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(Regulatory Office)
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(Manufacturing Location)

In Case of Emergency, Call:
1-800-498-5743 (U.S. Medical Emergency)
1-651-523-0318 (International, Medical Emergency)
1-800-424-9300 (U.S. CHEMTREC)
1-703-527-3887 (International, CHEMTREC)
(collect calls will be accepted on all lines)

1. PRODUCT IDENTIFICATION

Product Name: **BioSentry[®] Liquid Tray and Egg Wash (a.k.a. BioSentry[®] Liquid Tray Wash)**
 EPA Signal Word: **DANGER**
 Chemical Name: Not Applicable
 Chemical Class: Chlorinated Tray Wash
 Registration Number: **Section(s) Revised: New Issue**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	Percentage By Weight
Potassium Hydroxide (CAS No. 1310-58-3)	Not Established	Ceiling 2 mg/m ³	Not Established	No	7 – 13 %
Sodium Hypochlorite (CAS No. 7681-52-9)	Not Established	Not Established	2 mg/m ³ (15-min TWA) (WEEL/AIHA)	No	1 – 5 %
Sodium Metasilicate (CAS No. 6834-92-0)	Not Established	Not Established	Not Established	No	0.5 – 1.5 %
Tetrapotassium Pyrophosphate (CAS No. 7320-34-5)	Not Established	Not Established	Not Established	No	7 – 13 %

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

3. HAZARDS IDENTIFICATION

Health Effects

Eyes: This product may cause irritation with discomfort, tearing, or blurring of vision; eye corrosion with corneal or conjunctival ulceration.

Skin: This product may cause irritation with discomfort or rash; skin burns or ulcerations.

Inhalation: This product may cause irritation of the upper respiratory passages with coughing and discomfort.

Ingestion: This product may cause corrosion of the mouth and upper gastrointestinal tract with abdominal discomfort, characterized by nausea, severe pain, diarrhea, and collapse.

Physical Properties

Appearance: Yellow, amber liquid
 Odor: Chlorine

Unusual Fire, Explosion, and Reactivity Hazards
 None known.

4. FIRST AID MEASURES

Have the product container, label, or Material Safety Data Sheet with you when calling a poison control center or doctor, or going for treatment. **FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL 1-800-498-5743 (U.S. Medical Emergencies) or 1-651-523-0318 (International Medical Emergencies, Collect Calls will be accepted).**

- Ingestion: Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting. Immediately give 2 glasses of water. Do not give anything by mouth to an unconscious person.
- Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice
- Skin Contact: Take off contaminated clothing and shoes. Rinse skin immediately with plenty of water for 15-20 minutes. Wash contaminated clothing before reuse. Call a poison control center or doctor for treatment advice.
- Inhalation: Move person to fresh air. If person is not breathing, call **911** or an ambulance, and then give artificial respiration, preferably mouth-to-mouth, if possible. If breathing is difficult, give oxygen. Call a poison control center or doctor for further treatment advice.

Notes to Physician

None.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

- | | | |
|------------------------------|---|-------------------------|
| Flash Point (Test Method): | Not Applicable | |
| Flammable Limits (% in Air): | Lower: % Not Applicable | Upper: % Not Applicable |
| Autoignition Temperature: | Not Available | |
| Flammability: | Not Flammable | |
| Extinguishing Media: | Fog or Water Spray, Foam, Carbon Dioxide, Dry Chemical (appropriate for surrounding material) | |

Hazardous Decomposition Products:

Decomposes with heat. Hazardous gases or vapors can be released, including chlorine.

Unusual Fire, Explosion, and Reactivity Hazards

None known.

In Case of Fire

Evacuate personnel to a safe area. Wear self-contained breathing apparatus and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Wear appropriate personal protective equipment during cleanup.

Small Spills: Prevent material from entering sewers, waterways, and low areas.

Large Spills: Dike spill. Absorb into inert material (sawdust, sand, oil dry or other absorbent material) and place in plastic or plastic-lined containers for proper disposal.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

7. HANDLING AND STORAGE

Store the material in original container, in a secure area out of reach of children and domestic animals. Keep container tightly closed in a cool place. Do not store in aluminum vessels. Do not inhale. Do not get in eyes, on skin, or on clothing. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling. Wash clothing after use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING, AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
- Eye Contact: Wear overall chemical splash goggles. Additionally, wear a face shield where the possibility exists for face contact due to splashing or spraying of material.
- Skin Contact: Where there is a potential for skin contact have available and wear as appropriate impervious gloves, apron, pants, jacket, hood and boots or whole bodysuit.
- Inhalation: Use only with adequate ventilation. Wear a NIOSH/MSHA-approved pesticide respirator with an organic vapor cartridge and pesticide pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow, amber liquid
Odor:	Chlorine
Boiling Point:	>100° C
Specific Gravity:	1.25 g/ml (water=1)
Bulk Density:	Not Available
pH:	Not Available
Solubility in H ₂ O:	Soluble
Vapor Pressure:	Not Established
Percent Volatile:	69% (by volume)
Evaporation Rate:	1 (water=1)

Note: The physical data presented here are typical values based on material tested, but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Decomposition with heat.
Materials to Avoid:	Incompatible with acids, ammonia and aluminum. Contact with acids or amines generate a toxic, explosive gas. Contact of concentrate with aluminum can generate flammable hydrogen gas.
Hazardous Decomposition Products:	Decomposes with heat. Hazardous gases or vapors can be released, including chlorine.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies

Ingestion:	<u>Acute Toxicity</u>	
	Oral (LD ₅₀ Rat) :	365 mg/kg (Potassium Hydroxide)
	Oral (LD ₅₀ Rat) :	1,280 mg/kg (Sodium Metasilicate)
	Oral (LD ₅₀ Rat) :	>2,980 mg/kg (Tetrapotassium Pyrophosphate)
	Oral (LD ₅₀ Rat) :	>8,910 mg/kg (Sodium Hypochlorite)
Dermal:	<u>Acute Dermal Effects</u>	
	Dermal (LD ₅₀ Rabbit) :	>7,940 mg/kg (Tetrapotassium Pyrophosphate)
	Dermal (LD ₅₀ Rabbit) :	>10,000 mg/kg (Sodium Hypochlorite)
Inhalation:	<u>Acute Inhalation Effects</u>	
	Inhalation (LC ₅₀ Rat, 0.25 hr.) :	10.5 mg/L (Sodium Hypochlorite)

Potassium Hydroxide:	The compound is corrosive to skin and eyes, and is untested for animal sensitization. Toxic effects described in animals from short exposures by inhalation, ingestion, or skin contact include: corrosion of mucosal surfaces. No animal test reports are available to define carcinogenic, mutagenic, developmental, or reproductive hazards.
Tetrapotassium Pyrophosphate:	The dry material may cause foreign body irritation in some individuals. Prolonged contact with the dry material may cause drying or chapping of skin. Excessive inhalation of dust may be annoying and can mechanically impede respiration. Following repeated exposure (13 weeks) to this product in their food, kidney damage with changes in body weight, food consumption, clinical parameters and organ weights were reported at high dose levels in rats.
Sodium Hypochlorite:	The concentrated solution is corrosive to the skin, and a 5% solution is a severe eye irritant, but the compound is untested for animal sensitization. Solutions containing more than 5% available chlorine are classified as DOT corrosive. Ingestion: Toxicity described in animals from single exposures include muscular weakness and hypoactivity. Repeated exposure in animals caused an increase in the relative weight of adrenal glands in one study, but no pathological changes were observed in two other studies. Long-term administration of the compound in drinking water of rats caused depression of the immune system. Skin: No adverse changes were observed in an eight week dermal study of a 1% solution in guinea pigs. Tests on animals demonstrate no carcinogenic activity by either the oral or dermal routes. Tests in bacterial and mammalian cell cultures demonstrate mutagenic activity. No animal test reports are available to define developmental or reproductive hazards.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

12. ECOLOGICAL INFORMATION

Do not discharge effluent containing this product directly to water. Do not contaminate water when disposing of equipment wash water.

Eco-Acute Toxicity

Potassium Hydroxide:	Mosquito Fish, 96-hr LC ₅₀ :	80-85 mg/L
Tetrapotassium Pyrophosphate:	Mysid Shrimp 96-hr LC ₅₀ :	>100 mg/L
	Rainbow Trout 96-hr LC ₅₀ :	>100 mg/L
	Daphnia Magna, 48-hour EC ₅₀ :	>100 mg/L
Sodium Hypochlorite:	Fathead Minnows, 96-hr LC ₅₀ :	5.9 mg/L

13. DISPOSAL CONSIDERATIONS

Container Disposal

Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

For containers 1 gallon or less: Do not reuse empty container (bottle, can, bucket). Wrap container and put in trash.

Pesticide Disposal

Neutralize chlorine with sodium sulfite or sodium thiosulfate and adjust the pH to 6-9 with an appropriate inorganic acid.

14. TRANSPORT INFORMATION

DOT Classification (for container sizes 20 – 200 liter)

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide)
Hazard Class: 8
UN Number: 3266
Packing Group: III
Label: Corrosive
Special Instructions: Not Applicable

DOT Classification (for container sizes 4x1 gallon)

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide)
Hazard Class: ORM-D , 8
UN Number: 3266
Packing Group: III
Label: Corrosive
Special Instructions: Consumer Commodity

IMDG Classification (for container sizes 20 – 200 liter)

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide)
Hazard Class: 8
UN Number: 3266
Packing Group: III
Label: Corrosive
Special Instructions: Not Applicable

IMDG Classification (for container sizes 4x1 gallon)

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide)
Hazard Class: ORM-D , 8
UN Number: 3266
Packing Group: III
Label: Corrosive
Special Instructions: Consumer Commodity, Limited Quantity

IATA Classification (for container sizes 20 – 200 liter & 4x1 gallon)

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide)
Hazard Class: 8
UN Number: 3266
Packing Group: III
Label: Corrosive
Special Instructions: Not Applicable

IATA Classification (for container sizes 20 – 200 liter & 4x1 gallon)

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide)
Hazard Class: ORM-D , 8
UN Number: 3266
Packing Group: III
Label: Corrosive
Special Instructions: Consumer Commodity, Limited Quantity

Canadian Classification (for container sizes 20 – 200 liter)

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide)
Hazard Class: 8
UN Number: 3266
Packing Group: III
Label: Corrosive
Special Instructions: Not Applicable

Canadian Classification (for container sizes 4x1 gallon)

Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide)
Hazard Class: ORM-D , 8
UN Number: 3266
Packing Group: III
Label: Corrosive, Class E (Corrosive Metal), Class D/SubDivision B (Toxic Material / Acute Lethality)
Special Instructions: Consumer Commodity, Limited Quantity

15. REGULATORY INFORMATION

EPA SARA Title III Hazard Classification

Immediate Y Fire N Sudden Release of Pressure N
Delayed N Reactive N

Section 313 Toxic Chemicals

Not Listed

California Proposition 65

Not Listed

CERCLA/SARA 302 Reportable Quantity (RQ)

Not Listed

RCRA Hazardous Waste Classification (40 CFR 261)

Not Listed

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 3
Flammability: 0
Instability: 1

HMIS Hazard Ratings

Health: 3
Flammability: 0
Reactivity: 1
PPE: H

0 - Minimal
1 - Slight
2 - Moderate
3 - Serious
4 - Extreme

For Non-Emergency Questions About This Product Call:

1-800-621-8829

Neogen Corporation

Lexington, KY

www.Hacco.com

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