPvB
Sodium azide	The substance is not PBT / vPvB

Other adverse effects

Other adverse effects No information available

SECTION 13: Disposal considerations**Waste treatment methods**

Waste from residues/unused Dispose of waste in accordance with environmental legislation. Dispose of in accordance

products with local regulations.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IMDG Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

IATA Not regulated

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Singapore

Environmental Protection and Management (Hazardous Substances) Regulations

Verify that licence requirements are met.

Chemical name	Hazardous Substances	transport
Borax (B ₄ Na ₂ O ₇ ·10H ₂ O)	Exclusions: 1. Boric acid or Sodium borate in medicinal preparations, cosmetics, toilet preparations and substances being preparations intended for human consumption. 2. Preparations containing Boric acid or Sodium borate or a combination of both where water or solvent is not the only other part of the composition	5000kg Boric acid and Sodium borate, total
Boric acid (H ₃ BO ₃)	Exclusions: 1. Boric acid or Sodium borate in medicinal preparations, cosmetics, toilet preparations and substances being preparations intended for human consumption. 2. Preparations containing Boric acid or Sodium borate or a combination of both where water or solvent is not the only other part of the composition	5000kg Boric acid and Sodium borate, total
Sodium azide	Exclusions: Air bag devices in motor vehicles	0kg

Environmental Public Health Act

Dispose of waste product or used containers according to local regulations.

Hazardous Waste (Control of Export, Import and Transit) Act

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Poison

Verify that licence requirements are met Verify that requirements related to using, handling, and storing substances subject to prohibition, authorisation or restriction are met

Chemical name	Poison	Poison Schedule Number
Borax (B ₄ Na ₂ O ₇ ·10H ₂ O)		First schedule

		Second schedule Third schedule
Boric acid (H ₃ BO ₃)	X	First schedule Second schedule Third schedule

Strategic Goods (Control) Act

Verify that requirements related to using, handling, and storing substances subject to prohibition, authorisation or restriction are met.

Chemical name	Strategic Goods (Control) Act
Borax (B ₄ Na ₂ O ₇ ·10H ₂ O)	1C225
Boric acid (H ₃ BO ₃)	1C225

Workplace Safety and Health Act

See section 8 for national exposure control parameters. Comply with the health and safety at work laws.

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

Contact supplier for inventory compliance status

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AELG(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
 Organisation for Economic Co-operation and Development Screening Information Data Set
 RTECS (Registry of Toxic Effects of Chemical Substances)
 World Health Organization

Label elements

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

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

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Issuing Date Bio-Rad Laboratories, Environmental Health and Safety

Revision date 21-Feb-2023

Revision Note Significant changes throughout SDS. Review all sections.

This safety data sheet complies with the requirements of: SS586: 2008 (2014)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet