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SECTION 1. IDENTIFICATION

Substance name : ENZOL Enzymatic Detergent
ASP

Manufacturer or supplier's details

Company name of supplier : Advanced Sterilization Products

Address : 33 Technology Drive
Irvine, CA 92618
US

Telephone : (800) 755-5900

Emergency telephone number : 800-755-5900

Recommended use of the chemical and restrictions on use

Recommended use : Detergent

SECTION 2. HAZARDS IDENTIFICATION


GHS Classification

Eye irritation : Category 2A

Respiratory sensitisation : Category 1

Reproductive toxicity : Category 1B

GHS Label element

Hazard pictograms : 

Signal word : Danger

Hazard statements : H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H360 May damage fertility or the unborn child.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/



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face protection.

P285 In case of inadequate ventilation wear respiratory protection.

Response:

P304 + P341 IF INHALED: If breathing is difficult, 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.

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

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

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Liquid

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
borax decahydrate	1303-96-4	>= 5 - < 10
subtilisin	9014-01-1	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

- If inhaled : If breathed in, move person into fresh air.
Artificial respiration and/or oxygen may be necessary.
Call a physician immediately.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with plenty of water.
If symptoms persist, call a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,
for at least 15 minutes.
Remove contact lenses.
Consult a physician.
- If swallowed : If swallowed, rinse mouth with water (only if the person is conscious).



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Call a physician immediately.

Most important symptoms and effects, both acute and delayed : Irritating to eyes.
Sensitisation
Cough
Shortness of breath
Nausea
Headache
Vomiting
Irritating to nose, throat and respiratory tract

Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : None known.

Hazardous combustion products : No hazardous combustion products are known

Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.

Further information : In the event of fire, cool tanks with water spray.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : In the event of an accidental release the emergency response team must respond based on a risk assessment and use personal protective equipment as appropriate.
Do not breathe vapours or spray mist.
Evacuate personnel to safe areas.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Should not be released into the environment.

Methods and materials for containment and cleaning up : Large spills + Small spills: Keep in suitable, closed containers for disposal. Treat recovered material as described in the section "Disposal considerations".
Large spills: Dam up. Soak up with inert absorbent material. Keep in properly labelled containers.
Small spills: Gently cover the spill with an absorbent towel or



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pad.
After cleaning, flush away traces with water.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : No data available
- Advice on safe handling : Avoid inhalation, ingestion and contact with skin and eyes.
To avoid thermal decomposition, do not overheat.
Use only with adequate ventilation.
For personal protection see section 8.
- Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep away from heat and sources of ignition.
Store in original container.
To avoid thermal decomposition, do not overheat.
- Recommended storage temperature : 15 - 30 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
borax decahydrate	1303-96-4	TWA	5 mg/m ³	ACGIH
		TWA	5 mg/m ³	NIOSH REL
		TWA	10 mg/m ³	OSHA P0
		TWA (Inhalable fraction)	2 mg/m ³ (Borate)	ACGIH
		STEL (Inhalable fraction)	6 mg/m ³ (Borate)	ACGIH
subtilisin	9014-01-1	C	0.00006 mg/m ³	OSHA P0

Engineering measures : All personal protective equipment should be based on a risk assessment. Consult a Environment Health Safety expert if necessary.

Personal protective equipment

Respiratory protection : Engineering controls should always be the primary method of controlling exposures.
If respiratory protective equipment is needed for certain activities, the type as well as the corresponding protection factor will depend upon the risk assessment and air concentrations, hazards, physical and warning properties of substances present.
In case of mist, spray or aerosol exposure wear suitable per-



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sonal respiratory protection and protective suit.
No personal respiratory protective equipment normally required.

Hand protection

Remarks : Impervious gloves

Eye protection : Safety glasses with side-shields

Skin and body protection : Wear suitable protective clothing.

Protective measures : The type of protective equipment must be selected based on the Environmental Health and Safety risk assessment. Consult a Environmental Health and Safety expert if necessary.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
Wash hands before eating, drinking, or smoking.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Bottle, liquid

Colour : clear, violet

Odour : mint-like

pH : 7.8 - 8.8

Flash point : > 93 °C

Solubility(ies)
Water solubility : soluble

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.
No dangerous reaction known under conditions of normal use.

Conditions to avoid : Heat, flames and sparks.
To avoid thermal decomposition, do not overheat.

Incompatible materials : None known.

Hazardous decomposition products : Carbon oxides



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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

No data available

Skin corrosion/irritation

Components:

subtilisin

Result: Skin irritation

Serious eye damage/eye irritation

Components:

subtilisin

Result: Corrosive to eyes

Respiratory or skin sensitisation

Components:

subtilisin

Result: Respiratory sensitization

Germ cell mutagenicity

No data available

Carcinogenicity

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

borax decahydrate

Reproductive toxicity -
Assessment

: Sufficient evidence of reprotoxicity based on animals.

STOT - single exposure

Components:

subtilisin

Assessment: The substance or mixture is classified as specific target organ toxicant, single



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exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

No data available

Repeated dose toxicity

No data available

Aspiration toxicity

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: This product neither contains, nor was
manufactured with a Class I or Class II ODS as defined by the
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +
B).

Additional ecological information : An environmental hazard cannot be excluded in the event of
unprofessional handling or disposal.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : In accordance with National, Federal, State and Local regula-
tions.

Contaminated packaging : Empty containers should be taken to an approved waste han-
dling site for recycling or disposal.



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SECTION 14. TRANSPORT INFORMATION

International transport regulations

ADR

Not dangerous goods

RID

Not dangerous goods

DOT

Not dangerous goods

IATA

Not dangerous goods

IMDG

Not dangerous goods

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

borax decahydrate

1303-96-4

5 - 10 %



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Pennsylvania Right To Know

borax decahydrate	1303-96-4	5 - 10 %
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New Jersey Right To Know

borax decahydrate	1303-96-4	5 - 10 %
subtilisin	9014-01-1	1 - 5 %

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Other regulations : Restricted to professional users.

This product is not subject to TSCA and TSCA 12(b) Export notification because Food, Drugs and cosmetic products are exempt.

The components of this product are reported in the following inventories:

REACH	: Not in compliance with the inventory
	: borax decahydrate
	: subtilisin
CH INV	: Not in compliance with the inventory
	: borax decahydrate
TSCA	: On TSCA Inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL.
	: subtilisin
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
ENCS	: Not in compliance with the inventory
	: subtilisin
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: Not in compliance with the inventory
	: subtilisin



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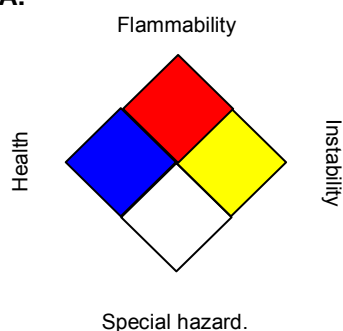
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	
FLAMMABILITY	
PHYSICAL HAZARD	

0 = not significant, 1 = Slight,
 2 = Moderate, 3 = High
 4 = Extreme, * = Chronic

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Date and Number Formats

This document uses the following notation for printing dates and numbers:

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.

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