

## Safety Data Sheet

# HYDROGEN PEROXIDE (20%-50%)

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	HYDROGEN PEROXIDE (20%-50%)
<b>Other Means of Identification</b>	HYDROGEN PEROXIDE (20%-50%) -3
<b>Other Identification</b>	Liquid
<b>Product Family</b>	Additive (All Grades 20%-50%)
<b>Recommended Use</b>	OXIDIZING AGENT, WATER TREATMENT CHEMICAL.
<b>Restrictions on Use</b>	For Industrial Use Only. KEEP AWAY FROM CHILDREN.
<b>Manufacturer/Supplier Identifier</b>	Velocity Chemicals Ltd., Unit #1- 9515 190th Street, Surrey, B.C. CANADA, V4N3S1, 604-881-4700, <a href="http://www.velocitychemicals.com">www.velocitychemicals.com</a>
<b>Emergency Phone No.</b>	Velocity Chemicals Ltd., 604-881-4700, M-F 7:00am to 2:30pm CANUTEC, 613-996-6666 , 24 hours/7 Days
<b>SDS No.</b>	0370
<b>Date of Preparation</b>	February 21, 2019

### SECTION 2. HAZARD IDENTIFICATION

#### Classification

Oxidizing liquid - Category 2; Corrosive to metals - Category 1; Acute toxicity (Oral) - Category 4; Acute toxicity (Inhalation) - Category 4; Skin corrosion - Category 1; Serious eye damage - Category 1; Specific target organ toxicity (single exposure) - Category 3

#### Label Elements



Danger

May intensify fire; oxidizer.  
Causes severe skin burns and eye damage.  
May cause respiratory irritation.  
Harmful if inhaled.  
May be corrosive to metals.

#### Prevention:

Use only in a well-ventilated area.  
Keep away from heat.

Keep or store away from clothing and other combustible materials.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Wear a full facepiece NIOSH approved air-purifying respirator with an organic vapour cartridge or a full facepiece NIOSH approved supplied air respirator.  
Wash hands and skin thoroughly after handling.

**Response:**

IF ON SKIN: Wash with plenty of water for 60 minutes.

If skin irritation occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for 60 minutes.

If eye irritation persists: Get medical advice/attention.

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

Get medical advice/attention if you feel unwell.

**Storage:**

Store in a cool, dry place away from incompatibles. Do not mix with any other chemicals. Keep container closed when not in use. Keep from freezing. Keep temperatures > 4 ° C and < 30 ° C.

**Disposal:**

Dispose of contents and container in accordance with local, regional, national and international regulations.

**Other Hazards**

Repeated exposure may cause skin dryness or cracking.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Hydrogen peroxide	7722-84-1	20-50	Not applicable	

**Notes**

Concentrations are expressed in % weight/weight.

### SECTION 4. FIRST-AID MEASURES

**First-aid Measures**

**Inhalation**

Move victim to fresh air. Apply artificial respiration if necessary. Get medical advice or attention if you feel unwell or are concerned.

**Skin Contact**

Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately rinse skin with lukewarm, gently flowing water for at least 30 minutes. If skin irritation occurs, get medical advice or attention.

**Eye Contact**

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

**Ingestion**

Give large amounts of water if conscious. Do not induce vomiting. Get medical advice or attention if you feel unwell or are concerned.

**First-aid Comments**

Exposure to material may cause delayed lung injury resulting in pulmonary edema and pneumonitis. Exposed individuals should be monitored for 72 hours after exposure for the onset of delayed respiratory symptoms.

**Most Important Symptoms and Effects, Acute and Delayed**

At high concentrations

If on skin: repeated or prolonged exposure can irritate or burn the skin. Contact can cause pain, redness, burns, and

Product Identifier: HYDROGEN PEROXIDE (20%-50%) - Ver. 1

SDS No.: 0370

Date of Preparation: February 21, 2019

Date of Last Revision:

Page 02 of 07

blistering. Permanent scarring can result. If in eyes: contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result. The vapour also irritates or burns the eyes. Permanent damage including blindness can result. If inhaled: can irritate the nose and throat. Can cause lung injury. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. Symptoms may develop hours after exposure and are made worse by physical effort.

#### **Immediate Medical Attention and Special Treatment**

##### **Target Organs**

Skin, eyes, respiratory system.

##### **Special Instructions**

Not applicable.

##### **Medical Conditions Aggravated by Exposure**

Asthma, dermatitis, respiratory conditions.

## **SECTION 5. FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

#### **Suitable Extinguishing Media**

Not combustible. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool.

#### **Unsuitable Extinguishing Media**

DO NOT use CO2 extinguisher. Use only water spray and appropriate foam. DO NOT use organic compounds on this material.

### **Specific Hazards Arising from the Product**

Contact with incompatible materials, heat or organic materials (see Section 10) may cause hazardous decomposition, fire or an explosion hazard. Not sensitive to static discharge.

In a fire, the following hazardous materials may be generated: oxygen, heat and steam, other toxic vapours.

### **Special Protective Equipment and Precautions for Fire-fighters**

Wear NIOSH/OSHA approved, self contained breathing apparatus for fire fighting situations. Use water spray to cool all nearby fire exposed surfaces.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment, and Emergency Procedures**

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Remove or isolate incompatible materials as well as other hazardous materials.

### **Environmental Precautions**

Concentrated product: it is good practice to prevent releases into the environment.

### **Methods and Materials for Containment and Cleaning Up**

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Large spills or leaks: dike spilled product to prevent runoff. Recover material by vacuum or pump into a suitable waste container. Small spills or leaks: stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Reuse material if possible, or otherwise dispose in accordance with local regulations.

### **Other Information**

Contact supplier, local fire and emergency services for help. Report spills to local health, safety and environmental authorities, as required.

## **SECTION 7. HANDLING AND STORAGE**

Product Identifier: HYDROGEN PEROXIDE (20%-50%) - Ver. 1

SDS No.: 0370

Date of Preparation: February 21, 2019

Date of Last Revision:

Page 03 of 07

### Precautions for Safe Handling

Use good hygiene practices. It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling.

Only use where there is adequate ventilation. Keep away from clothing and other combustible materials. Wear personal protective equipment to avoid direct contact with this chemical. Do not get in eyes, on skin or on clothing. Avoid repeated or prolonged skin contact. Avoid generating vapours or mists.

### Conditions for Safe Storage

Store in an area that is: cool, ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Keep temperatures > 4 ° C and < 30 ° C. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Comply with all applicable health and safety regulations, fire and building codes.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Hydrogen peroxide	1 ppm		1 ppm			

(Hydrogen peroxide) : IDLH (NIOSH) = 75 ppm

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. AIHA® = AIHA® Guideline Foundation. WEEL® = Workplace Environmental Exposure Limit. Short-term TWA = Time-Weighted Average with specified time limit. NIOSH = National Institute for Occupational Safety and Health. IDLH= Immediately Dangerous to Life or Health tWA = Time-Weighted Average.

### Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

### Individual Protection Measures

#### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, natural rubber, polyvinyl chloride.

#### Respiratory Protection

Up to 75ppm (IDLH): use full face with organic vapour or with supplied air respirator. If one experiences eye irritation using a full face respirator, leave area immediately.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Pungent
Odour Threshold	Not available
pH	1.0 - 4.0 (100% solution)
Melting Point/Freezing Point	Not available (melting); -14.6 - -52.0 °C (freezing)
Initial Boiling Point/Range	103.6 - 115.0 °C
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)

Product Identifier: HYDROGEN PEROXIDE (20%-50%) - Ver. 1

SDS No.: 0370

Date of Preparation: February 21, 2019

Date of Last Revision:

Page 04 of 07

<b>Vapour Pressure</b>	Not available
<b>Vapour Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	1.07 - 1.20 at 20 °C
<b>Solubility</b>	Soluble in water; Not available (in other liquids)
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available (kinematic); Not available (dynamic)

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

None known.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

### Conditions to Avoid

Prolonged exposure to high temperatures. Decomposes with increase temperatures. Contact with combustible materials. PH > 4.0 and the presence of heavy metals/organics.

### Incompatible Materials

Reacts with or incompatible with: strong reducing agents (e.g. hydrides), strong bases (e.g. sodium hydroxide), heavy metals and their salts (eg. iron, lead), combustible organic materials (eg. wood, sawdust, cotton, hydrocarbons, etc.). Attacks some types of rubber, plastic and coatings.

Corrosive to: cast iron, iron, lead, magnesium, silver, copper alloys (e.g. brass and/or bronze), carbon steel.

### Hazardous Decomposition Products

Oxygen, heat and steam.

## SECTION 11. TOXICOLOGICAL INFORMATION

Information presented below is for the entire product, unless otherwise specified.

### Likely Routes of Exposure

Skin contact; eye contact; inhalation.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Hydrogen peroxide	> 0.17 mg/L (rat) (4-hour exposure) 50%	225-1200 mg/kg (rat) 50%	> 6500 mg/kg (rabbit) 70%

### Skin Corrosion/Irritation

Causes severe irritation or burns to skin. Contact can cause pain, redness, burns, and blistering. Permanent scarring can result.

### Serious Eye Damage/Irritation

Contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

At high concentrations

Inhalation of mist or vapours: may cause nose and throat irritation, may cause severe irritation or discomfort to respiratory system. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the

chest. In very severe cases bronchitis or pulmonary oedema may occur, which can potentially be fatal.

#### Aspiration Hazard

Not known to be an aspiration hazard.

#### STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause dermatitis. Symptoms may include dry, red, cracked skin (dermatitis). Prolonged exposure may cause whitening or bleaching of skin, skin/eye damage and respiratory distress with possible respiratory failure.

#### Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

#### Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Hydrogen peroxide	Group 3	A3	Not Listed	Not Listed

Conclusions cannot be drawn from the limited studies available.

#### Key to Abbreviations

ACGIH® = American Conference of Governmental Industrial Hygienists. IARC = International Agency for Research on Cancer. NTP = National Toxicology Program. OSHA = US Occupational Safety and Health Administration. Group 3 = Not classifiable as to its carcinogenicity to humans. A3 = Animal carcinogen.

#### Reproductive Toxicity

##### Development of Offspring

Not known to harm the unborn child.

##### Sexual Function and Fertility

Conclusions cannot be drawn from the limited studies available.

#### Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

No information was located for: Effects on or via Lactation, Interactive Effects

## SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Toxic to aquatic life, based on acute toxicity tests.

##### Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Hydrogen peroxide	16.4 mg/L (Pimephales promelas (fathead minnow); 96-hour)	7.7 mg/L (Daphnia magna (water flea); 24-hour)		

#### Persistence and Degradability

No ingredient of this product or its degradation products is known to be highly persistent.

#### Bioaccumulative Potential

This product and its degradation products are not expected to bioaccumulate.

#### Mobility in Soil

Studies are not available.

#### Other Adverse Effects

There is no information available.

## SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal Methods

Product Identifier: HYDROGEN PEROXIDE (20%-50%) - Ver. 1

SDS No.: 0370

Date of Preparation: February 21, 2019

Date of Last Revision:

Page 06 of 07

Recycle and reuse product, if possible. Recommended disposal methods are for the product, as sold. (Used material may contain other hazardous contaminants). The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	2014	Hydrogen Peroxide, Aqueous Solution (above 20% to 60%)	5.1 (8)	II
US DOT	2014	Hydrogen Peroxide, Aqueous Solution (above 20% to 60%)	5.1 (8)	II

**Environmental Hazards** Not applicable

**Special Precautions** Not applicable

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15. REGULATORY INFORMATION

**Safety, Health and Environmental Regulations**

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.

**Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)**

All ingredients are listed on the DSL/NDSL.

**USA**

**Toxic Substances Control Act (TSCA) Section 8(b)**

All ingredients are listed on the TSCA Inventory.

## SECTION 16. OTHER INFORMATION

**SDS Prepared By** Technical Department

**Phone No.** 604-881-4700

**Date of Preparation** February 21, 2019

**Disclaimer** The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. Velocity Chemicals Ltd. expressly disclaims all expressed or implied warranties and assumes no responsibilities for the accuracy or completeness of the data contained herein. The data in this MSDS does not apply to use with any other product or in any other process.

Product Identifier: HYDROGEN PEROXIDE (20%-50%) - Ver. 1

SDS No.: 0370

Date of Preparation: February 21, 2019

Date of Last Revision:

Page 07 of 07