SAFETY DATA SHEET

Issue Date: 22-Apr-2016 **Revision Date:** 22-Jul-2021 **Version** 1

1. Identification

Product identifier
Product Name: Hydrogen Peroxide 34% FG

Other means of identification
Product Code: 46390
Synonyms: H_2O_2; HOOH
UN/ID No: UN2014

Recommended use of the chemical and restrictions on use
Recommended Use: Industrial, Manufacturing or Laboratory use.
Restrictions on Use: None known

Details of the supplier of the safety data sheet
Manufacturer: Hawkins, Inc.
2381 Rosegate
Roseville, MN 55113
(612) 331-6910

Emergency telephone number
Emergency Telephone: CHEMTREC: 1-800-424-9300 (US) / +1 703-741-5970 (International)

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 1
Oxidizing liquids	Category 2

Hazards not otherwise classified (HNOC)
Not applicable

Label elements
Signal word: Danger

Hazard statements:
Harmful if swallowed or if inhaled
Causes serious eye damage
May intensify fire; oxidizer

Precautionary Statements - Prevention:
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat
Keep/Store away from clothing/ combustible materials
Take any precaution to avoid mixing with combustibles
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
Immediately call a POISON CENTER or doctor
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
Rinse mouth
In case of fire: Use water. Do not use dry chemicals or foams. CO_2 or Halon may provide limited control

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

Unknown Acute toxicity:
0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Other Information
Not applicable

3. Composition/information on ingredients

Chemical name	CAS No	Weight-%
Hydrogen peroxide	7722-84-1	34.0-34.9
Water	7732-18-5	Balance

Any concentration shown as a range is due to batch variation or the exact percentage has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective

equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Redness. Burning. May cause blindness. Symptoms of overexposure include coughing, giddiness and sore throat.

Indication of any immediate medical attention and special treatment needed

Note to physicians Exposure to material may cause delayed lung injury resulting in pulmonary edema and pneumonitis. Exposed individuals should be monitored for 72 hours after exposure for the onset of delayed respiratory symptoms. Oxygen rapid release may cause stomach swelling and hemorrhaging, which may produce major, or even fatal, injury to organs if a large amount has been ingested.

5. Fire-fighting measures

Suitable Extinguishing Media Use water. Do not use dry chemicals or foams. CO_2 or Halon may provide limited control. Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Dry chemical. Foam. CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May ignite combustibles (wood paper, oil, clothing, etc.). Runoff may create fire or explosion hazard. Decomposes upon heating to release oxygen. Strong oxidizer, attacks textiles and paper. Reacts violently with combustible and reducing materials. Contact with combustible material may cause spontaneous combustion. Closed, unvented containers of this material may explode when subjected to heat from surrounding fire. Solutions above 65% are especially hazardous as they do not contain enough water to remove the heat of decomposition by evaporation. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in fire.

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. Do not move cargo or vehicle if cargo has been exposed to heat. Oxidizer. May ignite combustibles (wood paper, oil, clothing, etc.). Move containers from fire area if you can do it without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See section 8 for more information. Stop leak if you can do it without risk. Use personal protective equipment as required.

Other information Keep combustibles (wood, paper, oil, etc) away from spilled material. Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Dike far ahead of spill; use dry sand to contain the flow of material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Stop leak if you can do it without risk.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Flush area with flooding quantities of water. Prevent product from entering drains. Dike far ahead of liquid spill for later disposal. Use clean non-sparking tools to collect absorbed material. Flush area with flooding quantities of water. Hydrogen peroxide may be decomposed by adding sodium metabisulfite or sodium sulfite after diluting to about 5%. Combustible materials exposed to hydrogen peroxide should be rinsed immediately with large amounts of water to ensure that all the hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in fire.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Avoid contact with skin, eyes or clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Use with local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Prevent contamination. Utensils used for handling hydrogen peroxide should only be made of glass, stainless steel, aluminum or plastic. Pipes and equipment should be passivated before first use. Do not return unused material to its original container.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Do not store near combustible materials. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up. Protect from light. Containers must be vented. Do not store on wooden pallets.

Incompatible Materials Organic material. Combustible material. Hydrocarbons. Strong acids. Strong bases. Strong oxidizing agents. Reducing agent. Acids. Bases. Metals (iron, copper, brass, bronze, chromium, zinc, lead, silver, manganese, and their alloys). Metal ions. Terpenes. Metal oxides. Alcohols.

8. Exposure controls/personal protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m^3 (vacated) TWA: 1 ppm (vacated) TWA: 1.4 mg/m^3	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m^3

Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering controls Showers

Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Wear fire/flame resistant/retardant clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical State:	Liquid
Appearance:	Clear
Color:	Colorless
Odor:	Slightly pungent
Odor Threshold:	No information available
pH:	
pH Range:	<=4.0
Salt Out Point:	No information available
Melting Point/Freezing Point:	-32 °C / -26 °F
Boiling Point/Boiling Range:	No information available
Flash Point:	No information available
Evaporation Rate (BuAc=1):	No information available
Flammability (solid, gas):	No information available
Flammability Limits in Air:	No information available
Vapor Pressure (mm Hg):	No information available
Vapor density (Air =1):	No information available
Specific Gravity (H_2O=1):	No information available
Water Solubility:	No information available
Solubility(ies):	No information available
Partition Coefficient (n-octanol/water):	No information available
Autoignition Temperature:	No information available
Decomposition Temperature:	No information available
Kinematic Viscosity:	No information available
Dynamic Viscosity:	No information available

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Molecular Weight:	34.01

10. Stability and reactivity

Reactivity Oxidizer.

Chemical stability May cause fire or explosion; strong oxidizer. Decomposes on exposure to light. Decomposes on heating. Contamination with metals can accelerate decomposition.

Possibility of hazardous reactions Contact with combustible material may cause spontaneous combustion. Material decomposes with the potential to produce a rupture of unvented closed containers. Contamination could cause decomposition and generation of oxygen which may result in high pressure and possible container rupture. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

Conditions to avoid Heat, flames and sparks. Incompatible materials. Excessive heat. Exposure to light. Contamination.

Incompatible Materials Organic material. Combustible material. Hydrocarbons. Strong acids. Strong bases. Strong oxidizing agents. Reducing agent. Acids. Bases. Metals (iron, copper, brass, bronze, chromium, zinc, lead, silver, manganese, and their alloys). Metal ions. Terpenes. Metal oxides. Alcohols.

Hazardous decomposition products Oxygen.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available. Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Symptoms of overexposure include coughing, giddiness and sore throat.

Numerical measures of toxicity

Acute Toxicity:

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 1,432.70 mg/kg
ATEmix (dermal) 26,361.00 mg/kg
ATEmix (inhalation-dust/mist) 4.30 mg/l

Component Information

Chemical name	Oral LD_{50} :	Dermal LD_{50} :	LC_{50} (Lethal Concentration):
Hydrogen peroxide 7722-84-1	= 1518 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m³ (Rat) 4 h
Water 7732-18-5	> 90 mL/kg (Rat)	-	-

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity See section 2 for classified hazards based on component information.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrogen peroxide 7722-84-1	A3	Group 3	-	-

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Other Adverse Effects: No information available.

12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Hydrogen peroxide 7722-84-1	-	16.4 mg/L (LC50 96 h - Pimephales promelas) 18 - 56 mg/L (LC50 96 h static - Lepomis macrochirus) 10.0 - 32.0 mg/L (LC50 96 h static - Oncorhynchus mykiss)	-	18 - 32 mg/L (EC50 48 h Static - Daphnia magna)

Persistence and Degradability: No information available.

Bioaccumulation: There is no data for this product.

Mobility: No information available.

Other Adverse Effects: No information available.

13. Disposal considerations

Waste treatment methods
Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local, state, and national regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT

UN/ID No	UN2014
Proper shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS
Hazard Class	5.1
Subsidiary Class	8
Packing Group	II
Description	UN2014, HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS, 5.1 (8), PG II

15. Regulatory information

International Inventories

Chemical name	TSCA	AICS	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Hydrogen peroxide 7722-84-1	Present ACTIVE	Present	Present	-	Present	-	Present	Present	Present	Present
Water 7732-18-5	Present ACTIVE	Present	Present	-	Present	-	Present	Present	Present	Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
AICS - Australian Inventory of Chemical Substances
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

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
Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 and later calendar years will need to be consistent with updated hazard classifications.

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Extremely Hazardous Substances TPQ
Hydrogen peroxide 7722-84-1	-	1000 lb	1000 lb TPQ

Clean Water Act (CWA)
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).

OSHA - Process Safety Management - Highly Hazardous Chemicals

This product contains one or more substances regulated under Process Safety Management (29 CFR 1910.119).

Chemical name	OSHA - Process Safety Management - Highly Hazardous Chemicals
Hydrogen peroxide 7722-84-1	7500 lb TQ >=52% by weight

Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS)
This product contains one or more substances regulated under the Chemical Facility Anti-Terrorism Standards (6 CFR 27).

Chemical name	Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS)
Hydrogen peroxide 7722-84-1	Theft - Explosives/Improvised Explosive Device Precursors concentration >=35%

16. Other information

NSF/ANSI 60 Certification

Certified to NSF/ANSI 60

Maximum Use (mg/L unless otherwise indicated): 3

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Disclaimer:
The information provided in this 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