

## SAFETY DATA SHEET

Creation Date 28-Oct-2009

Revision Date 17-Mar-2017

Revision Number 5

### 1. Identification

**Product Name** Hydrogen peroxide, 30%

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

**Synonyms** Hydrogen Dioxide; Peroxide; Carbamide Peroxide

**Recommended Use** Laboratory chemicals.

**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company** Fisher Scientific  
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

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

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**

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  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep/Store away from clothing/ other combustible materials  
 Take any precaution to avoid mixing with combustibles

**Eyes**

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/physician

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 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

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Most important symptoms/effects Notes to Physician</b>	None reasonably foreseeable. Causes severe eye damage. Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use water spray or fog; do not use straight streams.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point Method -</b>	No information available No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	100%
<b>Lower</b>	40%
<b>Oxidizing Properties</b>	Oxidizer
<b>Sensitivity to Mechanical Impact</b>	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**

<b>Health</b> 3	<b>Flammability</b> 0	<b>Instability</b> 1	<b>Physical hazards</b> 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	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen peroxide	TWA: 1 ppm	(Vacated) TWA: 1 ppm (Vacated) TWA: 1.4 mg/m <sup>3</sup> TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Hydrogen peroxide	TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>	TWA: 1 ppm TWA: 1.5 mg/m <sup>3</sup> STEL: 2 ppm STEL: 3 mg/m <sup>3</sup>	TWA: 1 ppm

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.

**Personal Protective Equipment**

<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Long sleeved clothing.
<b>Respiratory Protection</b>	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.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	Slight
<b>Odor Threshold</b>	No information available
<b>pH</b>	3.3
<b>Melting Point/Range</b>	-33 °C / -27.4 °F
<b>Boiling Point/Range</b>	108 °C / 226.4 °F @ 760 mmHg
<b>Flash Point</b>	No information available
<b>Evaporation Rate</b>	1.0 (Butyl acetate = 1.0)
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	
<b>Upper</b>	100%
<b>Lower</b>	40%
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	1.10
<b>Specific Gravity</b>	1.110
<b>Solubility</b>	Soluble in water
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No information available
<b>Decomposition Temperature</b>	> 125°C
<b>Viscosity</b>	No information available

**10. Stability and reactivity**

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Sensitivity to light. Oxidizer: Contact with combustible/organic material may cause fire.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat. Exposure to light. Combustible material.
<b>Incompatible Materials</b>	Strong oxidizing agents, Metals, Reducing agents, Alcohols, Ammonia, copper, Copper alloys, lead oxides, Cyanides, Sulfides, lead, Acetone, Aluminium, , Strong reducing agents, Combustible material
<b>Hazardous Decomposition Products</b>	Hydrogen, oxygen
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	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 &gt; 2000 mg/kg.

**Vapor LC50**

Based on ATE data, the classification criteria are not met. ATE &gt; 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 = 2 g/m <sup>3</sup> ( 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)**IARC: (International Agency for Research on Cancer)**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)**ACGIH: (American Conference of Governmental Industrial Hygienists)**Mexico - Occupational Exposure Limits - Carcinogens**Mexico - Occupational Exposure Limits - Carcinogens**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
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Hydrogen peroxide	EC50 2.5 mg/L/72h	LC50: 16.4 mg/L/96h (P.promelas)	Not listed	EC50 7.7 mg/L/24h
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**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

All of the components in the product are on the following Inventory lists: X = listed

#### International Inventories

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

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

#### SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Hydrogen peroxide	-	TQ: 7500 lb

#### 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)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Hydrogen peroxide	-	1000 lb

**California Proposition 65** This product does not contain any Proposition 65 chemicals

#### U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Water	-	-	X	-	-
Hydrogen peroxide	X	X	X	-	X

#### U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

#### U.S. Department of Homeland Security

This product contains the following DHS chemicals:

Component	DHS Chemical Facility Anti-Terrorism Standard
Hydrogen peroxide	2000 lb STQ (concentration of at least 30%)

#### Other International Regulations

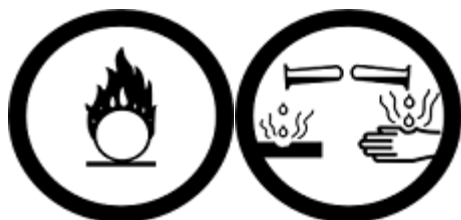
Mexico - Grade No information available

#### Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

## WHMIS Hazard Class

E Corrosive material  
C Oxidizing materials



## 16. Other information

## Prepared By

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Thermo Fisher Scientific  
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## Creation Date

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## Revision Date

17-Mar-2017

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## Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

## 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**