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## HYDROGEN PEROXIDE (50% - 60%)

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Identification of the product

Product name	HP 50
Chemical Name	: Hydrogen peroxide
Synonyms	: Hydroperoxide, Hydrogen dioxide
Molecular formula	: H <sub>2</sub> O <sub>2</sub>
Molecular weight	: 34 g/mol

**Recommended use:** -Irrigation system cleaner

**Company:** CYC Solutions Company  
**Address:** 3085 N Cessna Way  
Casa Grande, AZ 85122

**Emergency Telephone Number:** CHEMTREC 1-800-424-9300

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## 2. HAZARDS IDENTIFICATION

**Classification of the Substance or Mixture:**

Skin Corrosion - Category 1

Serious Eye Damage - Category 1

Oxidizing Liquids - Category 2

Corrosive to Metals - Category 1

Organic Peroxides - Type G

Acute Toxicity - Oral Category 4

Acute Toxicity - Dermal Category 5

Hazardous to the Aquatic Environment, Acute  
Toxicity Category 2**Signal Word:** Danger**Hazard Statements:**

Causes severe skin burns and eye damage

May intensify fire; oxidizer

May be corrosive to metals

Harmful if swallowed

May be harmful in contact with skin

May be harmful to aquatic life

**Precautionary Statements:**

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

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. **IF ON SKIN:** Immediately remove/take off all contaminated clothing. Rinse skin with water/shower.**IF SWALLOWED:** Call a poison control center or doctor immediately. Do not induce vomiting unless told to do so by a poison control center or doctor.

Keep away from heat/sparks/open flames/hot surfaces - No smoking.

Keep/Store away from combustible materials.

Avoid mixing with combustibles.

Keep only in original container.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Hydrogen peroxide**

CAS-No.	:	7722-84-1
Concentration	:	50.0 - 60.0 %

### 4. FIRST AID MEASURES

**Inhalation:** Move person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the physician or poison control. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.

**Skin Contact:** Immediately remove contaminated clothing and shoes. Rinse skin immediately with lukewarm, gently flowing water/shower with a flushing duration of 30 minutes. Immediately call physician or poison control.

**Eye Contact:** Remove source of exposure or move person to fresh air. Rinse eyes continuously for 30 minutes with lukewarm water while holding the eyelids open. Remove contact lenses, if present and easy to do. Take care not to rinse contaminated water into the unaffected eye or into the face. Immediately call a physician or poison control.

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Immediately call a physician or poison control. If vomiting occurs naturally, lie on your side, in the recovery position.

**Most Important Symptoms and Effects, both Acute and Delayed:** Causes severe skin burns and eye damage, burning of the mouth, throat, and esophagus.  
Treat symptomatically

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## 5. FIREFIGHTING MEASURES

**Extinguishing Media:** Use water, powder, foam, carbon dioxide.

**Special hazards arising from the substance or mixture:** Noncombustible. May give off irritating or toxic fumes (or gases) in a fire.

**Flammability classification (OSHA 29 CFR 1910.106) (Hazcom 2012):** Non flammable

**Hazardous Combustion Products:** May cause fire and explosions when in contact with incompatible materials.

**Special protective equipment and precautions for firefighters:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**Methods and materials for containment and cleaning up: SMALL SPILLS** (less than 1 gallon): Neutralize with soda ash or cover with dry earth, sand or other noncombustible material, place into loosely covered plastic containers for proper disposal. If neutralized, material can be diluted into drain. **LARGE SPILL:** Restrict access to area until completion of clean up. Prevent liquid from entering sewers or waterways. Stop or reduce leak if safe to do so. Dike with inert material (sand, earth, etc.). Collect into plastic containers for proper disposal.

**Special spill response procedures:** Collect spills in plastic containers only. Prevent from entering sewers, waterways, or low areas. Prevent further leakage or spillage if safe to do so. Keep away from incompatible products.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling:** Wear chemical resistant gloves and eye protection, face shield, and chemical resistant garments when handling, moving or using this product. Do not contaminate water, food, or feed by storage or disposal. Use only in well-ventilated areas. Keep away from Incompatible products.

**Conditions for Safe Storage:** Store in a cool, dry, well ventilated place away from direct sunlight. Keep container closed when not in use.

**Incompatible Materials:** Avoid strong reducing agents, soft metals, heat and bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>CHEMICAL NAME</u>	<u>CAS NO.</u>	<u>OSHA PEL</u>		<u>ACGIH TLV</u>	
		<u>TWA</u>	<u>STEL/CEILING</u>	<u>TWA</u>	<u>STEL</u>
HYDROGENPEROXIDE	7722-84-1	1 ppm	1 ppm/N/A (Cal OSHA)	1 ppm	N/A

**Ventilation and engineering measures:** Forced air, local exhaust, or open air is adequate.

**Respiratory Protection:** In case of confined spaces or high levels encountered in the air, wear self-contained breathing apparatus.

**Skin Protection:** Wear chemical resistant gloves and chemical resistant clothing when handling.

**Eye/Face Protection:** Wear chemical goggles. A face shield may be required if splashing hazard exists.

**Other Protective Equipment:** Eye wash facility and emergency shower should be in close proximity.

**General Hygiene Conditions:** Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industry hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### General Information

Appearance	: Liquid
Color	: Colorless
Odor	: Slight odor

### Important health safety and environmental information

pH	: 2.02 (H <sub>2</sub> O <sub>2</sub> 50 %) Temperature: 21 °C (70 °F)
pKa	: pKa1= 11.62 Temperature: 25 °C (77 °F)
Boiling point/boiling range	: 150.2 °C (302.4 °F) (Pure substance) : 125 °C (257 °F) (H <sub>2</sub> O <sub>2</sub> 70 %)
Flash point	: Remarks: not applicable
Flammability	: Remarks: The product is not flammable.
Explosive properties	: <u>Explosion danger</u> : Remarks: With certain materials (see section 10).
Oxidizing properties	: Remarks: Oxidizer
Vapor pressure	: 200 Pa (H <sub>2</sub> O <sub>2</sub> 70 %) Temperature: 30 °C (86 °F) : 214 Pa (Pure substance) Temperature: 20 °C (68 °F)
Relative density / Density	: 1.29 (H <sub>2</sub> O <sub>2</sub> 70 %) 1.44 (Pure substance) Temperature: 25 °C (77 °F)
Bulk density	: Remarks: not applicable
Solubility(ies)	: Remarks: no data available
Partition coefficient: n-octanol/water	: <u>log Pow</u> : -1.57 Method: calculated value
Viscosity	: 1.26 mPa.s (H <sub>2</sub> O <sub>2</sub> 70 %) Temperature: 20 °C (68 °F) : 1.249 mPa.s (Pure substance) Temperature: 20 °C (68 °F)
Vapor Density	: 1.02

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<b>Freezing point:</b>	-0.43 °C (31.23 °F) (Pure substance): -40.3 °C (-40.5 °F) (H <sub>2</sub> O <sub>2</sub> 70 %)
<b>Auto-flammability</b>	: <i>Remarks:</i> not applicable
<b>Surface tension</b>	: 77.2 mN/m (H <sub>2</sub> O <sub>2</sub> 70 %) <i>Temperature:</i> 20 °C (68 °F) : 80.4 mN/m (Pure substance) <i>Temperature:</i> 20 °C (68 °F)
<b>Decomposition temperature</b>	: >= 60 °C (140 °F) <i>Remarks:</i> Self-Accelerating decomposition temperature (SADT) : < 60 °C (140 °F) <i>Remarks:</i> Slow decomposition

## 10. STABILITY AND REACTIVITY

**Reactivity:** Reactive with bases, metals, reducing agents and combustible materials

**Chemical Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** May react with incompatible materials

**Conditions to Avoid:** Incompatible materials and high temperatures

**Incompatible Materials:** Reactive with bases, metals, reducing agents and combustible materials

**Hazardous Decomposition Products:** Oxygen which supports combustion.

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## 11. TOXICOLOGICAL INFORMATION

### Toxicological data

#### Acute oral toxicity

LD50, rat, 801 - 872 mg/kg (H2O2 60 %)

#### Acute inhalation toxicity

LC50, 4 h, rat, > 0.17 mg/l, Remarks: vapor (H2O2 50 %)

#### Acute dermal irritation/corrosion

LD50, rabbit, > 2,000 mg/kg (H2O2 70 %)

#### Skin irritation

Rabbit, Corrosive (H2O2 50 %)

#### Eye irritation

Rabbit, Corrosive (H2O2 50 %)

#### Sensitization

Guinea pig, did not cause sensitization on laboratory animals.

### Potential Chronic Health Effects

**Mutagenicity:** No known mutagenic effects

**Carcinogenicity:** Not a known carcinogen or tumorigen

**Reproductive effects:** No known reproductive effects

**Sensitization to material:** No expected to cause sensitization

**Specific target organ effects:** No information available

**Medical conditions aggravated by overexposure:** No information available

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** May be harmful to aquatic life.

**Persistence and degradability:** Not expected to persist. Expected to readily biodegrade.

**Bioaccumulation potential:** Not expected to bioaccumulate.

**Mobility in soil:** No information available

### 13. DISPOSAL CONSIDERATIONS

**Handling for disposal:** Do not contaminate water, food, or feed by storage and/or disposal. When handling refer to protective measures listed in sections 7 and 8. Empty residue from containers, rinse container well.

**Method of disposal:** Dispose in accordance with all applicable federal, state and local regulations. Contact your local, state or federal environmental agency for specific rules.

**RCRA Hazardous Waste:** If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA (Corrosivity D002)

### 14. TRANSPORT INFORMATION

#### IATA-DGR

UN number	UN 2014
Class	5.1
Packing group	II
ICAO-Labels	5.1 - Oxidizing substances 8 - Corrosive
Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION	

#### U.S. Dept. of Transportation

UN number	UN 2014
Class	5.1
Packing group	II
Label	5.1 - Oxidizing substances 8 - Corrosive
EmS	140
Remarks	UN 1066, NITROGEN COMPRESSED, 2.2
Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION	

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**15. REGULATORY INFORMATION**

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FIFRA Classification/Typical Hazard Labeling, as outlined in EPA Label Review Manual Hazard Data

Signal Word	DANGER
Acute Toxicity, oral	Category III: Harmful if swallowed
Acute Toxicity, dermal	Category III: Harmful if absorbed through skin
Acute Toxicity, inhalation	Category II: May be fatal if inhaled
Skin irritation/corrosion	Category I: Corrosive. Causes skin burns
Serious eye damage	Category I: Corrosive, Causes irreversible eye damage
Sensitization	Not Classified (NC)
Environmental (aquatic) toxicity	This pesticide is toxic to fish and other aquatic organisms.

**US Federal Information:**

**TSCA information:** All components are listed on the TSCA inventory.

**US CERCLA Reportable quantity (RQ):** Acetic acid has a RQ of approximately 70000 lbs. of as is chemical.

**US EPCRA Reportable quantity (Extremely hazardous substance RQ):** Peracetic acid has a RQ of approximately 8900 lbs. of as is chemical. **SARA Title III:** Reactivity Hazard, Acute Health Hazard

**International Information:**

WHMIS: Class C: Oxidizing material. Class E: Corrosive material. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.

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**16. OTHER INFORMATION****Ratings:****NFPA (National Fire Protection Association)**

Health = 3    Flammability = 0    Instability = 1    Special = Oxidizer

**HMIS (Hazardous Material Information System)**

Health = 3    Fire = 0    Reactivity = 1    PPE: Supplied by User; dependent on local conditions

**Further information**

- Occupational Safety and Health Administration (OSHA) requirements for process safety management must be followed anytime at least 7500 lbs. of Hydrogen Peroxide at concentrations of at least 52 % are used or stored. Refer to 29 CFR 1910.119 for specific details.
- Wear an approved full-face air supplied respirator for excessive or unknown concentrations. Selected chemical cartridges for respirators, i.e. OV, OV/AG, and GME have been tested successfully under lab conditions to remove hydrogen peroxide and peracetic acid vapors in concentrations exceeding the applicable exposure limits.
- The National Transportation Safety Board (NTSB) and Federal Aviation Administration (FAA) have requested the following information be provided:
  - 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.

**Disclaimer**

This Safety Data Sheet is offered solely for information, consideration, and investigation purposes. It is not to be construed as recommending any practice or product in violation of any law or regulation. The user is responsible for determining the suitability of the material for use and should practice necessary safety precautions. The information presented has been compiled from sources considered to be dependable and reliable to the best of our knowledge. This document is not to be considered as a warranty or quality specification

**Date Created:** 04/18

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