SAFETY DATA SHEET

Conforms to regulation (EC) no. EU 453/2010

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: Biosol **Product Number:** LS-310

1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer
National Diagnostics
305 Patton Drive
Atlanta, GA 30036
(404) 699-2121
(800) 526-3867
info@nationaldiagnostics.com

1.4 Emergency Telephone Number

ChemTel Inc.
Contract number MIS8894340
1-800 255-3924 (United States, Canada, Puerto Rico & US Virgin Islands)
01-800-099-0731 (Mexico)
400-120-0751 (China)
000-800-100-4086 (India)
1-300-954-583 (Australia)
0-800-591-6042 (Brazil)
+1-813-255-3924 (All other regions)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]
H290 - Corrosive to Metals
H302 - Acute Toxicity-Oral (Category 4)
H314 - Skin Corrosion/Irritation (Category 1B)

2.2 Label Elements

GHS LABEL ELEMENTS AND CLASSIFICATION

GHS Label Elements

DANGER
H290 - May be corrosive to metals.
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P260 - Do not breathe dust/fumes/gas/mist/vapors/spray.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P302+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse SKIN with water/shower.
P310 - Immediately call a POISON CENTER or doctor/physician.

2.3 Other Hazards

None found.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Names/Description
Aqueous solution of strong alkali.

Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Potassium Hydroxide	1 - 3	1310-58-3	215-181-3	H290, H302, H314

SECTION 4 - FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion
DO NOT INDUCE VOMITING. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

Skin
Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes
Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed
Inhalation
Pain, coughing, wheezing, sneezing.

Ingestion
Abdominal pain, nausea, vomiting, and general gastro-intestinal upset.

Skin
Soreness, redness, destruction of skin.

Eyes
Tearing, redness, pain and impaired vision.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed
Unknown/not applicable

SECTION 5 - FIRE FIGHTING MEASURES
5.1 Extinguishing media
Use media appropriate to the primary cause of fire.

5.2 Special Hazards Arising from the Substance/Mixture
Hazardous Combustion Products
N.A.

Hazardous Decomposition Products
May form oxide at very high temperatures.

Hazardous Polymerization
Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

5.3 Advice for Firefighters
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

5.4 Further Information
No data available.

SECTION 6 - ACCIDENTAL RELEASE MEASURES
6.1 Personal Precautions
Wear appropriate protective equipment as specified in Section 8.

6.2 Environmental Precautions
Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

6.3 Methods and Materials for Containment and Cleaning Up
Ventilate area. Cover with absorbent material (vermiculite, dry sand, earth) to confine spill and sweep or shovel into container. Close container tightly. Avoid breathing vapors.

6.4 References to Other Sections
For disposal information, see Section 13. For protective clothing and equipment, see Section 8.

SECTION 7 - HANDLING AND STORAGE
7.1 Precautions for Safe Handling
Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

7.2 Conditions for Safe Storage (including any incompatibles)

Keep in a tightly closed container, stored in a cooled, dry, ventilated area.

Incompatibles

Acids.

7.3 Specific End Uses

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SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

ACGIH Threshold Limit Value (TLV): 2 mg/m3
OSHA Permissible Exposure Limit (PEL): None established

8.2 Exposure Controls

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Clear, colorless, odor	**b. Odor**	Odorless
c. Odor Threshold	N.A.	**d. pH**	13.5
e. Melting/Freezing Point (^{o}C)	-5	**f. Boiling point (^{o}C)**	105
g. Flash Point (^{o}C)	N.A.	**h. Evaporation Rate**	No Data
i. Flammability	N.A.	**j. Upper/Lower Flammability or Explosive Limits**	N.A.
k. Vapor Pressure	No Data	**l. Vapor Density (Air = 1)**	No Data
m. Relative Density	1.05	**n. Water Solubility**	Soluble
o. Partition Coefficient n-octanol/water	mixture	**p. Autoignition Temperature (^{o}C)**	N.A.
q. Decomposition Temperature (^{o}C)	N.A.	**r. Viscosity**	ND
s. Explosive Properties	N.A.	**t. Oxidizing Properties**	Not an oxidizer

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

Strong alkali- will react violently with strong acids. May corrode metals

10.2 Chemical Stability

Stable under recommended conditions of use and storage.

10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

10.4 Conditions to Avoid

Incompatibles.

10.5 Incompatible Materials

Acids.

10.6 Hazardous Decomposition Products

May form oxide at very high temperatures.

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)
9750

Dermal Rabbit LD50 (mg/kg)
No Data

Component Cancer List Status

	NTP Carcinogen		
	Known	Anticipated	IARC Category
Potassium Hydroxide	No	No	None

Potential Health Effects

Inhalation
Respiratory tract irritatant, may cause serious burns on acute contact. Severe injury is usually avoided by the self-limiting coughing and sneezing symptoms.

Ingestion
Toxic! Corrosive to mucous membranes and may cause perforation of the esophagus and stomach.

Skin
Irritant, possibly corrosive if contact is prolonged.

Eyes
Irritant, possibly corrosive to eye tissues.

Carcinogenicity
Not listed as a known or anticipated carcinogen by NTP or IARC.

Mutagenicity
No information found.

Reproductive Toxicity
No information found.

Teratogenic Effects
No information found.

Routes of Entry
No information found.

Target Organ Statement
Persons with pre-existing skin disorders or eye problems, or impaired kidney or respiratory function may be more susceptible to the effects of the substance.

SECTION 12 - ECOLOGICAL INFOMATION

12.1 Toxicity

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	NOEC(24hr, bluegill) 28mg/l	No data	No data	No data

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

12.2 Persistence and Degradability
No data

12.3 Bioaccumulative Potential
No data

12.4 Mobility in Soil
No data

12.5 Results of PBT and vPvB Assessment
Not PBT or vPvB

12.6 Other Adverse Effects
None

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	1814	1814	1814	1814
14.2 Shipping Name	Potassium Hydroxide Solution	Potassium Hydroxide Solution	Potassium Hydroxide Solution	Potassium Hydroxide Solution
14.3 Hazard Class	8	8	8	8
14.4 Packing Group	III	III	III	III
14.5 Environmental Hazards	N.A.	N.A.	N.A.	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

United States

TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Potassium Hydroxide	No	No	No	Yes	Yes

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

SECTION 16 - OTHER INFORMATION

Revisional Updates

4/26/2019 - Updated Section 1.4
5/29/2015 - Updated Sections 2.1 and 3.2
10/8/2013 - Released Version 1.0

NFPA Codes

Health 3 **Flammability** 0 **Reactivity** 1

Dangers

Potassium Hydroxide

H290 - May be corrosive to metals.
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage.