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SECTION 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Color:clear colorlessSkin: Category 1BPhysical State:liquidEyes: Category 1Odor:fruity fragrance addedSignal Word: Caution

POTENTIAL HEALTH EFFECTS

Primary routes of exposure: Skin contact and inhalation.

Signs and symptoms of acute exposure: The product, in the form supplied, is not anticipated to produce significant adverse human health effects.

Acute Eye: Slightly irritating. (data for solvent component)
Acute Skin: Slightly irritating. (data for solvent component)

Remarks: Handle in accordance with good industrial hygiene and safety practice. Dried product may stick to the skin causing irritation upon removal.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS		
INGREDIENT	CAS NUMBER	INGREDIENT % RANGE
Hydrogen Peroxide	7722-84-1	< 2.4 %

SECTION 4 - FIRST AID MEASURES

Eyes: Immediately flush eye(s) with plenty of water.

Skin: In case of contact, Immediately flush skin with plenty of water. Remove material from clothing. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Ingestion: If swallowed, DO NOT induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove victim to fresh air.

SECTION 5 - FIRE FIGHTING MEASURES

FIRE HAZARD DATA:

Flash Point and Method: None

Flammability Limits (vol/vol%): LOWER: No data available UPPER: No data available

Extinguishing Media (suitable): Carbon dioxide (CO2), Dry chemical, Foam, water spray

Protective Equipment: Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear)

and self-contained breathing apparatus (pressure demand/NIOSH approved or equivalent).

Further Firefighting Advice: Fire fighting equipment should be thoroughly decontaminated after use. **Fire and Explosion Hazards:** When burned, the following hazardous products of combustion can occur:

Carbon oxides

Hazardous organic compounds

SECTION 6 - ACCIDENTAL RELEASE MEASURES

In case of spill or leak: Prevent further leakage or spillage if ou can do so without risk. Ventilate the area. Avoid generation of vapors. Contain and collect spillage with non-combustible absorbent material such as clean sand, earth, diatomaceous eart or non-acidic clay and place into suitable properly labeled containers for prompt disposal. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

SECTION 7 – HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing.

Storage: Keep in a dry, cool place. This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage. Store in upright position only. Keep container closed when not in use.

Storage Stability: Stable under normal conditions. May coagulate if frozen at 0°C (32°F). Material may develop bacteria odor on long term storage.

Storage Incompatibility - General:

Store separate from: Strong bases, Strong oxidizing agents, Strong acids

May cause coagulation: Multivalent metal salts

Temperature tolerance – Do not store below: $34 \, ^{\circ}F \, (1 \, ^{\circ}C)$ Temperature tolerance – Do not store above: $100 \, ^{\circ}F \, (38 \, ^{\circ}C)$

SECTION 8 – EXPOSURES CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Hydrogen Peroxide

US. Workplace Environmental Exposure Level (WEEL) Guides

Time Weighted Average (TWA): 1 ppm (PEL): 1 ppm

Remarks: Listed

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

Engineering Controls: Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Respiratory Protection: Avoid breathing vapor or mist. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components (full facepiece recommended). Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Eye/Face Protection: Use good industrial practice to avoid eye contact.

Skin Protection: Minimize skin contamination by following good industrial hygiene practice. When handling this material, gloves of the following type(s) should be worn: Neoprene, nitrile, Polyvinylchloride, Natural Rubber, butyl-rubber, Chlorinated polyethylene, polyethylene (PE), ethyl vinyl alcohol laminate (EVAL).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Color: Clear, colorless Vapor Density: No data available

Physical State: liquid Vapor Pressure: not determined

 Odor:
 Fruity
 Boiling Point: 212 °F (100 °C) (data for Water(7732-18-5))

 pH:
 (as is) 1.7-2.0
 Freezing Point: 32 °F (0 °C) (data for Water (7732-18-5))

Density: calculated 8.40 lbs/gal Solubility in water: soluble

SECTION 10 - STABILITY AND REACTIVITY

Specific Gravity, g/ml: calculated 1.01 Water=1 (liquid)

Stability: This material is chemically stable under normal and anticipated storage, handling and processing conditions.

Stability-Conditions to avoid: See HANDLING AND STORAGE section of this MSDS for specified conditions. See Hazardous Decomposition Products below.

Materials to Avoid: Strong acids, Strong bases, Strong oxidizing agents

May cause coagulation: Multivalent metal salts

Hazardous Decomposition Products: Thermal decomposition giving flammable and toxic products: Hazardous organic compounds, Carbon oxides

Hazardous Polymerization: Hazardous polymerization does not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

EYE EFFECTS: 5% hydrogen peroxide: Minimally irritating (rabbit)

SKIN EFFECTS: 10% hydrogen peroxide: Mildly irritating after 4-hour exposure (rabbit)

DERMAL LD50: 35% hydrogen peroxide: > 2,000 mg/kg (rabbit) **ORAL LD50:** 10% hydrogen peroxide: > 5,000 mg/kg (rat) **INHALATION LC50:** 50% hydrogen peroxide: > 0.17 mg/l (rat)

ACUTE EFFECTS FROM OVEREXPOSURE: Minimally irritating to the eyes, skin, nose, throat, and lungs.

CHRONIC EFFECTS FROM OVEREXPOSURE: The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for carcinogenicity of hydrogen peroxide in humans, but limited evidence in experimental animals (Group 3 - not classifiable as to its carcinogenicity to humans). The American Conference of Governmental Industrial Hydrogenists (ACGIH) has concluded that hydrogen peroxide is a

'Confirmed Animal Carcinogen with Unknown Relevance to Humans' (A3).

CARCINOGENICITY:

 Chemical Name
 IARC
 NTP
 OSHA
 Other

 Hydrogen Peroxide
 Listed
 Not listed
 Not listed
 (ACGIH) Listed (A3, Animal Carcinogen)

SECTION 12 - ECOLOGICAL INFORMATION

Chemical Fate and Pathway

Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Degrades in the atmosphere within the light spectrum with hydroxyl radicals in the gas phase and subsequent photolysis.

ECOTOXICOLOGICAL INFORMATION: Channel catfish 96-hour LC50 = 37.4 mg/L

Fathead minnow 96-hour LC50 = 16.4 mg/L

Daphnia magna 24-hour EC50 = 7.7 mg/L

Daphnia pulex 48-hour LC50 = 2.4 mg/L

Freshwater snail 96-hour LC50 = 17.7 mg/L

For more information refer to ECETOC "Joint Assessment of Commodity Chemicals No. 22, Hydrogen

Peroxide." ISSN-0773-6339, January 1993

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste disposal:

Disposal via incineration is recommended. Dispose of in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

SECTION 14 - TRANSPORT INFORMATION

US Department of Transportation (DOT): not regulated

International Maritime Dangerous Goods Code (IMDG): not regulated

SECTION 15 - REGULATORY INFORMATION

US. Toxic Substances Control Act

TSCA

The components of this product are all on the TSCA Inventory.

Canada. Canadian Environmental Protection Act

(CEPA). Domestic Substances List (DSL). (Can. Gaz.

DSI This product contains one or several components that are not on the Canadian DSL nor NDSL lists.

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<u>United States – Federal Regulations</u> SARA Title III – Section 302 Extremely Hazardous Chemicals:

No SARA Hazards

SARA Title III - Section 311 Hazard Categories:

No SARA Hazards

SARA Title III - Section 312 Hazard Categories:

The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs;

however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:

Hydrogen Peroxide - 1,000 lbs

SARA Title III - Section 313 Toxic Chemicals:

No SARA Hazards

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable

Quantity (RQ): Not listed

OSHA Regulated carcinogens (NTP, IARC, OSHAListed):

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.

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.

SECTION 16 - OTHER INFORMATION

HMIS Rating

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
PROTECTIVE EQUIPMENT	В

KEY: 4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal

Protection=B (Safety goggles, gloves)

HMIS - Hazardous Materials Identification System

PREPARATION INFORMATION

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