Safety Data Sheet

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Section 1: Identification

Product identifier

Product Name • **Boston® One Step Liquid Enzyme Cleaner**

Product Code • 5602; FCP-4128

Product Description • Contact lens cleaner.

Relevant identified uses of the substance or mixture and uses advised against

Recommended use • Rigid gas permeable contact lens cleaner

Restrictions on use • Use in accordance with product literature.

Details of the supplier of the safety data sheet

Manufacturer • Bausch & Lomb, Inc

1400 North Goodman Street
Rochester, NY 14609
United States
bausch.com

Telephone (General) • 1-800-553-5340

Emergency telephone number

Manufacturer • 1-800-535-5053 - Infotrac

Section 2: Hazard Identification

UN GHS

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Classification of the substance or mixture

UN GHS • Skin Mild Irritation 3
Eye Irritation 2

Label elements

UN GHS

WARNING

Hazard statements • Causes serious eye irritation
Causes mild skin irritation

Precautionary statements

Prevention • Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

Response
- 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 skin irritation occurs: Get medical advice/attention.

Storage/Disposal
- Store at 15-25°C (59-77°F)..
  Keep tightly closed and store in upright position.

Other hazards

UN GHS
- No data available

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Mixtures

Composition			
Chemical Name	**Identifiers**	**%**	**Classifications According to Regulation/Directive**
Alkaline Protease	**CAS:**9014-01-1 **EINECS:**232-752-2	< 3%	**UN GHS:** not classified
Boric acid	**CAS:**10043-35-3 **EINECS:**233-139-2	< 1%	**UN GHS:** Skin Irrit. 2; Eye Irrit. 2A; Acute Tox. Oral 5; Repr. 1
Glycerin	**CAS:**56-81-5 **EINECS:**200-289-5	< 70%	**UN GHS:** Skin Irrit. 3; Eye Irrit. 2B
Purified water	**CAS:**7732-18-5 **EINECS:**231-791-2	< 35%	**UN GHS:** not classified
Sodium borate	**CAS:**1303-96-4	< 1%	**UN GHS:** Skin Irrit. 2; Eye Irrit. 2A; Acute Tox. Oral 5; Repr. 2
Sodium hydroxide	**CAS:**1310-73-2 **EINECS:**215-185-5	< 0.5%	**UN GHS:** Skin Corr. 1A

Hydrochloric Acid (CAS:7647-01-0, EINECS:231-595-7) and/or Sodium Hydroxide (CAS# 1310-73-2, EINECS: 215-185-5) may be added to adjust the pH.

The exact percentage of composition has been withheld as a trade secret.

Section 4: First-Aid Measures

Description of first aid measures

Inhalation
- No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of mists, remove to fresh air and get medical attention. Get medical attention if symptoms occur.

Skin
- IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion
- Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed

- No data available

Indication of any immediate medical attention and special treatment needed

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media
- Water spray, carbon dioxide, dry chemical powder or appropriate foam for surrounding fire.

Unsuitable Extinguishing Media
- No data available

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- None known - product is not flammable or combustible.

Hazardous Combustion Products
- No data available

Advice for firefighters

- As in any fire, wear self-contained breathing apparatus and full protective gear to prevent contact with skin and eyes.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions
- No special controls or personal protection required under conditions of intended use. In the event of bulk spills, wear suitable protective eyewear, clothing, protective boots and protective gloves. Refer to Section 8.

Emergency Procedures
- No emergency procedures are expected to be necessary when used in accordance with product literature.

Environmental precautions

- No data available

Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Contain spilled product. For small spills, add suitable absorbent material. Scoop up and place in an appropriate liquid-tight container equipped with a tight cover for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate, liquid-tight container equipped with a tight cover for disposal.

Section 7 - Handling and Storage

Precautions for safe handling

Handling
- No special handling is required. Refer to Section 8. Use only in accordance with product literature.

Conditions for safe storage, including any incompatibilities

Storage
- Keep tightly closed. Store at room temperature 15-25ºC (59-77ºF), to maintain product integrity. Use before expiration date marked on carton and on container. KEEP OUT OF THE REACH OF CHILDREN.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines
- Refer to the occupational exposure limits / guidelines for the individual product

components.

Exposure Limits/Guidelines					
	Result	**ACGIH**	**Canada Quebec**	**NIOSH**	**OSHA**
Sodium hydroxide (1310-73-2)	Ceilings	2 mg/m3 Ceiling	2 mg/m3 Ceiling	2 mg/m3 Ceiling	Not established
	TWAs	Not established	Not established	Not established	2 mg/m3 TWA
Sodium borate (1303-96-4)	TWAs	2 mg/m3 TWA (inhalable fraction, listed under Borate compounds, inorganic)	5 mg/m3 TWAEV	5 mg/m3 TWA	Not established
	STELs	6 mg/m3 STEL (inhalable fraction, listed under Borate compounds, inorganic)	Not established	Not established	Not established
Boric acid (10043-35-3)	STELs	6 mg/m3 STEL (inhalable fraction, listed under Borate compounds, inorganic)	Not established	Not established	Not established
	TWAs	2 mg/m3 TWA (inhalable fraction, listed under Borate compounds, inorganic)	Not established	Not established	Not established
Alkaline Protease (9014-01-1)	Ceilings	0.00006 mg/m3 Ceiling (as as crystalline active enzyme, listed under Subtilisins)	0.00006 mg/m3 Ceiling (Proteolytic enzymes, as 100% pure Crystalline enzyme)	Not established	Not established
	STELs	Not established	Not established	0.00006 mg/m3 STEL (60 min, listed under Subtilisins)	Not established
Glycerin (56-81-5)	TWAs	Not established	10 mg/m3 TWAEV (mist)	Not established	15 mg/m3 TWA (mist, total particulate); 5 mg/m3 TWA (mist, respirable fraction)

Exposure Control Notations

ACGIH

- Boric acid (10043-35-3): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (listed under Borate compounds, inorganic))
- Sodium borate (1303-96-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (listed under Borate compounds, inorganic))

Exposure Limits Supplemental

ACGIH

- Boric acid (10043-35-3): **TLV Basis - Critical Effects:** (upper respiratory tract irritation (listed under Borate compounds, inorganic))
- Sodium borate (1303-96-4): **TLV Basis - Critical Effects:** (upper respiratory tract irritation (listed under Borate compounds, inorganic))
- Alkaline Protease (9014-01-1): **TLV Basis - Critical Effects:** (asthma (listed under Subtilisins); lower respiratory tract, skin and upper respiratory tract irritation (listed under Subtilisins))
- Sodium hydroxide (1310-73-2): **TLV Basis - Critical Effects:** (eye, skin and upper respiratory tract irritation)

Exposure controls

Engineering Measures/Controls

- Good general ventilation 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.

Personal Protective Equipment

Respiratory

- No respiratory protection required during normal handling.

Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses) when handling bulk

product before closed in final packaging. Wear protective eyewear (goggles, face shield, or safety glasses).

Hands
- Wear protective gloves .

Skin/Body
- No special personal protection required under conditions of intended use. In the event of a bulk spill, wear appropriate protective clothing.

Environmental Exposure Controls
- No data available

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Color	Clear Colorless .
Odor	No odor.		
General Properties			
Boiling Point	Not relevant	Melting Point	Not relevant
Decomposition Temperature	Not relevant	pH	5.3 to 5.85
Specific Gravity/Relative Density	= 1.177	Water Solubility	Not relevant
Viscosity	No data available		
Volatility			
Vapor Pressure	Not relevant	Vapor Density	Not relevant
Evaporation Rate	No data available		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Environmental			
Octanol/Water Partition coefficient	Not relevant		

Section 10: Stability and Reactivity

Reactivity
- No dangerous reactions known.

Chemical stability
- Stable under normal temperatures and pressures.

Possibility of hazardous reactions
- No data available

Conditions to avoid
- Extreme heat or cold. Do not freeze.

Incompatible materials
- None.

Hazardous decomposition products
- None expected.

Section 11 - Toxicological Information

Information on toxicological effects

Components		
Boric acid (< 1%)	10043-35-3	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 2500 mg/kg; *Behavioral*:**Convulsions or effect on seizure threshold**; *Behavioral*:**Ataxia**; **Reproductive:** Ingestion/Oral-Rat TDLo • 1600 mg/kg (6-9D preg); *Reproductive Effects:Specific Developmental Abnormalities*:**Musculoskeletal system**; Ingestion/Oral-Rat TDLo • 76 mg/kg (20D preg); *Reproductive Effects:Effects on Embryo or Fetus*:**Fetotoxicity (except death, e.g., stunted fetus)**
Sodium borate (< 1%)	1303-96-4	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 2660 mg/kg; **Reproductive:** Ingestion/Oral-Rat TDLo • 70 g/kg (90D male); *Reproductive Effects:Paternal Effects*:**Testes, epididymis, sperm duct**; Ingestion/Oral-Rat TDLo • 70 g/kg (90D pre); *Reproductive Effects:Maternal Effects*:**Ovaries, fallopian tubes**; Ingestion/Oral-Rat TDLo • 37 g/kg (multigenerations); *Reproductive Effects:Effects on Newborn*:**Weaning or lactation index**
Glycerin (< 70%)	56-81-5	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 12600 mg/kg; *Behavioral*:**General anesthetic**; *Behavioral*:**Muscle weakness**; *Liver*:**Other changes**; **Irritation:** Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; **Reproductive:** Ingestion/Oral-Rat TDLo • 100 mg/kg (1D male); *Reproductive Effects:Effects on Fertility*:**Post-implantation mortality**
Alkaline Protease (< 3%)	9014-01-1	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 3700 mg/kg; **Irritation:** Eye-Rabbit • 3 mg • Moderate irritation
Sodium hydroxide (< 0.5%)	1310-73-2	**Irritation:** Eye-Rabbit • 1 mg 30 Second(s)-Rinse • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Severe irritation

GHS Properties	Classification
Acute toxicity	**UN GHS** • Acute Toxicity - Classification criteria not met
Aspiration Hazard	**UN GHS** • Classification criteria not met
Carcinogenicity	**UN GHS** • Classification criteria not met
Germ Cell Mutagenicity	**UN GHS** • Classification criteria not met
Skin corrosion/Irritation	**UN GHS** • Skin Mild Irritation 3
Skin sensitization	**UN GHS** • Classification criteria not met
STOT-RE	**UN GHS** • Classification criteria not met
STOT-SE	**UN GHS** • Classification criteria not met
Toxicity for Reproduction	**UN GHS** • Classification criteria not met
Respiratory sensitization	**UN GHS** • Classification criteria not met
Serious eye damage/Irritation	**UN GHS** • Eye Irritation 2

Potential Health Effects

Inhalation

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- Under normal conditions of use, no health effects are expected.

Skin

Acute (Immediate)
- May cause mild irritation.

Chronic (Delayed)
- Causes mild skin irritation.

Eye

Acute (Immediate)
- Causes serious eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Not expected to be an exposure route. However, may cause gastric and intestinal irritation if ingested.

Chronic (Delayed)
- No data available

Carcinogenic Effects		
	CAS	NTP
Boric acid	10043-35-3	Evidence of Carcinogenicity

Section 12 - Ecological Information

Toxicity

- This material has not been tested for environmental effects.

Persistence and degradability

- No data available

Bioaccumulative potential

- No data available

Mobility in Soil

- No data available

Other adverse effects

Section 13 - Disposal Considerations

Waste treatment methods

Product waste
- Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	NDA	Not regulated	NDA	NDA	NDA
TDG	NDA	NDA	NDA	NDA	NDA
IMO/IMDG	NDA	NDA	NDA	NDA	NDA
ADN	NDA	NDA	NDA	NDA	NDA
ADR/RID	NDA	NDA	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

Special precautions for user
- No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- No data available

Section 15 - Regulatory Information

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

SARA Hazard Classifications • No data available

Inventory				
Component	**CAS**	**Canada DSL**	**EU EINECS**	**TSCA**
Alkaline Protease	9014-01-1	Yes	Yes	Yes
Sodium borate	1303-96-4	Yes	No	Yes
Boric acid	10043-35-3	Yes	Yes	Yes
Glycerin	56-81-5	Yes	Yes	Yes
Sodium hydroxide	1310-73-2	Yes	Yes	Yes
Purified water	7732-18-5	Yes	Yes	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Sodium borate	1303-96-4	D2B
• Alkaline Protease	9014-01-1	D2A
• Sodium hydroxide	1310-73-2	E (including 0.04% in aqueous solution, 0.08%, 0.4% in aqueous solution, 2%, 2.5%, 4% in aqueous solution, 5%, 10%, 16%, 20%, 40%, 50% in aqueous solution, 8.7N)
• Glycerin	56-81-5	Uncontrolled product according to WHMIS classification criteria
• Boric acid	10043-35-3	D2A
• Purified water	7732-18-5	Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

• Sodium borate	1303-96-4	1 %
• Alkaline Protease	9014-01-1	Not Listed
• Sodium hydroxide	1310-73-2	1 %
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	1 %
• Purified water	7732-18-5	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Sodium borate	1303-96-4	Repr.Cat.2; R60-61
• Alkaline Protease	9014-01-1	Xi; R37/38-41 R42
• Sodium hydroxide	1310-73-2	C; R35
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	Repr.Cat.2; R60-61
• Purified water	7732-18-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Sodium borate	1303-96-4	8.5%<=C: Repr.Cat.2; R:60-61
• Alkaline Protease	9014-01-1	Not Listed
• Sodium hydroxide	1310-73-2	5%<=C: C; R:35 2%<=C<5%: C; R:34 0.5%<=C<2%: Xi; R:36/38
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	5.5%<=C: Repr.Cat.2; R:60-61
• Purified water	7732-18-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Sodium borate	1303-96-4	T R:60-61 S:53-45
• Alkaline Protease	9014-01-1	Xn R:37/38-41-42 S:(2)-22-24-26-36/37/39
• Sodium hydroxide	1310-73-2	C R:35 S:(1/2)-26-37/39-45
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	T R:60-61 S:53-45
• Purified water	7732-18-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Sodium borate	1303-96-4	S:53-45
• Alkaline Protease	9014-01-1	S:(2)-22-24-26-36/37/39
• Sodium hydroxide	1310-73-2	S:(1/2)-26-37/39-45
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	S:53-45
• Purified water	7732-18-5	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Sodium borate	1303-96-4	Not Listed
• Alkaline Protease	9014-01-1	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	Not Listed
• Purified water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Sodium borate	1303-96-4	Not Listed
• Alkaline Protease	9014-01-1	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	Not Listed
• Purified water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Sodium borate	1303-96-4	Not Listed
• Alkaline Protease	9014-01-1	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	Not Listed
• Purified water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Sodium borate	1303-96-4	Not Listed

• Alkaline Protease	9014-01-1	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerin	56-81-5	Not Listed
• Boric acid	10043-35-3	Not Listed
• Purified water	7732-18-5	Not Listed

Section 16 - Other Information

Last Revision Date
- 09/February/2015

Preparation Date
- 09/February/2015

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