SAFETY DATA SHEET: HYDROGEN PEROXIDE, 50%

1. IDENTIFICATION

Product Name: HYDROGEN PEROXIDE, 50%
Synonyms: 
Formula and Formula Weight: H2O2 34.01
Integra numbers beginning with: H772.50
Recommended Use: Commercial/industrial use
Restrictions on Use: No information available

INTEGRA Chemical Company
1216 6th Ave N
Kent WA 98032
Phone: 253-479-7000

24 Hour Emergency Response: CHEMTREC 800-424-9300 (Outside USA 703-527-3887)

2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>OSHA Classification</th>
<th>Hazard Category</th>
<th>Hazard Statement:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity - Oral</td>
<td>4</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>1</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Eye Damage/Irritation</td>
<td>1</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Sensitization - Respiratory</td>
<td>1B</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>Oxidizing Liquids</td>
<td>1</td>
<td>May cause fire or explosion; strong oxidizer.</td>
</tr>
</tbody>
</table>

Signal Word: Danger

Precautionary Statements

Prevention:
- Keep away from heat.
- Keep, Store away from clothing and other combustible materials.
- Take any precaution to avoid mixing with combustibles.
- Do not breathe fume, gas, mist, vapors, spray.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves, protective clothing, eye protection, face protection.
- Wear fire, flame resistant, retardant clothing.
- Wear respiratory protection.

Response

If swallowed: Call a poison center, doctor if you feel unwell.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water, shower.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
Immediately call a poison center, doctor.
Specific treatment (see first aid section on this label)
If experiencing respiratory symptoms: Call a poison center, doctor.
Wash contaminated clothing before reuse.
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Storage

Store locked up.

Disposal

Dispose of contents, container in accordance with all governmental regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Synonyms</th>
<th>CAS #</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td></td>
<td>07732-18-5</td>
<td>50</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>Hydrogen dioxide</td>
<td>07722-84-1</td>
<td>50</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

OSHA SDS #: 25753 rev 101  3/27/2015  HYDROGEN PEROXIDE, 50%
9. PHYSICAL AND CHEMICAL PROPERTIES

Inhalation: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult administer oxygen. Seek medical attention.

Eye Contact: Flush eyes with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek immediate medical attention.

Skin Contact: Immediately remove contaminated clothing. Flush skin with water for at least 15 minutes. Seek immediate medical attention.

Ingestion: Rinse mouth and give victim large quantities of water. Never give anything by mouth to an unconscious person. Seek immediate medical attention. If swallowed, large amounts of oxygen may be released quickly. The distention of the stomach or esophagus may be injurious. Insertion of a gastric lavage tube may be advisable.

Additional notes: Symptoms and effects include skin, eye, nose, throat irritation; sore throat, cough, shortness of breath, pulmonary edema; dizziness; headache; blurred vision, corneal ulcer; bleaching of skin; abdominal pain, distention; nausea, vomiting; possible embolism in the blood resulting in shock or symptoms of a stroke.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Use only water.

Special Equipment and Precautions: Use water to cool nearby containers and structures. Wear full protective equipment, including suitable respiratory protection.

Specific Hazards: This chemical may cause a fire if it dries on clothing, wood, or other combustibles. Contact with flammable liquids or vapors may cause immediate fire or explosion. Decomposition will release oxygen which will increase the explosive limits and burning rate of vapors.

Hazardous combustion products: Contamination or heat may cause a self-accelerating exothermic decomposition with oxygen gas and steam release that can cause dangerous pressure.

6. ACCIDENTAL RELEASE MEASURES


Flood area with water and drain to an approved chemical sewer or wastewater treatment system. May be destroyed with sodium metabisulfite or sodium sulfite after diluting to 5-10% peroxide (1.9 lbs SO2 equivalent per pound of peroxide).

7. HANDLING AND STORAGE

Incompatible Materials: Reducing agents, combustibles, metals, cyanides, hexavalent chrome compounds, nitric acid, alcohols, bases.

Storage and Handling: Store locked up in a cool dry, well-ventilated area dedicated to oxidizer storage. Keep well away from incompatibles and potential sources of contamination. Keep out of light. Keep containers tightly closed when not in use. Regularly vent containers to prevent dangerous build-up of oxygen gas.

Keep away from heat.

Keep, Store away from clothing and other combustible materials.

Take any precaution to avoid mixing with combustibles.

Do not breathe fume, gas, mist, vapors, spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves, protective clothing, eye protection, face protection.

Wear fire, flame resistant, retardant clothing.

Wear respiratory protection.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

OSHA & ACGIH Exposure Limits:

Water None identified
Hydrogen peroxide OSHA TWA: 1 ppm; 1.4 mg/m³ ACGIH TWA: 1 ppm; 1.4 mg/m³

Engineering Controls: Use general or local exhaust ventilation to meet TLV and PEL requirements.

Respiratory Protection: Respiratory protection required if airborne concentrations exceed PEL or TLV. Use a NIOSH approved full facemask supplied air respirator.

Skin/Eye Protective Equipment: Safety goggles, face shield, chemical-resistant gloves and protective clothing appropriate for the risk of exposure. Natural rubber, nitrile, or polyvinylchloride afford adequate protection. Do not wear leather gloves or leather shoes because they can ignite following contact with peroxide.

Facilities storing or utilizing this material should have readily accessible eyewash stations and safety showers. Select respirators and other safety equipment in accordance with regulations and based upon the particular conditions of use and risk of exposure. Always use safe chemical-handling and good industrial hygiene practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid
Odor: Slightly irritating, pungent odor
Odor Threshold: Not available
pH: Not available
Melting/Freezing Point: -52.2 °C
Initial Boiling Point and Boiling Range: 114 °C
Flash Point: Not available
Evaporation Rate: Not available
Flammability: Not available
10. STABILITY AND REACTIVITY

Reactivity: No information available
Stability: Unstable
Possibility of Hazardous Reactions: Hazardous polymerization will not occur; contamination may cause rapid decomposition, generating large quan
Conditions to Avoid: Excessive heat, light or contamination of any kind.
Incompatibilities: Reducing agents, combustibles, metals, cyanides, hexavalent chrome compounds, nitric acid, alcohols, bases.
Decomposition Products: Contamination or heat may cause a self-accelerating exothermic decomposition with oxygen gas and steam release that can cause dangerous pressure.

11. TOXICOLOGICAL INFORMATION

Effects of Over Exposure:
Inhalation: Vapors and mists severely irritate the nose and throat. Symptoms may include chest discomfort, cough, sore throat, dizziness, headache, difficulty in breathing and shortness of breath, pulmonary edema.
Skin Contact: Brief exposure will irritate and bleach the skin. Longer exposure causes severe irritation, blisters and burns. May cause redness, pain, vesicles on skin.
Eye Contact: Vapors will irritate the eyes. Liquid and mists will irritate and may burn the eyes. This product is corrosive to the eyes and its effects may be delayed. May cause blurred vision, corneal ulcer. Direct liquid contact on the eyes may cause irreversible damage or blindness.
Ingestion: The liquid is severely irritating to the mouth and throat. May cause sore throat, abdominal pain, nausea, vomiting. Swallowing the liquid may cause a sudden evolution of oxygen, which can cause injury by distension of the esophagus or stomach. Local internal bleeding may result. May cause embolism in the blood resulting in shock or symptoms of a stroke. Gross overexposure by ingestion may be fatal.
Chronic Effects: None identified
Target Organs: Eyes, skin, respiratory system.
Additional Effects: May aggravate pre-existing skin and respiratory conditions. Possible lung damage.
Reproductive Effects: This material may be mutagenic.
Carcinogenicity: Hydrogen peroxide is listed by the IARC as Group 3, Unclassifiable.

Toxicity Data:

<table>
<thead>
<tr>
<th>Component</th>
<th>LC50 (inhalation, rat)</th>
<th>LC50 (skin, rat)</th>
<th>LD50 (oral, rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>&gt; 2000 ppm/8H</td>
<td>&gt; 2000 mg/kg</td>
<td>1232 mg/kg</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Aquatic Toxicity Data: LC50 Lepomis macrochirus: 26.7 mg/L - 9
Terrestrial Toxicity Data: No information available

<table>
<thead>
<tr>
<th>Component</th>
<th>Persistence and degradability</th>
<th>Bioaccumulative potential</th>
<th>Mobility in soil</th>
<th>Other adverse effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>Biodegradable</td>
<td>Potential to bioaccumulate is low</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Disposal Procedures: Dispose of material and containers in accordance with all local, state and federal regulations.

14. TRANSPORTATION INFORMATION

This product is a regulated material for domestic ground transporation, per CFR Title 49.

UN Number: UN2014
Proper Shipping Name: Hydrogen peroxide, aqueous solution
Packing Group: II
Hazard Class: 5.1
Subsidiary Risk: 8
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**** END OF SDS ****