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

Product Name
HYDROGEN PEROXIDE, 32% FG

Other means of identification
Product Code
H2O232
UN/ID No.
UN2014
Synonyms
None

Recommended use of the chemical and restrictions on use
Recommended Use
No information available.
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
OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
<th>Sub-category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1</td>
<td>Sub-category A</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
<td></td>
</tr>
<tr>
<td>Oxidizing liquids</td>
<td>Category 2</td>
<td></td>
</tr>
<tr>
<td>Oral: Acute Toxicity</td>
<td>Category 4</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity-single exposure</td>
<td>Category 3</td>
<td></td>
</tr>
</tbody>
</table>

Label elements

Hazard statements
Causes severe skin burns and eye damage
May intensify fire; oxidizer
Harmful if swallowed
May cause respiratory irritation

Appearance  aqueous solution
Physical state  liquid
Odor  Slight Pungent

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Take any precaution to avoid mixing with combustibles.
Keep/Store away from clothing/combustible materials
Do not eat, drink or smoke when using this product
Use only in well ventilated areas
Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see Section 4 on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a poison center/doctor if you feel unwell.
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up. Store in a well ventilated place. Keep container tightly closed.

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

Hazards not otherwise classified (HNOC)
Other Information
• Toxic to aquatic life with long lasting effect

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>Water</td>
<td>7732-18-5</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>32</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

General advice
Do not get in eyes, on skin, or on clothing. If symptoms persist, call a physician. Do not breathe gas/fumes/vapor/spray.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

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 from immediate source of exposure to fresh air. If breathing is difficult, administer oxygen if available. If victim is not breathing, administer CPR. If individual experiences nausea, headache, or dizziness, get immediate 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.

Self-protection of the first aider
Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms
Corrosive to eyes, nose, throat and lungs. May cause irreversible tissue damage to the eyes including blindness. May cause skin irritation.
5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray may be used to keep fire exposed containers cool.

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical
Oxidizer. Hydrogen peroxide itself is noncombustible. On decomposition, it releases oxygen which may support combustion or intensify a fire. Oxidizing materials may cause spontaneous ignition with combustible materials. Contact with flammables may cause fire or explosion. Risk of explosion if heated under confinement. Sealed containers may rupture when heated.

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
Evacuate nonessential personnel. Ventilate area. Wear appropriate personal protection equipment. Approach spill from upwind.

Environmental precautions
See Section 12 for additional ecological information. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains.

Methods for containment
Completely contain spilled material with dikes or sand bags, etc.

Methods for cleaning up
If safe to do so, stop leakage. Recover as much material as possible into containers (do not use original containers) for disposal. Dilute with large quantities of water. Avoid incompatible materials. In case of contact with clothing or combustible materials, avoid product drying out by submersion in or rinsing with water. If allowed to dry out on organic materials or combustibles, ignition may result.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Do not get in eyes, on skin, or clothing. Do not breathe vapors or mists. Do not ingest. Wash thoroughly after handling. Wear protective clothing/equipment. Use with adequate ventilation. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities
Storage Conditions

Operate and store in cool, well-ventilated area. Keep away from heat sources. Keep away from incompatible products. Prevent all contact with organics and combustible substances. Use equipment and containers which are compatible with the substance. Before all operations, passivate the piping circuits and vessels. Never return unused product to storage container. Containers and equipment used to handle hydrogen peroxide should be used exclusively for hydrogen peroxide. Hydrogen peroxide should not be stored in an unvented container. Keep in original container, closed. Provide containment for storage of the package. Regularly check condition and temperature of containers. Ensure adequate supply of water in the event of an accident.

Incompatible materials

Acids, bases, metals, salts of metals, reducing agents, organic materials, flammable substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide 7722-84-1</td>
<td>TWA: 1 ppm</td>
<td>TWA: 1 ppm</td>
<td>IDLH: 75 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 1.4 mg/m³</td>
<td>TWA: 1 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) TWA: 1 ppm</td>
<td>TWA: 1 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) TWA: 1.4 mg/m³</td>
<td>TWA: 1.4 mg/m³</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles. Face protection shield.

Skin and body protection
Suitable protective clothing. Rubber gloves.

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

Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>aqueous solution</td>
<td>Odor</td>
</tr>
<tr>
<td>Color</td>
<td>clear colorless</td>
<td>Odor threshold</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight Pungent</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

No information available
Vapor pressure: No information available
Vapor density: No information available
Specific Gravity: 1.091
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

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Excessive heat and contamination of any kind.

Incompatible materials
Acids, bases, metals, salts of metals, reducing agents, organic materials, flammable substances.

Hazardous Decomposition Products
Oxygen.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information
No data available

Inhalation
May cause irritation of respiratory tract.

Eye contact
Risk of serious damage to eyes.

Skin Contact
Contact causes severe skin irritation and possible burns.

Ingestion
Harmful if swallowed.

<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 7722-84-1</td>
<td>= 801 mg/kg (Rat)</td>
<td>= 4060 mg/kg (Rat) = 2000 mg/kg (Rabbit)</td>
<td>= 2 g/m³ (Rat) 4 h</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>A3</td>
<td>Group 3</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Reproductive toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Aspiration hazard
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life with long lasting effects

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide 7722-84-1</td>
<td>2.5: 72 h Chlorella vulgaris mg/L EC50</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>
<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
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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide 7722-84-1</td>
<td>Toxic Corrosive Ignitable Reactive</td>
</tr>
</tbody>
</table>
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Complies/Does not comply</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

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>Complies/Does not comply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</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)

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>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>-</td>
<td>1000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>
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>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

NFPA
Health hazards 3 Flammability 0 Instability 1

HMIS
Health hazards 3 Flammability 0 Physical hazards 1

Prepared By Imt
Issue Date 08-Aug-2014
Revision Date 27-Sep-2016
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