

Product #: 302718 Name: HYDROGEN PEROXIDE 35% FG KOSHR Desc:
From: BRENNTAG GREAT LAKES INC. To: Friday, February 05, 2010

BRENNTAG
HYDROGEN PEROXIDE 35% FG KOSHR

Kemira

MATERIAL SAFETY DATA SHEET

HYDROGEN PEROXIDE (20 to 60%)

KEM001

Revised May 2008

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

Formula : H_2O_2
Molecular Weight : 34.02

Trade Names and Synonyms

Standard grade hydrogen peroxide aqueous solutions: 30SG, 35SG, 50SG
Kemi-Pure™ food grade hydrogen peroxide aqueous solutions: 30FG, 35FG, 50FG

Product Use

Bleaching Agent
Oxidizing Agent

- Standard Grade:
- certified by NSF to meet NSF/ANSI Standard 60 requirement for drinking water treatment
 - most suitable grade for industrial bleaching; water, effluent and soil treatments; and general oxidation reactions
- Kemi-Pure™
- Kosher-certified (COR 721)
 - meets Food Chemical Codex requirements food-related applications
 - NSF and Kosher-certified

Company Identification

MANUFACTURER/DISTRIBUTOR

Kemira Chemicals Canada Inc.
1380 County Rd. #2
P.O. Box 615
Maitland, Ontario K0E 1P0

PHONE NUMBERS

Product Information : 1-800-263-5902
Transport Emergency : 1-800-303-4338 (24 HOURS)
Medical Emergency : 1-800-303-4338 (24 HOURS)

NOTICE FROM KEMIRA: The information on this material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

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COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS

<i>Material</i>	<u>CAS Number</u>	<u>%</u>
Hydrogen Peroxide	7722-84-1	20-60
Water	7732-18-5	80-40

HAZARDS IDENTIFICATION

Potential Health Effects

Hydrogen peroxide may cause severe irritation or burns of the skin, eyes and mucous membranes. Splashes in the eye can cause severe eye damage with ulceration of the cornea and may cause irreversible eye damage, including blindness. Skin exposure can result in bleaching of the skin and hair.

Inhalation of concentrated vapors can cause irritation of the nose and throat with chest discomfort, cough, difficulty in breathing and shortness of breath.

Ingestion can cause irritation of the upper gastrointestinal tract with pain and distention of the stomach and esophagus due to liberation oxygen.

Gross overexposure by ingestion may be fatal.

Human Health Effects:

Skin contact with aqueous solutions of less than 50% may cause irritation with discomfort or rash. Higher or prolonged exposure may result in skin burns or ulceration. Evidence suggests that skin permeation can occur in amounts capable of producing systemic toxicity. Effects of eye contact with aqueous solutions of less than 5% may include eye irritation with discomfort, tearing, or blurring of vision. Higher or prolonged exposure may result in eye corrosion with corneal or conjunctival ulceration. Contact with aqueous concentrations of greater than 10% may result in eye corrosion with corneal or conjunctival ulceration with possible irreversible eye damage, including blindness.

Overexposure by inhalation may cause irritation of the upper respiratory passages or nonspecific discomfort such as nausea, headache, or weakness. Higher inhalation exposures may lead to temporary lung irritation effects with cough, discomfort, difficulty breathing, or shortness of breath; or fatality from gross overexposure. Ingestion may cause irritation of the gastrointestinal tract with upper abdominal pain, "heartburn", nausea, vomiting, and diarrhea. "Coffee grounds" vomitus and black tarry stools may occur as a result of gastrointestinal tract bleeding. Additional effects from overexposure include red blood cell destruction, or gas embolism.

When used as colonic lavage, hydrogen peroxide has caused gas embolism and gangrene of the intestine at concentrations down to 0.75%. Gross overexposure by ingestion may be fatal.

Individuals with preexisting diseases of the skin, eyes, or lungs may have increased susceptibility to the toxicity of excessive exposures.

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(HAZARDS IDENTIFICATION – Continued)

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

INHALATION

If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing and shoes promptly and thoroughly.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physicians:

If swallowed, large amounts of oxygen may be released quickly. The distention of the stomach or esophagus may be injurious. Insertion of a gastric tube may be advisable.

FIRE FIGHTING MEASURES

Flammable Properties

Will not burn, but decomposition, which may be caused by heat or contamination will release oxygen which will increase the explosive limit range and burning rate of flammable vapors.

Fire and Explosion Hazards:

Strong oxidizer. Contact with clothing or combustibles may cause fire. Effect may be delayed. Contact with organic liquids or vapors may cause immediate fire or explosion, especially if heated. Under certain circumstances, detonation may be delayed. Oxygen release from hydrogen peroxide may force organic or hydrogen vapors into an explosive range. Follow appropriate National Fire Protection Association (NFPA) codes.

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(FIRE FIGHTING MEASURES - Continued)

Extinguishing Media

Use only water.

Fire Fighting Instructions

Flood with water. Cool tank/container with water spray.

Wear full protective clothing (rubber suit and boots) including chemical splash goggles or hood and self-contained breathing apparatus.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Accidental Release Measures

Comply with Federal, State and local regulations on reporting releases of wastes. Flood area with water and hold in a diked area until hydrogen peroxide decomposes. May be destroyed with sodium metabisulfite or sodium sulfite (1.9 lbs. SO₂ equivalent per lb. of peroxide) after diluting to 5-10%. Develop acceptable disposal plan in conjunction with necessary regulatory authorities. Disposal method may include dilution to non-impact concentration and drainage to appropriate chemical sewer or waste treatment system.

The Extremely Hazardous Substance List Reportable Quantity for >52% Hydrogen Peroxide is 1 lb.

If Hydrogen Peroxide (20 to 60%) is spilled and not recovered, or is recovered as a waste for treatment or disposal, the CERCLA Reportable Quantity is 100 lbs. (release of an Unlisted Hazardous Waste characteristic of Ignitibility). Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all 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 a fire.

HANDLING AND STORAGE

Handling (Personnel)

Use extreme care when attempting any reactions because of fire and explosion potential (immediate or delayed). Conduct all initial experiments on a small scale and protect personnel with adequate shielding as the reactions are unpredictable and may be delayed, and may be affected by impurities, contaminants, temperature, etc. Do not get in eyes. Do not taste or swallow. Avoid contact with skin and clothing. Wash thoroughly after handling. Avoid contact with flammable or combustible materials. Avoid contamination from any source including metals, dust, and organic materials. Never use pressure to empty drums; container is not a pressure vessel. In the event of an accident where large volumes of hydrogen peroxide might come into contact with external fires or with incompatible chemicals, a one-half mile area from the incident should be evacuated.

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(HANDLING AND STORAGE – Continued)

Storage

Store in a properly vented container or in approved bulk storage facilities. Do not block vent. Do not store on wooden pallets. Do not store where contact with incompatible materials could occur, even with a spill. (See "Hazardous Reactivity".) Have water source available for diluting. Do not add any other product to container. Never return used or unused peroxide to container, instead dilute with plenty of water and discard. Rinse empty containers thoroughly with clean water before discarding. (See "Waste Disposal".)

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use sufficient ventilation to keep employee exposure below recommended exposure limits.

Personal Protective Equipment

EYE/FACE PROTECTION

Wear coverall chemical splash goggles. In addition, where the possibility exists for eye or face contact due to splashing or spraying of material, wear chemical splash goggles/full-length face shield combination.

RESPIRATORS

Where there is a potential for airborne exposure in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

PROTECTIVE CLOTHING

Where there is potential for skin contact, have available and wear as appropriate: impervious gloves, apron, pants, jacket, hood, and boots; or totally encapsulating chemical suit with breathing air supply. Permeation data supplied by vendors indicate that impervious materials such as natural rubber, natural rubber plus neoprene, nitrile, or polyvinylchloride afford adequate protection.

Do not wear leather gloves or leather shoes (uppers or soles) because they can ignite following contact with peroxide. Cotton clothing can also ignite. This effect may be within minutes, or delayed. Clothing fires and skin damage occur less quickly with 50% or lower hydrogen peroxide than with 70% material, but adequate personal protection is essential for all industrial concentrations. Protective skin creams offer no protection from hydrogen peroxide and should not be used. Completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on materials such as paper, fabrics cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire.

Exposure guidelines

Applicable Exposure Limits

HYDROGEN PEROXIDE

PEL (OSHA) : 1 ppm, 1.4 mg/m3 (90%) - 8 Hr TWA
TLV (ACGIH) : 1 ppm, 1.4 mg/m3, 8 Hr. TWA, A3

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PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Evaporation Rate	:	>1
Solubility in Water	:	100 WT%
Form	:	Clear liquid
Color	:	Colorless
Odor	:	Slightly pungent, irritating

Properties	Hydrogen Peroxide Concentration, wt%					
	20	30	35	50	60	
Boiling Point @ 1atm, 760 mmHg	°C	103	105	108	114	119
	°F	217	220	226	237	246
Melting Point	°C	-14.6	-25.0	-33.0	-52.2	-55.5
	°F	5.7	-13.0	-27.4	-62.0	-67.9
Specific Gravity	gm/L	1.07	1.11	1.13	1.19	1.24
@ 25°C (77°F)						
Vapor Pressure	mmHg	20.6	19.0	17.4	13.5	10.7
	@ 25°C (77°F)					

STABILITY AND REACTIVITY

Chemical Stability

Unstable with heat or contamination; liberation of oxygen gas may result in dangerous pressures. (See "Decomposition", below.)

Incompatibility with Other Materials

Incompatible with most flammables/combustibles (see "Fire and Explosion Hazards") as well as cyanides, nitric acid, potassium permanganate, and many other oxidizing and reducing agents. Mixtures with both organics and some acids may be especially reactive.

Decomposition

Contamination or heat may cause self-accelerating exothermic decomposition with oxygen gas and steam release that can cause dangerous pressures. May react dangerously with rust, dust, dirt, iron, copper, heavy metals or their salts (such as mercuric oxide or chloride), alkalis, and with organic materials (especially vinyl monomers).

Polymerization

Polymerization will not occur.

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TOXICOLOGICAL INFORMATION

Animal Data

Inhalation 4-hour LC50:	>0.2 ppm in rats (50% H ₂ O ₂)
Skin absorption LD50 :	>2000 mg/kg in rabbits (35% H ₂ O ₂)
Oral LD50 :	1232 mg/kg in rats (35% H ₂ O ₂)
	805 mg/kg in rats (70% H ₂ O ₂)

At aqueous concentrations of less than 50% hydrogen peroxide skin irritation occurs, but at greater concentrations hydrogen peroxide is corrosive to the skin. Concentrations less than 5% in aqueous solutions are eye irritants; solutions between 5% and 10% range from severe eye irritants to being corrosive; concentrations greater than 10% are corrosive to the eye. The compound is not a skin sensitizer in animals.

Repeated inhalation exposures produced nasal discharge, bleached hair, and respiratory tract congestion with some deaths occurring in rats and mice exposed to concentrations greater than 67 ppm. Dogs exposed by inhalation to 7 ppm for 6 months had lung and skin irritation.

The effects from single high oral doses include convulsions. Repeated administration of the compound in the diet of animals resulted in growth inhibition, reduced weight gain, abnormal liver function, ulcers, and discoloration of the stomach lining with swelling. Long-term administration to mice in the drinking water resulted in gastric erosions and duodenal hyperplasia.

One study by skin application suggested no carcinogenic activity. Results of an ingestion study with mice suggested that hydrogen peroxide might be carcinogenic. However, the FDA and other organizations have reviewed this study and concluded there is insufficient evidence that hydrogen peroxide is carcinogenic. An unpublished, long-term study with rats revealed no evidence of carcinogenicity. Female rats treated with 10% hydrogen peroxide produced offspring of lower body weight and some structural abnormalities, but these changes were attributed to maternal toxicity. Hydrogen peroxide produced genetic damage to bacterial and mammalian cells in culture, but one study in animals indicated it did not produce genetic damage. Limited tests in animals demonstrate no reproductive toxicity.

ECOLOGICAL INFORMATION

Ecotoxicological Information

Aquatic Toxicity

96-hour LC50, catfish: 37.4 mg/L

DISPOSAL CONSIDERATIONS

Waste Disposal

Comply with Federal, State, and local regulations. If approved, may be diluted and drained to a municipal sewer or waste treatment plant. May be diluted and drained through a scrap metal pit (iron, copper, etc.) to reduce peroxide concentration. Hydrogen peroxide may be an RCRA regulated hazardous waste upon disposal due to the oxidizing characteristic under the ignitability category.

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TRANSPORTATION INFORMATION

Shipping Information - U.S.A.

DOT(49CFR)/IMO

Proper Shipping Name : Hydrogen Peroxide, aqueous solutions
Hazard Class : 5.1
UN No. : 2014
DOT/IMO Label : OXIDIZER, CORROSIVE
Subsidiary Hazard Class : 8
Packing Group : II

Shipping Containers: Tank Railcars.
Tank Trailers.

ISO (Sea) Tanks.

Drums | - not handled directly by Kemira
Bottles |

Shipping Information - Canada

TDG Act

Proper Shipping Name : Hydrogen Peroxide Aqueous Solutions
Class : 5.1 (8)
Packing Group : II
UN # : 2014

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REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status: Reported/Included.

Title III Hazard Classifications - Sections 311, 312

Acute	:	Yes
Chronic	:	No
Fire	:	No
Reactivity	:	Yes
Pressure	:	Yes

Lists:

SARA Extremely Hazardous Substance	- (Yes)*
CERCLA Hazardous material	- (**)
SARA Toxic Chemical	- No

*For greater than 52% material.

** See Disposal Information.

HYDROGEN PEROXIDE >52% is listed by OSHA as a Highly Hazardous Chemical in Appendix A to 29 CFR 1910.119. Use of this product may require compliance with 29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals.

Canadian Regulations

WHMIS Classification:

CLASS C Oxidizing Material
CLASS E Corrosive Material
CLASS F Dangerously Reactive Material

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

DSL Reported/Included

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OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating

Health : 2
Flammability : 0
Reactivity : 1
: Oxidizer

NPCA-HMIS Rating

Health : 3
Flammability : 0
Reactivity : 1

Personal Protection rating to be supplied by user depending on use conditions.

The data in this material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

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