SAFETY DATA SHEET

SDS02754
HYDROGEN PEROXIDE 35%

Preparation Date: 17/Apr/2018 Version: 1

1. IDENTIFICATION

Product identifier

Product Name HYDROGEN PEROXIDE 35%

Other means of identification

SDS Number SDS02754

Synonyms none

Recommended use of the chemical and restrictions on use

Recommended Use Oxidizing agent Bleach & water chemicals.

Restricted Uses No information available

Initial Supplier Identifier
Univar Canada Ltd.
9800 Van Horne Way
Richmond, BC V6X 1W5
Telephone: 1-866-686-4827

Emergency telephone number

24 Hour Emergency Phone Number (CANUTEC): 1-888-226-8832 (1-888-CAN-UTEC)

2. HAZARD IDENTIFICATION

Hazardous Classification of the substance or mixture

Oxidizing liquids	Category 2
Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1
Sub-category A	
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

Hazard pictograms

Signal Word: Danger

Hazard statements
May intensify fire; oxidizer
Harmful if swallowed
Harmful if inhaled
Causes severe skin burns and eye damage
May cause respiratory irritation

Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Keep away from heat
Keep/Store away from clothing/ combustible materials
Take any precaution to avoid mixing with combustibles

Response
IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

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

Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal
Dispose of contents/container to an approved waste disposal plant

Harmful to aquatic life with long lasting effects

Unknown acute toxicity No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No	Weight-%	Synonyms
Hydrogen Peroxide	7722-84-1	30 - 40%	Hydrogen Peroxide

4. FIRST AID

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. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may 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. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

Ingestion
Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

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. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed:
Corrosive Causes severe respiratory irritation. May cause conjunctivitis, corneal burns and permanent damage. Symptoms may occur with delay. Ingestion of high concentrations causes rapid release of oxygen which may expand the esophagus or stomach resulting in severe damage (bleeding, ulceration or perforation). Expected to cause burns to the gastrointestinal tract. Vapors may cause pulmonary edema. Toxic effects may be delayed. May cause burns resulting in permanent damage. Prolonged exposure may cause severe irritation and white discoloration. Burning may result in localized erythema (redness) or even blistering of the skin.

Indication of any immediate medical attention and special treatment needed:

Note to physicians
Hydrogen peroxide at this concentration is a strong oxidant. Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. There is a remote possibility, however, that a nasogastric or orogastric tube may be required for the reduction of severe distension due to gas formation.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Do not use CO2 extinguisher on this material; use only water spray or appropriate foam. Do not use organic compounds on this material.

Specific hazards arising from the substance or mixture
Stay upwind. Isolate and restrict area access. Stop leak only if safe to do so. Fight fire from a safe distance and from a protected location. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure build-up which could result in container rupture. Strong oxidizer. Contact with combustible materials may cause a fire. Release of oxygen may support combustion. Contact with incompatible materials (e.g. metals, alkalis and reducing agents) will cause hazardous decomposition resulting in the release of large quantities of heat, steam and oxygen gas. Exposure to heat may cause hazardous decomposition. A severe detonation hazard may exist when mixed with organic liquids, e.g. kerosene or gasoline.

Hazardous combustion products
Oxygen. Steam.

Special protective equipment for fire-fighters
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so.

7. HANDLING AND STORAGE

Precautions for safe handling

For food plant and other industrial use only. Handle and open containers with care. Never touch eyes of face with hands or gloves that may be contaminated with this product. Do not ingest. Avoid inhalation of chemical. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed. Store in a cool, dry, well ventilated area. Do not store near combustible materials. Do not store this material in containers made of light metals. Recommended container materials: glass, polyvinyl chloride, polyethylene, ceramics, polypropylene. Use adequate venting devices on all packages, containers and tanks and check correct operation periodically. Do not confine product in unvented vessels or between closed valves. Risk of overpressure and bursting due to decomposition in confined spaces and pipes. Do not store on wooden floors or

wooden pallets. Protect from direct sunlight and heat.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical Name	Alberta OEL	British Columbia OEL	Ontario	Quebec OEL	Exposure Limit - ACGIH	Immediately Dangerous to Life or Health - IDLH
Hydrogen Peroxide 7722-84-1	TWA: 1 ppm TWA: 1.4 mg/m³	TWA: 1 ppm	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m³	1 ppm TLV-TWA	75 ppm

Consult local authorities for recommended exposure limits

Appropriate engineering controls

Engineering controls
Use process enclosure, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection
Face protection shield.

Hand protection
Butyl rubber gloves. Nitrile gloves. Natural rubber gloves.

Skin and body protection
Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protection
If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator.

General hygiene considerations
Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	Clear Colorless
Odor	Pungent
Odor threshold	No information available

PROPERTIES	Values	Remarks • Method
pH	<2 (20°C)	
Melting point / freezing point	-56 °C / -69 °F	
Initial boiling point/boiling range	119 °C / 246 °F	

Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit:	No data available	
Lower flammability limit:	> 40	
Vapor pressure	48 Pa @ 30°C	
Relative vapor density	No data available	None known
Specific Gravity	1.13	
Water solubility	Completely miscible	
Solubility in other solvents	No data available	
Partition coefficient	No data available	
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	1.8 mPa.s @ 0°C	
Dynamic viscosity	No data available	None known
Explosive properties	No information available.	
Oxidizing properties	No information available.	
Molecular weight	34.02 g/Mol	
VOC Percentage Volatility	No information available	
Liquid Density	No information available	
Bulk density	No information available	

10. STABILITY AND REACTIVITY

Reactivity/Chemical Stability
Stable

Possibility of hazardous reactions
No additional remark.

Hazardous polymerization
Will not occur.

Conditions to avoid
High temperatures. Spontaneous combustion hazard : - 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.

Incompatible materials
Organic materials. Reducing agents. Alkalis. Combustible material. Metals. Heavy metals and their salts.

Hazardous decomposition products
Oxygen. Steam.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Causes severe respiratory irritation. Vapors may cause pulmonary edema. Toxic effects may be delayed.

Eye contact
Corrosive. May cause conjunctivitis, corneal burns and permanent damage. Symptoms may occur with delay.

Skin contact
Corrosive. May cause burns resulting in permanent damage. Prolonged exposure may cause severe irritation and white discoloration. Burning may result in localized erythema (redness) or even blistering of the skin.

Ingestion
Ingestion of high concentrations causes rapid release of oxygen which may expand the esophagus or stomach resulting in severe damage (bleeding, ulceration or perforation). Expected to cause burns to the gastrointestinal tract.

Information on toxicological effects

Symptoms
Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Numerical measures of toxicity

Acute toxicity

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

ATEmix (oral)	1,518.00 mg/kg
ATEmix (inhalation-dust/mist)	1.50 mg/l

Unknown acute toxicity No information available

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrogen Peroxide 7722-84-1	= 1518 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m³ (Rat) 4 h

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

Skin corrosion/irritation
Corrosive. May cause burns resulting in permanent damage. Prolonged exposure may cause severe irritation and white discoloration. Burning may result in localized erythema (redness) or even blistering of the skin.

Serious eye damage/eye irritation
Corrosive. May cause conjunctivitis, corneal burns and permanent damage. Symptoms may occur with delay.

Respiratory or skin sensitization
No information available.

Germ cell mutagenicity
No information available.

Carcinogenicity
No information available.

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	Not available	Not available

Legend
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
It is not possible to conclude that hydrogen peroxide is mutagenic. Positive results have been obtained in cultured humans cells. Negative results have been obtained in relevant studies using live animals. Positive results have been obtained in short-term mutagenicity tests.

Specific target organ systemic toxicity - single exposure
May cause respiratory irritation.

Specific target organ systemic toxicity - repeated exposure
No information available.

Aspiration hazard
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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Chemical Name	Ecotoxicity - Freshwater Algae Data	Ecotoxicity - Fish Species Data	Toxicity to microorganisms	Crustacea
Hydrogen Peroxide 7722-84-1	Not available	16.4 mg/L LC50 (Pimephales promelas) 96 h 18 - 56 mg/L LC50 (Lepomis macrochirus) 96 h static 10.0 - 32.0 mg/L LC50 (Oncorhynchus mykiss) 96 h static	Not available	EC50: 18 - 32mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation No information available.

Chemical Name	Partition coefficient
Hydrogen Peroxide 7722-84-1	Not available

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Do not reuse empty containers.

14. TRANSPORT INFORMATION

TDG (Canada):

UN Number	UN2014
Shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Class	5.1 (8)

Packing Group	II
Marine pollutant	Not available.

DOT (U.S.)

UN Number	UN2014
Shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Class	5.1 (8)
Packing Group	II
Marine pollutant	Not available

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

NSF International

Additional information
Maximum use for potable water 3 mg/L. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

U.S. Regulatory Rules

Chemical Name	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Hydrogen Peroxide - 7722-84-1	Listed	Not Listed	Not Listed

International Inventories

TSCA	Complies
DSL/NDSL	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA:	**Health hazards** 3	**Flammability** 0	**Instability** 0	**Physical and chemical properties** -
HMIS Health Rating:	**Health hazards** 3	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Prepared By: The Environment, Health and Safety Department of Univar Canada Ltd.

Preparation Date: 17/Apr/2018
Revision Date: 17/Apr/2018

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End of Safety Data Sheet

Univar