



Fisher Scientific

Part of Thermo Fisher Scientific

SAFETY DATA SHEET

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Revision Number 4

1. Identification

Product Name Hydrogen Peroxide 20-40%

Cat No. : P170-500

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

Emergency Telephone Number
Chemtrec US: (800) 424-9300
Chemtrec EU: 001 (202) 483-7616

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
Acute Inhalation Toxicity - Vapors	Category 4
Serious Eye Damage/Eye Irritation	Category 1

Label Elements

Signal Word
Danger

Hazard Statements
May cause fire or explosion; strong oxidizer
Harmful if swallowed
Causes serious eye damage
Harmful if inhaled



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
 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

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell

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 CO2, 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
Disodium stannate	12058-66-1	< 0.01

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. Immediate medical attention is required.
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	None reasonably foreseeable. . Causes severe eye damage. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Unsuitable Extinguishing Media No information available

Flash Point Method - Not applicable
No information available

Autoignition Temperature No information available
Explosion Limits

Upper No data available
Lower No data available

Oxidizing Properties Oxidizer

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Oxidizer: Contact with combustible/organic material may cause fire. Corrosive Material. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Keep product and empty container away from heat and sources of ignition. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products

oxygen Hydrogen

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
2

Physical hazards
OX

6. Accidental release measures

Personal Precautions

Use personal protective equipment. Ensure adequate ventilation.

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. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from clothing and other combustible materials.

Storage

To maintain product quality. Keep refrigerated. Keep away from direct sunlight. Keep away from combustible material. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. 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 ³ TWA: 1 ppm TWA: 1.4 mg/m ³	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m ³
Disodium stannate	TWA: 2 mg/m ³	(Vacated) TWA: 2 mg/m ³	IDLH: 100 mg/m ³ TWA: 2 mg/m ³

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

		STEL: 3 mg/m ³	
Disodium stannate	TWA: 2 mg/m ³	TWA: 2 mg/m ³ STEL: 4 mg/m ³	TWA: 2 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.

Personal Protective Equipment

Eye/face Protection 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.

Skin and body protection Long sleeved clothing.

Respiratory Protection 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.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Clear
Odor	pungent
Odor Threshold	No information available
pH	3.3 (30 %)
Melting Point/Range	-33 °C / -27.4 °F
Boiling Point/Range	108 °C / 226.4 °F @ 760 mmHg
Flash Point	Not applicable
Evaporation Rate	>1.0 (Butyl Acetate = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	23 mmHg @ 30 °C
Vapor Density	1.10
Specific Gravity	No information available
Solubility	Miscible with water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	H ₂ O ₂
Molecular Weight	34.01

10. Stability and reactivity

Reactive Hazard	Yes
Stability	Oxidizer: Contact with combustible/organic material may cause fire. Light sensitive.
Conditions to Avoid	Incompatible products. Excess heat. Exposure to light. Combustible material.

Incompatible Materials Strong oxidizing agents, copper, Powdered metals, Reducing agents, Strong bases, Strong reducing agents, Combustible material

Hazardous Decomposition Products oxygen, Hydrogen

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

Category 4. ATE = 10 - 20 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	Not listed	Not listed
Hydrogen peroxide	801 mg/kg (Rat) (~60% soln)	LD50 = 4060 mg/kg (Rat) LD50 = 2000 mg/kg (Rabbit)	LC50 = 2 g/m ³ (Rat) 4 h
Disodium stannate	LD50 = 3457 mg/kg (Rat)	Not listed	Not listed

Toxicologically Synergistic Products No information available

Products

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

Irritation Causes burns by all exposure routes

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
Disodium stannate	12058-66-1	Not listed	Not listed	Not listed	Not listed	Not listed

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

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	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Endocrine Disruptor Information	No information available
Other Adverse Effects	The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms.

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 Soluble in water Persistence is unlikely based on information available. Miscible with water
Bioaccumulation/ Accumulation No information available.

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

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 SOLUTION
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
Disodium stannate	X	X	-	235-030-5	-		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 C Oxidizing materials
 E Corrosive material
 D1B Toxic materials



16. Other information

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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