SAFETY DATA SHEET

1. Identification

Product identifier **Hydrogen peroxide 30%**

Other means of identification

Product code -

Recommended use Industrial use.

Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Supplier/Manufacturer KMG Electronic Chemicals, Inc.

Address 9555 W. Sam Houston Parkway South
Suite 600
Houston, Texas 77099

Telephone 713-600-3800

Emergency telephone 760-476-3960

2. Hazard(s) identification

Physical hazards	Oxidizing liquids	Category 1
	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May cause fire or explosion; strong oxidizer. May be corrosive to metals. Harmful if swallowed. Causes serious eye damage.

Precautionary statement

Prevention Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wear protective gloves and eye/face protection. Wear eye/face protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. 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/doctor. In case of fire: Use media appropriate for surrounding materials for extinction.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Hydrogen peroxide		7722-84-1	30

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move person to fresh air. If symptoms persist, get medical attention.

Skin contact Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Do not give anything by mouth to an unconscious person. Only induce vomiting at the instruction of medical personnel. Get medical attention immediately.
Most important symptoms/effects, acute and delayed	Severe eye irritation.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm.
General information	In case of shortness of breath, give oxygen. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media	The product itself does not burn. Increases fire risk. Use extinguishing agent suitable for type of surrounding fire. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Do to high temperatures caused by fire this product may decompose releasing oxygen. Pressure build up may result in rupture of enclosed packaging and piping.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Local authorities should be advised if significant spillages cannot be contained. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Keep unnecessary personnel away. Stay upwind. Keep out of low areas. Use personal protection recommended in Section 8 of the SDS.
Methods and materials for containment and cleaning up	Should not be released into the environment. Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Small Spills: Absorb spill with vermiculite or other inert material. Clean contaminated surface thoroughly. After removal flush contaminated area thoroughly with water. Never return spills in original containers for re-use.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling	Use only with adequate ventilation. Avoid prolonged exposure. Do not handle or store near an open flame, heat or other sources of ignition. Wash thoroughly after handling. Provide easy access to water supply and eye wash facilities. Handle and open container with care.
Conditions for safe storage, including any incompatibilities	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep this material away from food, drink and animal feed. Use care in handling/storage. Oxidizing material - Keep away from flammable and combustible materials. Protect from sunlight. Closed containers can burst due to excess pressure build-up. Do not completely seal containers. Keep product away from organic solvents and other products containing easily oxidized functional groups.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value
Hydrogen peroxide (CAS 7722-84-1)	PEL	1.4 mg/m3 1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydrogen peroxide (CAS 7722-84-1)	PEL	1.4 mg/m3
		1 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrogen peroxide (CAS 7722-84-1)	TWA	1 ppm

US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)

Material	Type	Value
Hydrogen peroxide (CAS 7722-84-1)	REL	1.4 mg/m3
		1 ppm

Components	Type	Value
Hydrogen peroxide (CAS 7722-84-1)	TWA	1.4 mg/m3
		1 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines Provide easy access to water supply and eye wash facilities.

Appropriate engineering controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved safety glasses or goggles.

Skin protection

Hand protection Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Avoid protective clothing and shoes made from leather.

Respiratory protection No personal respiratory protective equipment normally required. In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment. Use respiratory equipment with combination filter, type NO/P3.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Remove and isolate contaminated clothing and shoes. Handle in accordance with good industrial hygiene and safety practice. Launder contaminated clothing before reuse.

9. Physical and chemical properties

Appearance Colorless liquid.

Physical state Liquid.

Form Liquid.

Color Colorless.

Odor Odorless.

Odor threshold Not available.

pH Not available.

2 - 4 Weak acid; H_2O_2 .

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

222.8 °F (106 °C)

Flash point not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	not available.
Flammability limit - upper (%)	not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.54 mmHg
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available. Completely soluble
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	not available.
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Density	1.11 g/cm3
Dynamic viscosity	1.25 mPa.s
Molecular formula	H2-O2
Molecular weight	34.01 g/mol
VOC (Weight %)	Not available

10. Stability and reactivity

Reactivity	Stable at normal conditions.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur. Reacts violently with organic solvents.
Conditions to avoid	Corrosive to metals. Oxidizing, avoid contact with reducing agents. Avoid exposure to high temperatures or direct sunlight. Reacts violently with alkaline material. Do not mix with other chemicals. Contact with combustibles.
Incompatible materials	This product may react with reducing agents. Incompatible with bases. Alcohols. Flammable material. Organic solvents. Hydrochloric acids. Metals.
Hazardous decomposition products	Oxygen.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.
Inhalation	Not relevant at normal room temperatures. When heated, irritating vapors may be formed. Exposure to vapors may cause necrosis of respiratory tract risk and pulmonary edema.
Skin contact	Mild skin irritation. Moderately irritating to skin with prolonged exposure.
Eye contact	Risk of serious damage to eyes.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms can include irritation, redness, scratching of the cornea, and tearing. Permanent eye damage or blindness could result.

Information on toxicological effects

Acute toxicity Harmful if swallowed. Risk of serious damage to eyes.

Components	Species	Test Results
Hydrogen peroxide (CAS 7722-84-1)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
Inhalation		
LC50	Rat	2 mg/l, 4 Hours
Oral		
LD50	Rat	376 mg/kg

Skin corrosion/irritation May cause skin irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory sensitization No data available.

Skin sensitization Not a skin sensitizer.

Germ cell mutagenicity None known.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrogen peroxide (CAS 7722-84-1) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity None known.

Specific target organ toxicity - single exposure None known.

Specific target organ toxicity - repeated exposure None known.

Aspiration hazard Not classified.

Chronic effects No data available.

12. Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Hydrogen peroxide (CAS 7722-84-1)			
Aquatic			
Crustacea	LC50	Daphnia	24 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	26.7 mg/l, 96 Hours
		Chameleon goby (Tridentiger trigonocephalus)	155 mg/l, 24 Hours
		Jack Mackerel (Trachurus japonicus)	89 mg/l, 24 Hours
		Rainbow trout,donaldson trout (Oncorhynchus mykiss)	22 mg/l, 96 Hours

Persistence and degradability The product is biodegradable.

Bioaccumulative potential Potential to bioaccumulate is low.

Mobility in soil No data available.

Mobility in general The product is water soluble and may spread in water systems.

Other adverse effects No data available.

13. Disposal considerations

Disposal instructions Dispose of this material and its container at hazardous or special waste collection point. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Local disposal regulations Dispose of in accordance with local regulations.

Hazardous waste code Waste codes should be assigned by the user based on the application for which the product was used.

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN2014

UN proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION

Transport hazard class(es)	5.1
Subsidiary class(es)	8
Packing group	II
Special precautions for user	Not available.
Special provisions	12, B53, B80, B81, B85, IB2, T7, TP2, TP6, TP24, TP37
Packaging exceptions	None
Packaging non bulk	202
Packaging bulk	243
ERG number	140

IATA

UN number	UN2014
UN proper shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport hazard class(es)	5.1
Subsidiary class(es)	8
Packaging group	II
Environmental hazards	No
Labels required	5.1,8
ERG Code	5C
Special precautions for user	Not available.

IMDG

UN number	UN2014
UN proper shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport hazard class(es)	5.1
Subsidiary class(es)	8
Packaging group	II
Environmental hazards	
Marine pollutant	No
Labels required	5.1,8
EmS	F-H, S-Q
Special precautions for user	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	Yes
SARA 311/312 Hazardous chemical	Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Total food additive Direct food additive GRAS food additive

US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Hydrogen peroxide (CAS 7722-84-1)

US. New Jersey Worker and Community Right-to-Know Act

Hydrogen peroxide (CAS 7722-84-1) 500 lbs

US. Pennsylvania RTK - Hazardous Substances

Hydrogen peroxide (CAS 7722-84-1)

US. Rhode Island RTK

Hydrogen peroxide (CAS 7722-84-1)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

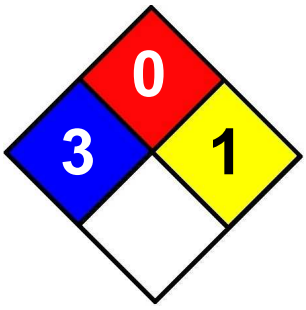
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	22-September-2013
Revision date	-
Version #	01

NFPA Ratings



Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.