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Version 1

**1. IDENTIFICATION****Product identifier****Product Name** Inorganics Disinfection By-Products**Other means of identification****Product Code** PEI-017**UN/ID no.** Final product is not regulated.**Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** For Laboratory Use Only.**Uses advised against** No information available**Details of the supplier of the safety data sheet****Manufacturer Address**NSI Lab Solutions, Inc.  
7212 ACC Blvd.  
Raleigh, NC 27617**Emergency telephone number****Company Phone Number** 800-234-7837**FAX** 919-789-3019**Website** www.nsilabsolutions.com**E-mail address** nsi@nsilabsolutions.com**Emergency Telephone** 919-349-7322**2. HAZARDS IDENTIFICATION****Classification****OSHA Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

**Label elements****Emergency Overview**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Appearance** No information available**Physical state** Liquid**Odor** No information available**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Not applicable

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

Chemical Name	CAS No.	Weight-%
Water	7732-18-5	98-99.8
Potassium bromate	7758-01-2	0-0.005
Sodium bromide	7647-15-6	0-0.03
Sodium chlorite	7758-19-2	0-0.1
Potassium chlorate	3811-04-9	0-0.02

Refer to Certificate of Analysis for exact percentage concentration.

#### 4. FIRST AID MEASURES

**Description of first aid measures**

<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Inhalation</b>	Remove to fresh air.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**

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

**Unsuitable extinguishing media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

No information available.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation, especially in confined areas.

**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 labeled containers.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Water 7732-18-5	-	-	-
Potassium bromate 7758-01-2	-	-	-
Sodium bromide 7647-15-6	-	-	-
Sodium chlorite 7758-19-2	-	-	-
Potassium chlorate 3811-04-9	-	-	-

**Appropriate engineering controls**

**Engineering Controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** No special technical protective measures are necessary.

**Skin and body protection** No special technical protective measures are necessary.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Odor</b>	No information available
<b>Appearance</b>	No information available	<b>Odor threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	No information available	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

**Other Information**

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

**10. STABILITY AND REACTIVITY****Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Extremes of temperature and direct sunlight.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Product Information	No data available
Inhalation	No data available.
Eye contact	No data available.
Skin contact	No data available.
Ingestion	No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
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Potassium chlorate 3811-04-9	= 1870 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	-
Sodium bromide 7647-15-6	= 3500 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	-
Water 7732-18-5	> 90 mL/kg ( Rat )	-	-
Potassium bromate 7758-01-2	= 157 mg/kg ( Rat )	-	-
Sodium chlorite 7758-19-2	= 165 mg/kg ( Rat )	= 107.2 mg/kg ( Rabbit )	= 230 mg/m <sup>3</sup> ( Rat ) 4 h

**Information on toxicological effects**

**Symptoms** No information available.

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

**Sensitization** No information available.  
**Germ cell mutagenicity** No information available.  
**Carcinogenicity** No information available.  
**Reproductive toxicity** No information available.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Aspiration hazard** No information available.

**Numerical measures of toxicity - Product Information****12. ECOLOGICAL INFORMATION****Ecotoxicity**

0.005 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Potassium chlorate 3811-04-9	-	1750: 96 h Oncorhynchus mykiss mg/L LC50 13500: 96 h Pimephales promelas mg/L LC50	1093: 24 h Daphnia magna mg/L EC50
Sodium bromide 7647-15-6	5800 - 24000: 96 h Scenedesmus pannonicus mg/L EC50	16000 - 24000: 96 h Poecilia reticulata mg/L LC50 flow-through 24000: 96 h Oryzias latipes mg/L LC50 semi-static 1000: 96 h Oncorhynchus mykiss mg/L LC50 static 15614 - 17428: 96 h Pimephales promelas mg/L LC50 static 1000: 96 h Lepomis macrochirus mg/L LC50 static 0.054 - 0.081: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 24000 - 96000: 96 h Oryzias latipes mg/L LC50 flow-through 16000: 96 h Poecilia reticulata mg/L LC50 semi-static	5800 - 48000: 48 h Daphnia magna mg/L EC50 5700 - 10800: 48 h Daphnia magna mg/L EC50 Static
Water 7732-18-5	-	-	-
Potassium bromate 7758-01-2	-	-	-
Sodium chlorite 7758-19-2	-	100: 96 h Lepomis macrochirus mg/L LC50 static 100: 96 h Oncorhynchus mykiss mg/L LC50 static 100 - 500: 96 h Brachydanio rerio mg/L LC50 static	0.25 - 0.33: 48 h Daphnia magna mg/L EC50 Flow through 0.026: 48 h Daphnia magna mg/L EC50 0.012 - 0.018: 48 h Daphnia magna mg/L EC50 Static

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Other adverse effects** No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Do not reuse container.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Potassium chlorate 3811-04-9	-	-	-	-
Sodium bromide 7647-15-6	-	-	-	-
Water 7732-18-5	-	-	-	-
Potassium bromate 7758-01-2	-	-	-	-
Sodium chlorite 7758-19-2	-	-	-	-

Chemical Name	California Hazardous Waste Status
Potassium chlorate 3811-04-9	-
Sodium bromide 7647-15-6	-
Water 7732-18-5	-
Potassium bromate 7758-01-2	Toxic Ignitable
Sodium chlorite 7758-19-2	Toxic Ignitable

**14. TRANSPORT INFORMATION**

**DOT UN/ID no.** Not regulated  
Final product is not regulated.

**IATA** Not regulated

**IMDG** Not regulated

**15. REGULATORY INFORMATION**

**International Inventories**

TSCA Complies  
 DSL/NDSL Complies  
 EINECS/ELINCS Complies  
 ENCS Complies  
 IECSC Complies  
 KECL Complies  
 PICCS Complies

AICS Complies

**Legend:**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product, as supplied, does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b><u>NFPA</u></b>	Health hazards 0	Flammability 0	Instability 0	Physical and Chemical Properties -
<b><u>HMIS</u></b>	Health hazards 0	Flammability 0	Physical hazards 0	Personal protection X

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**Revision Note**

No information available

**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**