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

Section 3 Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>%</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascorbic acid</td>
<td>50-81-7</td>
<td>100%</td>
<td>200-066-2</td>
</tr>
</tbody>
</table>

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.
Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Protect from light, air and moisture.

Section 8 Exposure Limits / Personal Protection

<table>
<thead>
<tr>
<th>Exposure Limits</th>
<th>Chemical Name</th>
<th>ACGIH (TLV)</th>
<th>OSHA (PEL)</th>
<th>NIOSH (REL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ascorbic acid</td>
<td>None established</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, white, crystalline powder.
Odor: Nearly odorless.
Flash point: Non flammable
Boiling point: Decomposes
Melting / Freezing point: 190-192°C (374-377°F)
Data not available.

Evaporation rate ( = 1): Data not available
Flammability (solid/gas): Data not available.
Explosion limits: Lower / Upper: Non flammable
Vapor pressure (mm Hg): Negligible
Vapor density (Air = 1): Data not available
Relative density (Specific gravity): 1.65
Solubility(ies): 30% by weight at 20°C in water.

Partition coefficient: Data not available
Auto-ignition temperature: 660°C (1220°F)
Decomposition temperature: Data not available.
Viscosity: Data not available.
Molecular formula: C6H8O6
Molecular weight: 176.13

Evaporation rate: Data not available
Relative density: Data not available
Viscosity: Data not available
Decomposition temperature: Data not available
Auto-ignition temperature: Data not available.

Hazard class: Not applicable
Packing group: Not applicable
UN/NA number: Not Regulated
Reportable Quantity: No
Marine pollutant: No

Section 10 Stability & Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Excessive temperatures, moisture, air and light.
Incompatible materials: Alkalis, iron, copper, water, oxidizing agents, acids.
Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological Information

Acute toxicity: Data not available
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
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.
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.

Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available

Potential health effects:
Inhalation: Inhalation may cause cough and sore throat.
Ingestion: May cause gastrointestinal irritation.
Skin: May cause mild irritation with redness.
Eyes: May cause mild irritation with redness and pain.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: CI7650000

Section 12 Ecological Information

Toxicity to fish: No data available
Toxicity to daphnia and other aquatic invertebrates: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Toxicity to algae: No data available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: Not applicable
Shipping name: Not Regulated
Hazard class: Not applicable
Packing group: Not applicable
Reportable Quantity: No
Marine pollutant: No
Exceptions: Not applicable
2012 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>CERLCA (RQ)</th>
<th>RCRA code</th>
<th>DSL</th>
<th>NDSL</th>
<th>WHMIS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascorbic acid</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Listed</td>
<td>Not listed</td>
<td>Uncontrolled product</td>
</tr>
</tbody>
</table>

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Revision Date: November 21, 2012
Supercedes: November 22, 2011
Section 1 Chemical Product and Company Information

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Rudorfweg 8 • 21031 Hamburg • Germany
Tel: +49-40-73966-0 Fax: +49-40-73966-100
www.3bscientific.com • 3b@3bscientific.com

Section 2 Hazards Identification

Product: HYDROGEN PEROXIDE, 3%
Synonyms: Hydrogen peroxide aqueous solution, stabilized

Signal word: WARNING
Pictograms: No symbol required
Target organs: Respiratory and gastrointestinal systems, skin, eyes
GHS Classification:
Acute toxicity (Category 5)
Eye irritation (Category 2B)

GHS Label information: Hazard statement:
H303: May be harmful if swallowed.
H517: Causes eye irritation.

Precautionary statement:
P264: Wash hands thoroughly after handling.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention.
P312: Call a POISON CENTER or doctor if you feel unwell.

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

Section 3 Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>%</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&lt;94%</td>
<td>231-791-2</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>6%</td>
<td>231-765-0</td>
</tr>
<tr>
<td>Acetanilide</td>
<td>103-84-4</td>
<td>0.05%</td>
<td>203-150-7</td>
</tr>
</tbody>
</table>

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES IRRITATION TO EYES. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Water only! Apply vast amounts for cooling and dilution.
Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.
Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This product is a strong oxidizer which may release oxygen and promote the combustion of flammable materials. Spontaneous combustion can occur if allowed to remain in contact with oxidizable materials. Drying of product on clothing, or combustible material may cause fire.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.
Section 7  Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8  Exposure Controls / Personal Protection

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH (TLV)</th>
<th>OSHA (PEL)</th>
<th>NIOSH (REL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>TWA: 1 ppm ; 1.4 mg/m³ (A3)</td>
<td>TWA: 1 ppm ; 1.4 mg/m³</td>
<td>TWA: 1 ppm ; 1.4 mg/m³</td>
</tr>
</tbody>
</table>

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9  Physical & Chemical Properties

Appearance: Clear, colorless liquid.
Odor: Slightly pungent odor.
Odor threshold: Data not available.
ph: Data not available.
Melting/Freezing point: Approximately 0°C (32°F) (water)
Boiling point: Approximately 100°C (212°F) (water)
Flash point: Data not available

Evaporation rate (Water = 1): <1
Flammability (solid/gas): Data not available.
Explosion limits: Lower / Upper: Data not available
Vapor pressure (mm Hg): 14 (water)
Vapor density (Air = 1): 0.7 (water)
Relative density (Specific gravity): Approximately 1.0 (water)
Solubility(ies): Complete in water.

Hazardous polymerization: Will not occur.

Section 10  Stability & Reactivity

Chemical stability: Stable

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition. Contact with combustible materials may result in spontaneous combustion.

Incompatible materials: Acids, bases, metals, metal salts, reducing agents, organic materials, alkalies, dust and dirt contaminants, flammable substances, oxidizable materials.

Hazardous decomposition products: Oxygen, which will promote the combustion of flammable material.

Section 11  Toxicological Information

Acute toxicity: Oral-rat LD50: 800 mg/kg [50% hydrogen peroxide]
Skin corrosion/irritation: Data not available.
Serious eye damage/irritation: Data not available.
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
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.
IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans.
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.

Reproductive toxicity: Data not available
STOT-single exposure: Data not available.
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available

Potential health effects:
Inhalation: May be harmful if inhaled.
Ingestion: May be harmful if swallowed.
Skin: May cause irritation.

Eyes: May cause irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: MX0900000 [Hydrogen peroxide]

Section 12  Ecological Information

Toxicity to fish: Gambusia affinis (fish, fresh water), NOEC = 2.38 - 9.86 mg/l [Hydrogen peroxide]
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = 7.7 mg/l/24 hours [Hydrogen peroxide]
Toxicity to algae: Chlorella vulgaris (Algae), EC50 = 2.5 mg/l/growth rate [Hydrogen peroxide]
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
PTB and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13  Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14  Transport Information

UN/NA number: Not applicable
Shipping name: Not Regulated
Hazard class: Not applicable
Packing group: Not applicable
Reportable Quantity: No
Marine pollutant: No
Exceptions: Not applicable
2012 ERG Guide #: Not applicable

Section 15  Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>CERCLA (RQ)</th>
<th>RCRA code</th>
<th>DSL</th>
<th>NDSL</th>
<th>WHMIS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Section 16  Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to ensure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Revision Date: February 27, 2013
Supercedes: February 23, 2011
Section 1  Chemical Product and Company Information

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www.3bscientific.com • 3b@3bscientific.com

Section 2  Hazards Identification

Product: IODINE-POTASSIUM IODIDE SOLUTION

Synonyms: Iodine-iodide / Iodine Solution / Iodine / Iodine Lugol’s Dilute / Gram’s Iodine Solution / Iodine 2% / Dilute Lugol’s Solution

Signal word: WARNING
Pictograms: GHS07 / GHS09
Target organs: Thyroid, kidneys, endocrine system, skin, eyes, reproductive system, central nervous system.

GHS Classification:
Acute toxicity, oral (Category 4)
Acute toxicity, inhalation (Category 4)
Aquatic Acute (Category 1)

GHS Label information: Hazard statement(s):
H312: Harmful in contact with skin.
H332: Harmful if inhaled.
H400: Very toxic to aquatic life.

Precautionary statement(s):
P261: Avoid breathing mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302/352: IF ON SKIN: Wash with plenty of soap and water.
P304/340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P362: Take off contaminated clothing and wash before reuse.
P391: Collect spillage.
P501: Dispose of contents/container to an approved waste disposal plant.

Section 3  Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Nommé Chimique</th>
<th># CAS</th>
<th>%</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>95.10%</td>
<td>231-791-2</td>
</tr>
<tr>
<td>Potassium iodide</td>
<td>7681-11-0</td>
<td>3.05%</td>
<td>231-659-4</td>
</tr>
<tr>
<td>Iodine</td>
<td>7553-56-2</td>
<td>1.85%</td>
<td>231-442-4</td>
</tr>
</tbody>
</table>

Section 4  First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. Harmful if inhaled.

EYE CONTACT: MAY CAUSE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: HARMFUL IN CONTACT WITH SKIN. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention. Harmful in contact with skin.

Section 5  Fire Fighting Measures

Extinguishing Media: Use any media suitable for extinguishing supporting fire.

General information: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6  Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.
Section 7 Handling & Storage
Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling. Remove and wash clothing before reuse.

Section 8 Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Exposure Limits</th>
<th>Chemical Name</th>
<th>ACGIH (TLV)</th>
<th>OSHA (PEL)</th>
<th>NIOSH (REL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA: 0.01 ppm</td>
<td>CAS # 7553-56-2</td>
<td>STEL: 0.1 ppm</td>
<td>STEL: 0.1 ppm/C 1 mg/m^3</td>
<td>STEL: C 0.1 ppm/C 1 mg/m^3</td>
</tr>
</tbody>
</table>

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or face shield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

**Appearance:** Deep amber liquid.
**Odor:** Characteristic odor.
**Odor threshold:** Not applicable.
**pH:** Data not available.

**Flammability (solid/gas):** Not applicable.
**Explosion limits:** Lower / Upper: Not applicable
**Vapor pressure (mm Hg):** 14 [water]
**Vapor density (Air = 1):** 0.7 [water]
**Relative density (Specific gravity):** 1.0 [water]
**Solubility(ies):** Complete in water.

**Partition coefficient:** (n-octanol / water): Not applicable
**Auto-ignition temperature:** Not applicable
**Decomposition temperature:** Data not available.
**Viscosity:** Data not available.
**Molecular formula:** Mixture
**Molecular weight:** Mixture

Section 10 Stability & Reactivity

**Chemical stability:** Stable
**Hazardous polymerization:** Will not occur.
**Conditions to avoid:** Stable under recommended storage conditions. Excessive temperatures which cause evaporation.

**Incompatibilities with other materials:** Metals or unsaturated organic compounds, ammonia solutions or alkaline solutions of ammonia salts. Will form explosive nitrogen iodides when reacted with gaseous ammonia.

**Hazardous decomposition products:** Toxic iodide fumes.

Section 11 Toxicological Information

**Acute toxicity:** Oral-Rat LD50: 14,000 mg/kg [Iodine CAS # 7553-56-2]
**Skin corrosion/irritation:** Data not available
**Serious eye damage/irritation:** Data not available
**Respiratory or skin sensitization:** Inhalation-rat 3.1 mg/m^3 / 24 hour / 13 weeks - continuous [Iodine CAS # 7553-56-2]
**Germ cell mutagenicity:** Data not available
**Carcinogenicity:** Data not available
**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.
**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.
**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.
**Reproductive toxicity:** Data not available
**STOT-single exposure:** Data not available
**STOT-repeated exposure:** Data not available
**Aspiration hazard:** Data not available
**Potential health effects:**
- Inhalation: Symptoms include cough, wheezing, and labored breathing. Symptoms may be delayed.
- Ingestion: Causes abdominal pain, diarrhea, nausea, and vomiting. Ingestion of levels of 2-3 grams of iodine may cause death.
- Skin: Contact may cause redness and pain.
- Eyes: Contact causes watering of the eyes, redness and pain.

**Signs and symptoms of exposure:**
- Effects of short-term exposure: Lachrymator. The substance is severely irritating to the eyes and the respiratory tract, and is irritating to the skin. Inhalation of the vapor may cause asthma-like reactions. Inhalation of the vapor may cause lung edema. The effects may be delayed. Effects of long-term exposure: Repeated or prolonged contact may cause skin sensitization in rate cases. Repeated or prolonged inhalation exposure may cause asthma-like syndrome. The substance may have effects on the thyroid. Specific data not available for this mixture. Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: NN1575000 [Iodine CAS # 7553-56-2]

Section 12 Ecological Information

**Toxicity to fish:** Very toxic to aquatic life.

**Toxicity to daphnia and other aquatic invertebrates:** No data available

**Persistence and degradability:** No data available

**Mobility in soil:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty containers. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

**UN/NA number:** None assigned
**Shipping name:** Not Regulated.
**Hazard class:** None assigned
**Packing group:** None assigned
**Reportable Quantity:** No
**Marine pollutant:** No
**Exceptions:** No

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>CERCLA (RQ)</th>
<th>RCRA code</th>
<th>DSL</th>
<th>NDSL</th>
<th>WHMIS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Listed</td>
<td>Not listed</td>
<td>E; D2A</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Listed</td>
<td>Not listed</td>
<td>D2A</td>
</tr>
</tbody>
</table>

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure.

Revision Date: January 29, 2013
Supercedes: April 1, 2011
Section 1  Chemical Product and Company Information

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www.3bscientific.com • 3b@3bscientific.com

Section 2  Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known

GHS Classification: Not classified

GHS Label information:
Hazard statement(s): Not classified
Precautionary statement(s): Not classified

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

Section 3  Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>%</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch, soluble</td>
<td>9005-84-9</td>
<td>100%</td>
<td>232-686-4</td>
</tr>
</tbody>
</table>

Supplemental information:
Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Section 4  First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5  Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust dispersed in air becomes explosive when exposed to ignition sources.

Section 6  Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.
Section 7  Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8  Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Exposure Limits:</th>
<th>Chemical Name</th>
<th>ACGIH (TLV)</th>
<th>OSHA (PEL)</th>
<th>NIOSH (REL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch (9005-25-8)</td>
<td>TWA: 10 mg/m³ (A4)</td>
<td>TWA: 15 mg/m³ (Total dust)</td>
<td>TWA: 10 mg/m³ (Total dust)</td>
<td></td>
</tr>
</tbody>
</table>

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9  Physical & Chemical Properties

Appearance: Solid, white powder.
Odor: Bland odor.
Odor threshold: Data not available.
Melting / Freezing point: Data not available.
Boiling point: Data not available.
Flash point: Data not available.

Evaporation rate (= 1): Data not available.
Flammability (solid/gas): Data not available.
Explosion limits: Lower / Upper: Data not available.
Vapor pressure (mm Hg): Data not available.
Vapor density (Air = 1): Data not available.
Relative density (Specific gravity): 1.45
Solubility(ies): 5 g/100 ml water @ 20°C

Partition coefficient: Data not available.
Auto-ignition temperature: 410°C (770°F) [cloud].
Decomposition temperature: Data not available.
Viscosity: Data not available.
Molecular formula: (C6H10O3)n
Molecular weight: (162.15)n

Section 10  Stability & Reactivity

Chemical stability: Stable.
Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition. Avoid practices which produce dust.

Incompatible materials: No data available.

Hazardous decomposition products: None.

Section 11  Toxicological Information

Acute toxicity: Data not available.
Skin corrosion/irritation: Data not available.
Serious eye damage/irritation: Data not available.
Respiratory or skin sensitization: Data not available.
Germ cell mutagenicity: Data not available.
Carcinogenicity: Data not available.
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.
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.

Reproductive toxicity: Data not available.
STOT—single exposure: Data not available.
STOT—repeated exposure: Data not available.
Aspiration hazard: Data not available.

Potential health effects:
Inhalation: Inhalation of high concentrations may cause unpleasant deposits in the nasal passages.
Ingestion: Ingestion may cause stomach irritation.
Skin: No hazard known.
Eyes: Contact with eyes may cause irritation.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: GM5090000 [Starch 9005-25-8]

Section 12  Ecological Information

Toxicity to fish: No data available.
Toxicity to daphnia and other aquatic invertebrates: No data available.
Persistence and degradability: Data not available.
Bioaccumulative potential: No data available.
Mobility in soil: No data available.
PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13  Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14  Transport Information

UN/NA number: Not applicable.
Hazard class: Not applicable.
Exceptions: Not applicable.

Shipping name: Not Regulated.
Packing group: Not applicable.
Reportable Quantity: No.
Marine pollutant: No.

2012 ERG Guide #: Not applicable.

Section 15  Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>CERCLA (RQ)</th>
<th>RCRA code</th>
<th>DSL</th>
<th>NDSL</th>
<th>WHMIS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch, soluble</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Section 16  Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.