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

Product Name: GEMINI BIO-1200

Other means of identification:
- Product Code: 397
- Synonyms: None

Recommended use of the chemical and restrictions on use:
- Recommended Use: Acid Replacement Oxidizer One-Step Cleaner
- Uses advised against: No information available

Manufacturer Address:
Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

Emergency telephone number:
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification:

| Skin corrosion/iritation          | Category 2 |
| Serious eye damage/eye irritation | Category 2A |

Label elements:

<table>
<thead>
<tr>
<th>Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard statements</td>
</tr>
<tr>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>Causes skin irritation</td>
</tr>
</tbody>
</table>

Appearance: aqueous solution
Physical state: liquid
Odor: Odorless

Precautionary Statements - Prevention:
Wash hands and exposed skin thoroughly after handling
Wear protective gloves/eye protection/face protection

Precautionary Statements - Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Hazards not otherwise classified (HNOC):

Other Information:
Unknown Acute Toxicity: 0% 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>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic salt</td>
<td>Trade Secret</td>
<td>35</td>
<td>Trade Secret</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

Eye contact
Flush immediately with water for 15 minutes. Lift upper and lower eyelids for complete rinsing. Get immediate medical attention.

Skin Contact
Flush with water for 15 minutes. If irritation persists after rinsing, get medical attention. Remove contaminated clothing and wash before reuse.

Inhalation
Remove victim to fresh air. If breathing difficulty occurs or persists, get medical attention.

Ingestion
Rinse mouth with water. Give water to dilute. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to a semi-comatose, comatose, convulsing or unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms
Causes serious eye irritation (pain, irritation, watering, redness). Exposure to decomposition products or mist may cause a health hazard. Serious effects may be delayed following exposure. Causes skin irritation (irritation, redness). Iritating to mouth, throat and stomach.

Indication of any immediate medical attention and special treatment needed

Note to physicians
In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
At temperatures above 60°C/140°F acid action on most metals may release hydrogen, a highly flammable and explosive gas.

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
No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Environmental precautions
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for containment
Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Methods for cleaning up

7. HANDLING AND STORAGE

Protective Measures:
Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on General: occupational hygiene
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Conditions for Safe: Storage, including any Incompatibilities
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
None

Appropriate engineering controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear protective splash proof safety goggles. Additional full face protection is recommended if splashing is a possibility.

Skin and body protection
For prolonged or repeated exposures, use impervious clothing (boots, gloves, aprons, etc.) over parts of the body subject to exposure.

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
## 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**
Heating above 110°C results in an exothermic decomposition with rapid release of CO2 gas.

**Incompatible materials**
Reactive or incompatible with the following materials: metal powders, bases, strong oxidizing or reducing agents.

**Hazardous Decomposition Products**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**
Product Information

Inhalation
Exposure to decomposition products or mist may cause a health hazard. Serious effects may be delayed.

Eye contact
Serious eye irritation

Skin Contact
Cause skin irritation

Ingestion
May be irritating to mouth, throat and stomach.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>= 801 mg/kg (Rat)</td>
<td>= 4060 mg/kg (Rat) = 2000 mg/kg (Rabbit)</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
See section 4

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

Sensitization
Not a skin sensitizer

Germ cell mutagenicity
No information available.

Carcinogenicity
No components are listed as carcinogens by IARC, ACGIH, OSHA or NTP

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

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

1% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Species</th>
<th>EC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td>48 hr; Ceriodaphnia dubia; Acute LC50 &gt;100 mg/L</td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>2.5: 72 h Chlorella vulgaris mg/L EC50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16.4: 96 h Pimephales promelas mg/L LC50 18 - 56: 96 h Lepomis macrochirus mg/L LC50 static 10.0 - 32.0: 96 h Oncorhynchus mykiss mg/L LC50 static</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.7: 24 h Daphnia magna mg/L EC50 18 - 32: 48 h Daphnia magna mg/L EC50 Static</td>
</tr>
</tbody>
</table>

Persistence and degradability
Readily biodegradable

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>Toxic</td>
</tr>
<tr>
<td></td>
<td>Corrosive</td>
</tr>
<tr>
<td></td>
<td>Ignitable</td>
</tr>
<tr>
<td></td>
<td>Reactive</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

Not regulated

15. REGULATORY INFORMATION

International Lists

Australia (AICS): One or more components are not listed.
Canada (DSL): All components are listed or exempted.
China (IECSC): One or more components are not listed.
Europe (EINECS): All components are listed or exempted.
Japan (ENCS): All components are listed or exempted.
New Zealand (NZIoC): All components are listed or exempted.
Philippines (PICCS): One or more components are not listed.
Republic of Korea (KECL): All components are listed or exempted.
Taiwan (NECI): All components are listed or exempted.

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

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)
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**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not Applicable

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**16. OTHER INFORMATION**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Properties -</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health hazards</td>
<td>Flammability</td>
<td></td>
<td>Physical hazards</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Prepared By: Imt  
Issue Date: 27-Dec-2017  
Revision Date: 27-Dec-2017  
Revision Note: No information available

**Disclaimer**

The information provided in this Material 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