

# SAFETY DATA SHEET

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## SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

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**CAS Number:** 7722-84-1  
**Product Name:** Hydrogen Peroxide 50%  
**Revision Date:** Feb 27, 2018 **Date Printed:** Feb 27, 2018  
**Version:** 1.1 **Supersedes Date:** Oct 23, 2017  
**Manufacturer's Name:** Thames River Chemical Corp.  
**Address:** 5230 Harvester Road Burlington, ON, CA, L7L 4X4  
**Emergency Phone:** CHEMTREC (800) 424-9300  
**Information Phone Number:** 905-681-5353  
**Fax:** 905-681-5377  
**Product/Recommended Uses:** For laboratory or industrial use only.

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## SECTION 2) HAZARDS IDENTIFICATION

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### Classification

Acute toxicity Inhalation - Category 4  
Acute toxicity Oral - Category 4  
Oxidizing Liquids - Category 2  
Skin Corrosion - Category 1  
Specific Target Organ Toxicity -Single Exposure (Respiratory Tract Irritation) - Category 3

### Pictograms



### Signal Word

Danger

### Hazard Statements - Health

Harmful if inhaled  
Harmful if swallowed  
Causes severe skin burns and eye damage  
May cause respiratory irritation

### Hazard Statements - Physical

May intensify fire; Oxidizer

### Precautionary Statements - General

If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.

### Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Wash thoroughly/Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

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

Keep away from clothing and other combustible materials.

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

Do not breathe dust/fume/gas/mist/vapors/spray.

Keep container tightly closed.

### Precautionary Statements - Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor, if you feel unwell.

IF SWALLOWED: Call a POISON CENTER or doctor, if you feel unwell.

Rinse mouth.

In case of fire: Use carbon dioxide, alcohol foam, water spray or dry chemical to extinguish.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash contaminated clothing before reuse.

Immediately call a POISON CENTER or doctor.

Specific treatment (see first-aid on the SDS).

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### Precautionary Statements - Storage

Store locked up.

Store in a well-ventilated place. Store locked up.

### Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

### Physical Hazards Not Otherwise Classified

No Data Available

### Health Hazards Not Otherwise Classified

No Data Available

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## SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

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CAS	Chemical Name	% By Weight
0007732-18-5	WATER	50%
0007722-84-1	HYDROGEN PEROXIDE	50%

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## SECTION 4) FIRST-AID MEASURES

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### Inhalation

Get medical advice/attention if you feel unwell or are concerned. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Remove source of exposure or move person to fresh air and keep comfortable for breathing. Eliminate all ignition sources if safe to do so. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

### Eye Contact

Immediately call a POISON CENTER/doctor. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 30 minutes or until medical aid is available. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

### Skin Contact

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately call a POISON CENTER/doctor. Store contaminated clothing under water and wash before re-use or discard. Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available.

## Ingestion

Give plenty of water to drink to dilute stomach content. Do not induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position. Immediately call a POISON CENTER/doctor.

## Most Important Symptoms and Effects, Both Acute and Delayed

Accidental ingestion may cause mucous membrane burns to Mouth/Esophagus/Stomach. Oxygen rapid release may cause stomach swelling, hemorrhaging and could cause fatal damage to organs if a large amount has been ingested. Skin contact may cause burns and blisters. Hydrogen Peroxide irritates the respiratory system and may cause pulmonary edema. Effects may not be immediate.

## Indication of Any Immediate Medical Attention and Special Treatment Needed

Hydrogen Peroxide is a strong Oxidizer. Direct contact with the eye is expected to cause corneal damage especially if not washed immediately. Due to the possibility of corrosive effects on the gastrointestinal tract after ingestion attempts at evaluating the stomach by gastric lavage should be avoided. There is a remote possibility that a orogastric tube may be required for reduction of the severe distension due to gas formation.

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## SECTION 5) FIRE-FIGHTING MEASURES

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### Suitable Extinguishing Media

USE WATER ONLY! Use large amounts of water and spray to cool containers. DO NOT use dry chemicals, foam or a fire blanket. For large fires, flood fire area from a distance, do not flush to sewer unless concentration is 1% or less due to explosion hazard. Always stay away from the ends of tanks and wear self-contained breathing apparatus.

### Unsuitable Extinguishing Media

Do not use straight stream of water.

### Specific Hazards in Case of Fire

This product is not combustible, but a strong oxidizer. Mixtures with combustible or flammable materials may ignite easily, or may explode in contaminated, closed containers. Residual hydrogen peroxide that is dried on organic materials such as wood, paper, fabrics, cotton, leather or other combustibles can cause the materials to ignite and result in a fire. Auto Ignition Temperature: Non flammable, but decomposes at approximately 38°C (100°F).

### Fire-fighting Procedures

Nitromethane and nitroethane: Do not use dry chemical extinguishers to control fires. Isolate immediate hazard area and keep unauthorized personnel out. Move undamaged containers from immediate hazard area if it can be done safely. Stop spill/release if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Product has a low flashpoint: Use of water spray when fighting fire may be inefficient. Large Fire: Dike fire-control water for later disposal; do not scatter the material

### Special Protective Actions

Oxidizer – Keep away from flammable and combustible materials. Wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

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## SECTION 6) ACCIDENTAL RELEASE MEASURES

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### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Evacuate and isolate hazard area and keep unauthorized personnel away. A vapor-suppressing foam may be used to reduce vapors.

### Recommended Equipment

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA). Wear liquid tight chemical protective clothing in combination with positive pressure self-contained breathing apparatus (SCBA).

### Personal Precautions

DO NOT get on skin, eyes or clothing. Avoid breathing vapor or mist.

### Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Dike far ahead of liquid spill for later disposal.

### Methods and Materials for Containment and Cleaning up

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean, non-sparking tools to collect absorbed material. Ventilate area after clean-up is complete.

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## SECTION 7) HANDLING AND STORAGE

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### General

Wash hands after use. Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. This product is not intended for human or animal consumption. All containers must be properly labelled. Eyewash stations and showers should be available in areas where this material is used and stored Never return unused peroxide to original container.

### Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. Report ventilation failures immediately. The use of local ventilation is recommended to control emissions near the source.

### Storage Room Requirements

Do not store large quantities of flammable liquids in the same storage cabinet. Store in dry, cool areas, out of direct sunlight and away from other sources of heat. Empty container retain residue and may be dangerous. Keep away from incompatible materials (e.g. oxidizers). Store flammable and combustible liquids in areas that are cool, dry and well ventilated to reduce vapour concentrations. Never use plastic or glass containers for storing flammable liquids. Keep containers securely sealed when not in use. Bond and ground metal containers/cylinders when transferring. Avoid storing in direct sunlight or near other heat sources; eliminate all sources of ignition. Cabinets must be labelled; FLAMMABLE - KEEP FIRE AWAY. Avoid storing in basements. Protect containers against banging or other physical damage when storing, transferring, or using them. Procedures must be conducted in a fume hood, glove box, or other suitable containment device. Segregate from other hazard classes and store in a cool, dry, well ventilated area, away from sources of ignition and incompatibilities. Provide secondary containment for toxic materials. Store, handle, and use corrosive materials in well-ventilated areas. Keep the smallest amount of material in work areas. Do not store on metal shelves. Store containers in plastic tubs or trays as secondary containment. Avoid rapid temperature changes in liquid storage areas. Store at temperatures above their respective freezing/melting point. Never store corrosives above eye level. Label cabinets with "TOXIC CHEMICALS" or similar warning.

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## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Eye protection

Wear indirect-vent, impact and splash resistant goggles when working with liquids

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

### Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CANsmg	CANspmm	CANtmg	CANtppm	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)	OSHA Carcinogen	OSHA Tables (Z1, Z2, Z3)	OSHA Skin designation	ACGIH STEL (mg/m3)
HYDROGEN PEROXIDE	2.8	2	1.4	1			1.4	1		1		

Chemical Name	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH TLV Basis	ACGIH Carcinogen	ACGIH Notations
HYDROGEN PEROXIDE		1.4	1	Eye, URT & skin irr	A3	A3

A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, irr - Irritation, URT - Upper respiratory tract

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## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

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### Physical and Chemical Properties

Density	9.97 lb/gal
Specific Gravity	1.20

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Appearance	clear, colourless liquid
Odor Description	sharp, pungent odour
Odor Threshold	N/A
pH	~4.3 –H <sub>2</sub> O <sub>2</sub> is acidified to retard decomposition
Melting Point	-52 °C
Low Boiling Point	114 °C
High Boiling Point	N/A
Flash Point	not combustible
Vapor Pressure	24mmHg / 3.19kPa (20C / 68F)
Vapor Density	1.2 (air = 1)
Evaporation Rate	>1 (air = 1)
Upper Explosion Level	N/A
Lower Explosion Level	N/A
Water Solubility	Complete
Coefficient Water/Oil	No Data Available
Viscosity	1.17 mPa.s

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## SECTION 10) STABILITY AND REACTIVITY

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### Reactivity

No Data Available

### Stability

Stable when product is pure, stored under suitable conditions and temperature is less than 38°C. Stability is reduced when pH is above 4.0.

### Conditions to Avoid

Avoid heating or mixing with organic materials, tissues. Containers can explode in fire. Avoid contamination of any kind. Avoid contact with combustible material.

### Hazardous Reactions/Polymerization

Hazardous polymerization will not occur.

### Incompatible Materials

Do not store in heat or direct sunlight. Store away from incompatible materials such as high pH material, metals, salts, organics, dust & dirt. Do not confine in un-vented vessels or between closed valves.

### Hazardous Decomposition Products

Hydrogen Peroxide decomposes on heating to produce oxygen gas, steam and heat.

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## SECTION 11) TOXICOLOGICAL INFORMATION

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### Likely Route of Exposure

Inhalation, ingestion, skin absorption

### Acute Toxicity

Harmful if inhaled

Harmful if swallowed

**Aspiration Hazard**

No Data Available

**Carcinogenicity**

No Data Available

**Germ Cell Mutagenicity**

No Data Available

**Reproductive Toxicity**

No Data Available

**Respiratory/Skin Sensitization**

No Data Available

**Serious Eye Damage/Irritation**

No Data Available

**Skin Corrosion/Irritation**

Causes severe skin burns and eye damage

**Specific Target Organ Toxicity - Repeated Exposure**

No Data Available

**Specific Target Organ Toxicity - Single Exposure**

May cause respiratory irritation

0007722-84-1 HYDROGEN PEROXIDE

LC50 (rat): 2000 mg/m<sup>3</sup> (4-hour exposure; whole body exposure) (concentration not specified) (3) NOTE: This value is not considered reliable since a whole body exposure was used and the study was poorly reported.

LD50 (oral, male rat): 1193 mg/kg (35% solution) (4, unconfirmed)  
LD50 (oral, female rat): 801 mg/kg (60% solution) (4, unconfirmed)  
LD50 (oral, male rat): 75 mg/kg (70% solution) (4, unconfirmed)  
LD50 (oral, mouse): 2000 mg/kg (90% solution) (4,12, u

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**SECTION 12) ECOLOGICAL INFORMATION**

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**Toxicity**

Harmful to aquatic organisms, especially to algae. Freshwater algae are affected by hydrogen peroxide in concentrations of 2-20 mg/L; while 1 mg/L affects certain marine algae.

**Mobility in Soil**

No Data Available

**Bio-accumulative Potential**

No Data Available

**Persistence and Degradability**

Hydrogen Peroxide occurs naturally as a result of photochemical processes in living organisms. Product decomposes into water and oxygen.

**Other Adverse Effects**

No Data Available

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**SECTION 13) DISPOSAL CONSIDERATIONS**

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**Waste Disposal**

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local

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## SECTION 14) TRANSPORT INFORMATION

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### Transport Canada Information

UN number: UN-2014

Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)

Hazard class: 5.1, 8

Packaging group: II

### U.S. DOT Information

UN number: UN-2014

Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)

Hazard class: 5.1, 8

Packaging group: II

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## SECTION 15) REGULATORY INFORMATION

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CAS	Chemical Name	% By Weight	Regulation List
0007732-18-5	WATER	50%	DSL,TSCA,EU_EC_Inventory - EC Inventory
0007722-84-1	HYDROGEN PEROXIDE	50%	DSL,TSCA,EU_EC_Inventory - EC Inventory

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## SECTION 16) OTHER INFORMATION

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### Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CANsmg or CANspmm - Canadian Short Term Exposure Level in mg/L or in ppm; CANtmg or CANtppm - Canadian Time Weighted Average in mg/L or in ppm; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

### Version 1.1:

Revision Date: Feb 26, 2018

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