1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product name
Total Chlorine
Powder UDV (Unit Dose Vial)

Other means of identification
Product Code(s)
4312

Recommended use of the chemical and restrictions on use
Recommended Use
Laboratory chemicals. Industrial (not for food or food contact use). Use as a laboratory reagent.

Details of the supplier of the safety data sheet
Manufacturer Address
LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chester, York, MD 21620 USA
T 410-778-3100
F 410-778-9748

Emergency telephone number
24 Hour Emergency Number (CHEMTEL): USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 613-248-0585

2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>Category 1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive Toxicity</td>
<td>Category 1B</td>
</tr>
</tbody>
</table>

EMERGENCY OVERVIEW

DANGER

Hazard statements
May cause cancer. May damage fertility or the unborn child.

Appearance White to off-white
Physical state solid, powder
Odor Odorless

Precautionary Statements - Prevention
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Drink 1 or 2 glasses of water. Call a physician immediately.

Precautionary Statements - Storage
Store locked up.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant.

Unknown Acute Toxicity
6.9% of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide</td>
<td>7681-11-0</td>
<td>1-5</td>
</tr>
<tr>
<td>Boric acid</td>
<td>10043-35-3</td>
<td>10-15</td>
</tr>
</tbody>
</table>

Ingredients not specifically listed by name are proprietary to the LaMotte Company, registered under the State of New Jersey Trade Secret protection law, assigned the NJTSRN#80100291-5051p, and may be disclosed only in a medical emergency.

### 4. FIRST AID MEASURES

**First Aid Measures**

**General advice**
Do not get in eyes, on skin, or on clothing.

**Eye contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

**Skin contact**
Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. If symptoms persist, call a physician.

**Inhalation**
Remove to fresh air. If symptoms persist, call a physician.

**Ingestion**
Drink plenty of water. Call a physician immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

**Self-protection of the first aider**
Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Notes to Physician**
Treat symptomatically. May cause sensitization by skin contact.

### 5. FIRE-FIGHTING MEASURES

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

**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**
7. HANDLING AND STORAGE

Precautions for safe handling

Handling
Handle in accordance with good industrial hygiene and safety practice. Do not taste or swallow. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from direct sunlight.

Incompatible Products
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide</td>
<td>TWA: 0.01 ppm</td>
<td>-</td>
<td>Not Established</td>
</tr>
<tr>
<td>7681-11-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boric acid</td>
<td>6 mg/m^3 STEL (inhalable fraction, listed under Borate compounds, inorganic) 6 mg/m^3 STEL (inhalable fraction) TWA: 2 mg/m^3</td>
<td>-</td>
<td>Not Established</td>
</tr>
<tr>
<td>10043-35-3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Wear safety glasses with side shields (or goggles). Avoid contact with eyes.

Skin and body protection
Wear latex or nitrile gloves.

Respiratory protection
None required under normal usage.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Wash hands and face before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state
solid, powder

Appearance
White to off-white

Odor
Odorless
4312 Total Chlorine

Property | Values | Remarks & Method
---|---|---
pH | 6 | 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 | No information available | 
  Upper flammability limit: | No information available | 
  Lower flammability limit: | No information available | 
Vapor pressure | No information available | 
Vapor density | No information available | 
Specific gravity | No information available | 
Water solubility | Soluble in water | 
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

Stability | Stable under recommended storage conditions. |
Hazardous polymerization | Hazardous polymerization does not occur. |
Conditions to avoid | Exposure to air or moisture over prolonged periods. Extremes of temperature and direct sunlight. Keep away from children. |
Incompatible materials | None known based on information supplied. |
Hazardous decomposition products | None under normal use. |

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Component Information</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical name</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Potassium iodide 7681-11-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boric acid 10043-35-3</td>
<td>= 2660 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rabbit)</td>
<td>&gt; 0.16 mg/L (Rat) 4 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide 7681-11-0</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Boric acid 10043-35-3</td>
<td>Not Established</td>
<td>Group 2A</td>
<td>Not Established</td>
<td>X</td>
</tr>
</tbody>
</table>

Chronic toxicity | May produce an allergic reaction.
4312 Total Chlorine

ATEmix (oral) 9384
ATEmix (dermal) 6485 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity
Unknown Aquatic Toxicity 80.8% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide   7681-11-0</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Boric acid         10043-35-3</td>
<td>Not Established</td>
<td>1020: 72 h Carassius auratus mg/L LC50 flow-through</td>
<td>115 - 153: 48 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

Persistence and degradability
No information available.

Bioaccumulation/Accumulation
No information available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide   7681-11-0</td>
<td>Not Established</td>
</tr>
<tr>
<td>Boric acid         10043-35-3</td>
<td>-0.757</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of waste product or used containers according to local regulations.

Contaminated packaging
Dispose of waste product or used containers according to local regulations.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide   7681-11-0</td>
<td>Not Established</td>
<td>-</td>
<td>Not Established</td>
<td>Not Established</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boric acid         10043-35-3</td>
<td>Not Established</td>
<td>-</td>
<td>Not Established</td>
<td>Not Established</td>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide   7681-11-0</td>
<td>-</td>
</tr>
<tr>
<td>Boric acid         10043-35-3</td>
<td>-</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
Not regulated

IATA
Not regulated

IMDG/IMO
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/NDSL - 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide</td>
<td></td>
</tr>
<tr>
<td>7681-11-0</td>
<td>Not Established</td>
</tr>
<tr>
<td>Boric acid</td>
<td></td>
</tr>
<tr>
<td>10043-35-3</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

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

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
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</tr>
<tr>
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<td>Not Established</td>
<td>Not Established</td>
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<tr>
<td>10043-35-3</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide</td>
<td></td>
<td>Not Established</td>
<td>-</td>
</tr>
<tr>
<td>7681-11-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boric acid</td>
<td></td>
<td>Not Established</td>
<td>-</td>
</tr>
<tr>
<td>10043-35-3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

US State Regulations
California Proposition 65

This product does not contain any Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide</td>
<td>Not Established</td>
</tr>
<tr>
<td>7681-11-0</td>
<td></td>
</tr>
<tr>
<td>Boric acid</td>
<td>Not Established</td>
</tr>
<tr>
<td>10043-35-3</td>
<td></td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>7681-11-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boric acid</td>
<td>X</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>10043-35-3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

16. OTHER INFORMATION

NFPA

Health hazard 1  Flammability 0  Instability 0  Physical and Chemical Hazards N/A

Prepared by Regulatory Affairs Department
Issuing Date May-20-2015

Disclaimer

The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet