SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2021
Date Updated: March 03, 2021

SECTION 1. - - - - - - - - - PRODUCT AND COMPANY IDENTIFICATION- - - - - - - - - -

Product Name	Hydrogen peroxide 30%
Product Code(s)	HC4060
Recommended Use	For Laboratory Research Use Only Not for Human or Animal Drug Use
Supplier	Bio Basic Inc.
Address	20 Konrad Crescent, Markham, Ontario, Canada, L3R 8T4
Telephone	(905) 474 4493
Fax	(905) 474 5794
For Chemical Emergency Phone#	(416) 995 9730

SECTION 2. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

Classification

Oxidizing liquid - Category 1;
Acute toxicity (Oral) - Category 4;
Acute toxicity (Inhalation) - Category 5;
Skin corrosion - Category 1A;
Serious eye damage - Category 1;
Aquatic hazard (Acute) - Category 3

Label Elements

Signal Word: Danger
Hazard Statement(s):
May cause fire or explosion; strong oxidizer. Harmful if swallowed.
Causes severe skin burns and eye damage. May be harmful if inhaled.
Harmful to aquatic life. Precautionary Statement(s):
Keep or store away from clothing and other combustible materials. 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.
Immediately call a POISON CENTRE or doctor.

Other Hazards

None known.

SECTION 3. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

Chemical Name	EC No.	CAS-No	Weight %
Hydrogen peroxide	231-765-0	7722-84-1	20-40

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -

First-aid Measures

Inhalation

Move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Immediately call a Poison Centre or doctor.

Skin Contact

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Immediately call a Poison Centre or doctor. Clean clothing, shoes and leather goods.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor.

Ingestion

Drink at least 2 glasses of water. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Immediately call a Poison Centre or doctor.

First-aid Comments

Pulmonary edema may be delayed for 24 to 72 hours; keep under observation. Gastric lavage may be necessary if swallowed. Analysis of body fluids (particularly gastric aspirates) using the titanium chloride reaction, if done immediately, will reveal peroxides.

Most Important Symptoms and Effects, Acute and Delayed

If on skin: small amounts if inhaled and/or on skin: causes moderate to severe irritation. If in eyes: may cause serious eye damage. May irritate or burn the eyes. Permanent damage including blindness may result. Causes moderate to severe irritation.

Immediate Medical Attention and Special

Treatment Target Organs

Eyes, respiratory system, skin.

Special Instructions

Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.

Medical Conditions Aggravated by Exposure

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

None known.

Specific Hazards Arising from the Product

Strong oxidizer. Releases oxygen to create an oxygen-rich atmosphere. Will cause combustible materials to ignite more readily. May cause a fire or explosion. Closed containers may rupture violently when heated releasing contents.

Special Protective Equipment and Precautions for Fire-fighters

Oxidizer. Prevent contact with flammable and combustible materials. Fight fire remotely due to the risk of explosion. Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials. Keep away from combustibles.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Methods and Materials for Containment and Cleaning Up

Small spills or leaks: flush spill area. Large spills or leaks: remove or recover liquid using pumps or vacuum equipment. Flush spill area. Dike and recover contaminated water for appropriate disposal. Do not return spilled product to its original container. May be neutralized with sodium metabisulfite or sodium sulfite after diluting to 5 - 10% peroxide.

Other Information

Contact supplier, local fire and emergency services for help.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - -

Precautions for Safe Handling

Do not get in eyes, on skin or on clothing. Do not breathe in this product. Avoid contamination by any source including dusts, metals and organic materials. Prevent accidental contact with incompatible chemicals. Keep smallest practical amount in work area. Do NOT smoke in work areas. Wash hands thoroughly after handling this material. Clean clothing, shoes and leather goods. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Avoid heating that will increase the amount of vapours. Wear personal protective equipment to avoid direct contact with this chemical. Never return unused or contaminated product to its original container.

Containers must be vented, but check periodically for bulging containers which can burst from pressure.

Conditions for Safe Storage

Store in an area that is: cool, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity), clear of combustible and flammable materials (e.g. old rags, cardboard). Protect from sunlight. Store in the original, labelled, shipping container. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Do not store on wooden shelves or floor.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Hydrogen peroxide aqueous solutions	1 ppm A3		1 ppm			

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. Butyl rubber, natural rubber, neoprene rubber, nitrile rubber.

Respiratory Protection

For non-routine or emergency situations: wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Odourless
Odour Threshold	Not available
pH	3.3
Melting Point/Freezing Point	-25 ºC (-13 ºF) (melting); -25 ºC (-13 ºF) (freezing)
Initial Boiling Point/Range	108 ºC (226 ºF)
Flash Point	Not applicable
Evaporation Rate	< 1 (n-butyl acetate = 1)
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	1.17
Relative Density (water = 1)	1.110
Solubility	Soluble in all proportions in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)

Other Information

Physical State	Liquid
Molecular Formula	H_2O_2
Molecular Weight	34.01

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

Reactivity

Heating may cause an explosion. Strong oxidizer. Slowly decomposes to release oxygen. Contact with combustible material may cause fire. Avoid light and keep in a closed but vented container to prevent evaporation (concentration) and contamination.

Chemical Stability

Unstable under certain conditions - see Conditions to Avoid.

Possibility of Hazardous Reactions

Reacts in the presence of contaminants, heat, light.

Conditions to Avoid

High temperatures. Light. Contact with combustible materials. Incompatible materials.

Incompatible Materials

Heat, reducing agents, organic materials, dirt, alkalis, rust and many metals. Spontaneous combustion may occur on standing in contact with readily flammable materials.

Hazardous Decomposition Products

Decomposes to Water and Oxygen with rapid heat release. Use vented containers. The solution can decompose violently upon heating.

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Hydrogen peroxide aqueous solutions		1518 mg/kg (rat)	

LC50: No information was located.

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

May burn the skin. Permanent scarring may result. Symptoms include pain, redness, and swelling.

Serious Eye Damage/Irritation

Corrosive! 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 low concentrations may cause severe nose and throat irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. Severe lung injury. Symptoms may develop hours after exposure and are made worse by physical effort. May cause pulonary edema and death.

Skin Absorption

No information was located.

Ingestion

If small amounts are swallowed irritation of the mouth, throat and stomach. If large amounts are swallowed severe irritation or burns to the mouth, throat and stomach. Causes a violent, heat-producing reaction that releases large volumes of oxygen bubbles. Symptoms may include foaming at the mouth, vomiting, stomach pain and a bloated stomach. Serious stomach damage may result. In rare cases, gas bubbles may block blood vessels resulting in severe injury to the brain or heart.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

Not known to be a skin sensitizer.

Carcinogenicity

May cause cancer based on animal studies.

Reproductive Toxicity

Development of Offspring

Conclusions cannot be drawn from the limited studies available.

Sexual Function and Fertility

Conclusions cannot be drawn from the limited studies available.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

Interactive Effects

No information was located.

No information was located for: Aspiration Hazard, STOT (Specific Target Organ Toxicity) - Repeated Exposure, Interactive Effects

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

Ecotoxicity

Toxic to aquatic life.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Hydrogen peroxide aqueous solutions	16.4 mg/L (96-hour)	2.4 mg/L (Daphnia magna (water flea); 48-hour)		2.5 mg/L (72-hour)

Persistence and Degradability

Expected to be readily biodegradable.

Bioaccumulative Potential

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

Mobility in Soil

If released into the environment, this product can move rapidly through the soil.

Other Adverse Effects

There is no information available.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

Disposal Methods

Recycle and reuse product, if possible. This product and its container must be disposed of as hazardous waste.

Do NOT dump into any sewers, on the ground or into any body of water. Empty containers retain product residue. Follow label warnings even if container appears to be empty. Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN2014	Hydrogen Peroxide, Aqueous Solution	5.1, 8	II
Canadian TDG	UN2014	Hydrogen Peroxide, Aqueous Solution	5.1, 8	II
Canadian TDG	UN2014	Hydrogen Peroxide, Aqueous Solution	5.1, 8	II
Canadian TDG	UN2014	Hydrogen Peroxide, Aqueous Solution	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

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

Listed on the DSL.

CEPA - National Pollutant Release Inventory (NPRI)

Not specifically listed.

USA

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

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

CERCLA: Not listed. SARA Title III - Section 302: Not listed. SARA Title III - Section 313: Not listed.

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - -

NFPA Rating **Health - 2** **Flammability - 0** **Instability - 3**

Special Hazard - Oxidizing **Based on** Hydrogen peroxide aqueous solutions

Disclaimer

The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

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End of SDS