

SAFETY DATA SHEET

Creation Date 28-October-2009

Revision Date 25-April-2019

Revision Number 8

1. Identification

Product Name Hydrogen peroxide, 30%

Cat No. : H325-4; H325-4LC; H325-30GAL; H325-100; H325-500; H325-500LC

CAS-No 7722-84-1
Synonyms Hydrogen Dioxide; Peroxide; Carbamide Peroxide

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company

Importer/Distributor
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Manufacturer

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

Oxidizing liquids	Category 2
Acute oral toxicity	Category 4
Serious Eye Damage/Eye Irritation	Category 1

Label Elements

Signal Word

Danger

Hazard Statements

May intensify fire; oxidizer
Harmful if swallowed
Causes serious eye damage

**Precautionary Statements****Prevention**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Keep/Store away from clothing/combustible materials

Take any precaution to avoid mixing with combustibles

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

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/doctor

Rinse mouth

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Light sensitive

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Water	7732-18-5	65 - 80
Hydrogen peroxide	7722-84-1	20 - 35

4. First-aid measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms/effects Notes to Physician	Causes severe eye damage. Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Use water spray or fog; do not use straight streams.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available

Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	100%
Lower	40%
Oxidizing Properties	Oxidizer
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Corrosive Material. Containers may explode when heated. Oxidizer: Contact with combustible/organic material may cause fire. In the event of fire and/or explosion do not breathe fumes. Thermal decomposition can lead to release of irritating gases and vapors. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products

Hydrogen oxygen

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health 3	Flammability 0	Instability 1	Physical hazards OX
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6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment.
Do not use steel or aluminum tools or equipment	
Environmental Precautions	Should not be released into the environment. Do not flush into surface water or sanitary sewer system.
Methods for Containment and Clean Up	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

7. Handling and storage

Handling	Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Keep away from clothing and other combustible materials.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. To maintain product quality. Keep refrigerated. Keep away from direct sunlight. Do not store in metal containers. Containers should be vented periodically in order to overcome pressure buildup. Do not store near combustible materials.

8. Exposure controls / personal protection

Exposure Guidelines

Component	Alberta	British Columbia	Ontario TWAEV	Quebec	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen peroxide	TWA: 1 ppm TWA: 1.4 mg/m ³	TWA: 1 ppm	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³	TWA: 1 ppm	(Vacated) TWA: 1 ppm (Vacated) TWA: 1.4 mg/m ³ TWA: 1 ppm TWA: 1.4 mg/m ³	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m ³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Glove material	Breakthrough time	Glove thickness	Glove comments
Butyl rubber	> 480 minutes	0.35 mm	Splash protection only
Neoprene	> 480 minutes	0.45 mm	
Natural rubber	> 480 minutes	0.5 mm	

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Recommended Filter type: Particulates filter conforming to EN 143 Inorganic gases and vapours filter Type B Grey conforming to EN14387

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Slight
Odor Threshold	No information available
pH	3.3
Melting Point/Range	-33 °C / -27.4 °F
Boiling Point/Range	108 °C / 226.4 °F @ 760 mmHg
Flash Point	No information available
Evaporation Rate	1.0 (Butyl acetate = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	100%
Lower	40%
Vapor Pressure	No information available
Vapor Density	1.10
Specific Gravity	1.110
Solubility	Soluble in water

Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	> 125°C
Viscosity	No information available

10. Stability and reactivity

Reactive Hazard	Yes
Stability	Sensitivity to light. Oxidizer: Contact with combustible/organic material may cause fire.
Conditions to Avoid	Incompatible products. Excess heat. Exposure to light. Combustible material.
Incompatible Materials	Strong oxidizing agents, Metals, Reducing agents, Alcohols, Ammonia, copper, Copper alloys, lead oxides, Cyanides, Sulfides, lead, Acetone, Aluminium, , Strong reducing agents, Combustible material
Hazardous Decomposition Products	Hydrogen, oxygen
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50

Category 4. ATE = 300 - 2000 mg/kg.

Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	Not listed	Not listed
Hydrogen peroxide	376 mg/kg (Rat) (90%) 910 mg/kg (Rat) (20-60%) 1518 mg/kg (Rat) (8-20% sol)	>2000 mg/kg (Rabbit)	LC50 = 2000 mg/m ³ (Rat) 4 h

Toxicologically Synergistic Products

No information available

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

Irritation

Causes severe eye burns May cause irritation

Sensitization

No information available

Carcinogenicity

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Hydrogen peroxide	7722-84-1	Not listed	Not listed	A3	Not listed	A3

IARC: (International Agency for Research on Cancer)

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Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

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Mexico - Occupational Exposure Limits - Carcinogens

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A1 - Confirmed Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects	No information available
Reproductive Effects	No information available.
Developmental Effects	No information available.
Teratogenicity	No information available.
STOT - single exposure	None known
STOT - repeated exposure	None known
Aspiration hazard	No information available
Symptoms / effects, both acute and delayed	No information available
Endocrine Disruptor Information	No information available
Other Adverse Effects	The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Contains a substance which is: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hydrogen peroxide	EC50 2.5 mg/L/72h	LC50: 16.4 mg/L/96h (P.promelas)	Not listed	EC50 7.7 mg/L/24h

Persistence and Degradability Persistence is unlikely Decomposes Soluble in water based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Hydrogen peroxide	-1.1

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No	UN2014
Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS
Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II

TDG

UN-No	UN2014
Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS
Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II

IATA

UN-No	UN2014
Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION

Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II
IMDG/IMO	
UN-No	UN2014
Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II

15. Regulatory information

International Inventories

Component	DSL	NDSL	TSCA	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Water	X	-	X	231-791-2	-		X	-	X	X	KE-3540 0
Hydrogen peroxide	X	-	X	231-765-0	-		X	X	X	X	KE-2020 4

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

16. Other information

Prepared By	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
Creation Date	28-October-2009
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Revision Summary	This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

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 SDS