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Est. 1995

THE BTTCO OVERSEAS

A Govt. of India Recognized *Star Export House*

from local roots to global routes

Material Safety Data Sheet
HYDROGEN PEROXIDE 50%

Section 1- Chemical Product and Company Identification

TRADE NAME : HYDROGEN PEROXIDE 50%
CHEMICAL NAME : Hydrogen Peroxide - 50% w/w
SYNONYMS : Hydro Peroxide, Hydrogen dioxide, Hydrogen Peroxide
Molecular Formula : H_2O_2
Molecular Weight : 34.02 gram/mole
CAS-No : 7722-84-1

Use of the substance/Mixture:
Recommended use : Bleaching agent, Chemical industry, Metal treatment, Odor-reagents, Oxidizing agent, Textile industry, Water treatment, Pulp and paper

Company Name and Address: The BTTCO Overseas
6, Ashirvad Complex, Nr. Sardar Patel Seva Samaj Hall,
Navrangpura, Ahmedabad – 380009

Contact Person : Mr. Dinesh Lunkad
Emergency Contact No. : +91 94265 96891

Section 2 - Composition/Information On Ingredients

Chemical name	CAS-No	Weight %
Water	7732-18-5	50
Hydrogen peroxide(H_2O_2)	7722-84-1	50

Globally Harmonized System

Hazard classification : Hazardous according to the criteria of the globally Harmonized system of classification and labelling of chemicals (GHS).

Hazard categories :

Skin Corrosion/irritation	Category 1 A
Oxidizing liquids	Category 2
Corrosive to metals	Category 1
Acute Toxicity (Oral)	Category 4
Acute Toxicity (inhalation)	Category 4
Serious Eye damage/irritation	Category 1

Signal word : **DANGER**

Hazard statements

H271	May cause fire or explosion; Strong Oxidizer.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H318	Causes serious eye damage.

Precautionary Statements Prevention

P283	Wear fire/flame resistant/retardant clothing.
P271	Use only outdoors or in well- Ventilated area.
P234	Keep only in original container.
P270	Do not eat, drink or smoke when using this product.

Pictograms



Section 3 - Hazards Identification

Emergency Overview

Color : Colorless
Physical state : Liquid
Odor : Odorless
DANGER!
Strong Oxidizer
Contact with other material may cause fire or explosive decomposition
Causes eye burns
May cause blindness
May cause respiratory tract irritation.
May be harmful if swallowed.

Potential Health Effects

Primary routes of exposure : Inhalation and skin contact

Signs and symptoms of acute exposure : Corrosive to eyes. May cause irritation of respiratory tract. Effects due to ingestion may include: gastrointestinal symptoms, ulceration, burns, accumulation of fluid in lungs which may be delayed for several hours.

Skin : Slightly Toxic. Non-irritating
Eyes : Corrosive

Section 4 - Emergency And First Aid Procedures

EYE : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

SKIN : Immediately flush skin with large amount of water. Remove Hydrogen Peroxide from clothing. Wash clothing before reuse. Destroy contaminated shoes.

INHALATION : If inhaled, then move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Get medical attention.

INGESTION : If swallowed, DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious give a cupful of water. Never give anything by mouth to an unconscious person.

Notes to Physician : Exposure to material may cause delayed lung injury resulting in pulmonary edema and pneumonitis. Exposed individuals should be monitored for 72 hours for the delayed respiratory symptoms.

Section 5 - Fire Fighting Measures

Flash Point : Non-flammable
Auto ignition temperature : Not applicable.
Lower Flammable Limit (LML) : Not applicable.
Upper Flammable Limit (UFL) : Not applicable.
Extinguishing media (Suitable) : Water spray.

Protective Equipment : Fire fighters and others who may be exposed to products of combustion should wear full firefighting turn out gear (full bunker gear) and Self-Contained breathing apparatus (pressure demand/approved or equivalent).

Further Firefighting advice : Firefighting equipment should be thoroughly decontaminated after use.

Fire and Explosion hazards : Oxidizing Material.
Explosive when mixed with combustible material.
Avoid breathing fumes from exposed material.

Section 6 - Accidental Release Measures

Personal protection/ precautions : Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Don't go towards the spill area. Keep people away from and upwind of spill/leak. Eliminate all sources of ignition and remove combustible materials.

Other : 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 material such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result fire.

Environmental precautions : Do not flush into surface water or sanitary sewer system;
if discharged into sewers or watercourses, dilute with plenty of water.
See section 12 for additional ecological information.

Methods for containment : Dike to collect liquid spills. Stop leak and contain spill if this can be done safely.
Small spillage: Dilute with large quantities of water.

Methods of cleaning up : Flush area with flooding quantities of water. Hydrogen peroxide may be decomposed by adding sodium meta bisulfite or sodium sulfite after diluting to about 5%.

Section 7 - Handling And Storage

General information on Handling : Do not get in eyes, on skin, or on clothing.
Do not taste or swallow.

Avoid breathing vapor or mist.
Wash thoroughly after handling.
Use only with adequate ventilation.
Keep from contact with clothing and other combustible materials.
Avoid contamination.
Store in closed container.
Emptied container retains vapor and product residue.
Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.
DO NOT CUT, DRILL, GRIND OR WELD ON OR NEAR THIS CONTAINER.

Storage

General information on Handling : Store away from combustibles and incompatible materials.
Store in cool and dry well-ventilated area away from sources of ignition such as flame, sparks and static electricity.
Refer to National Fire Protection Association (NFPA), 430, code for the storage of Solid and Liquid Oxidizers.
Store in original container

Storage incompatibility (General) : Store separate from acids, alkalis, reducing agents, and combustibles.
Store separate from Organic materials, Metal oxides.

Packing material : Aluminum, 99.5%.
Stainless steel 304L/316L.
HDPE – Conforming to IS 6312

Section 8 - Exposure Controls/Personal Protection Information

Control parameters:

Exposure limit values
Hydrogen peroxide : WEL (TWA = 1 ppm, TWA = 1.4mg/m3)
WEL (STEL = 2 ppm, STEL = 2.8mg/m3)
TLV (NOHSC) (TWA = 1 ppm, TWA = 1.4mg/m3)

Phrases : WEL : Work place Exposure limit.
TWA : Time weighted average.
STEL: Short term exposure limit.
NOHSC: National occupational health and safety commission.

Engineering measures : Ensure that eye wash stations and safety showers are close to the

work station location.
Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment

Hand Protection : For hand protection wear approved gloves made of nitrile, PVC, or neoprene, impervious butyl-rubber. DO NOT use cotton, wool or leather for these materials rapidly with higher concentrations of hydrogen peroxide. Thoroughly rinse the outside of gloves with water prior to removal. Inspect regularly for leaks.

Eye/Face Protection : Use chemical splash type mono goggles and a full- face shield made of poly carbonate, acetate.

Skin/Body Protection : For Body protection wear Apron or Protective suit made of SBR, PVC. For foot protection wear boots made of NBR, PVC, Polyurethane or Neoprene.
DO NOT wear any form of boots or over boots made of nylon or nylon blends.

Respiratory Protection : Use approved self-contained breathing apparatus (SCBA).
DO NOT use any form of air purifying respirator (APR) or filtering face piece (dust mask), especially those containing oxidizable sorbents such as activated carbon.

Hygiene measures : Avoid breathing vapors, mist or gas.
Clean water should be available for washing in case of eye or skin contamination.

Environmental exposure Controls : Dispose off rinse water in accordance with local and national regulations.

Section 9 - Physical Data /Physical And Chemical Properties

Basic physical and chemical Properties

Appearance : Clear, Colorless liquid
Physical state : Liquid
Odor : Pungent
pH : 1 – 2.5
Melting Point/Freezing Point : -52 °C
Boiling Point Range : 114 °C
Flash Point : Non-flammable
Evaporation rate : No information available

Flammability Limit (Solid, Gas)	: Non-flammable
Flammability Limit in air	: Not Applicable
Upper Flammability Limit	: Not Applicable
Lower Flammability Limit	: Not Applicable
Vapor Pressure	: 18 mm Hg @30 ° C
Vapor density	: No information available
Density	: 1.17 to 1.21 gram/cm3
Specific gravity	: 1.17 to 1.21
Water Solubility	: Completely soluble
Solubility in Other solvents	: Soluble in Polar organic solvents & insoluble in non-polar organic solvents
Partition Coefficient	: Not Available data
Auto ignition temperature	: Not combustible.
Decomposition temperature	: >= 60 °C (140 °F) Remarks: Self-Accelerating decomposition temperature (SADT) < 60 °C (140 °F) Remarks: Slow decomposition
Kinematic Viscosity	: 1.17 cP @ 20 ° C
Explosive Properties	: No information available
Surface Tension	: 75.6 mN/m @20 ° C
***Shelf Life/ Re-test**	: Typical Shelf life is 6 to 12 months from the date of manufacture.

***It is applicable when the material is stored in original sealed containers under recommended storage conditions.**

Section 10 – Stability and Reactivity Data

REACTIVITY	: Reactive and Strong oxidizing agent
STABILITY	: Stable under recommended storage conditions, Decomposes on heating.
Possibility of Hazardous Reactions	: Contact with organic substances may cause fire or explosion. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.
Conditions to Avoid	: Excessive heat; Contamination; Exposure to UV-rays; pH variations
Incompatible materials	: Combustible materials Copper alloys Galvanized iron Strong reducing agents

Hazardous decomposition Products : Oxygen which supports combustion. Liable to produce over pressure in container.

Section 11 - Toxicological Information

Toxicological data:

Acute Oral toxicity : LD50, rat, 225 - 1200 mg/kg (H2O2 50%)
Acute inhalation toxicity : LD50, 4hr, rat, >0.17 mg/L, Remarks (H2O2 50%)
Acute dermal toxicity : LD50, 4hr, rat, >2000 mg/kg, Remarks (H2O2 50%)
Skin irritation : Rabbit, skin irritation (H2O2 50%)
Eye irritation : Rabbit, Corrosive, Severe damage to eyes (H2O2 50%)
Sensitization : Guinea pig. Did not cause sensitization on laboratory animals.

Chronic toxicity : Oral, Prolonged exposure, various species, and Target organs: Gastrointestinal tract, Observed effect.
Inhalation, repeated exposure, dog, LOEL: 14.6 mg/m3, irritant effects.

Repeated dose toxicity : Oral, 90-day, mouse, Target organs: Gastrointestinal tract, lowest observable level: 300 ppm, LOAEL. (Pure substance) Oral, 90-day, mouse, NOEL: 100 ppm, NOAEL (Pure substance), Inhalation, 28-day, and rat, Target organs: Respiratory system, lowest observable level: 10 ppm, LOAEL. Vapors (Pure substance) Inhalation, 28-day, rat, NOEL: 2 ppm, NOAEL (Pure substance)

Carcinogenicity : Oral, Prolonged exposure, mouse, Target Organs: duodenum, carcinogenic effects.
Dermal, Prolonged exposure, mouse, Animal testing did not show any carcinogenic effects.

Genetic toxicity in vitro : In vitro tests have shown mutagenic effects.

Genetic toxicity in vivo : In vivo tests did not show mutagenic effects.

Reproductive toxicity : Substance totally bio transformed (metabolized)
Study scientifically unjustified.

Section 12 - Ecological Information

Acute toxicity effects	Fishes, Pimephales promelas	LC50, 96h, 16.4 mg/L
	Fishes, Pimephales promelas	NOEC, 96h, 5.0 mg/L
	Crustaceans, Daphnia pulex	EC50, 48 h, 2.4 mg/L
		Remarks: fresh water, semi-static test.

	Crustaceans, Daphnia pulex	NOEC, 48 h, 1.0 mg/L Remarks: fresh water, semi-static test.
Chronic toxicity	Mollusks	NOEC, 56 days, 2.0 mg/L
	Algae, Chlorella vulgaris	EC50, growth rate, 72h,4.3 mg/L
	Algae, Chlorella vulgaris	NOEC, 72h, 0.1 mg/L

Mobility : Air, Volatility, Henry's Law constant(H) = 0.75 kPa.m3/mol;
Conditions @20 °C,
Remarks: No significant.
Water, Remarks: Considerable solubility and mobility.
Soil/Sediments, log KOC: 0.2
Remarks: non - significant evaporation and adsorption.

Persistence and Degradability : Hydrogen peroxide in aquatic environment is subject to various reduction or oxidation process and decomposes into water and oxygen. Hydrogen peroxide half-life in fresh water ranged from 8 hours to 20days, in Air from 10-20hrs, and in soils from minutes to hours depending upon microbiological activity and metal contamination.

Bio accumulation : Material may have some potential to bio accumulate but will likely degrade in most environments before accumulation can occur.

Other adverse effects : Decomposes into oxygen and water. No adverse effect.

Section 13 - Disposal Consideration

Waste from residue and unused products : Dilution with plenty of water is preferred method of disposal.
Dispose in accordance with local and national regulations
Contact manufacturer

Contaminated Packing : Drums- empty as thoroughly as possible, Triple rinse drums before disposal. Avoid contamination; impurities accelerate decomposition. Never return product to original container.

Section 14 Transport Information

IATA (Forbidden over 40%)

UN number	: UN 2014
Proper Shipping name	: Not permitted to transport
Transport Hazard class	: Not permitted to transport
Sub-risks Hazard class	: Not permitted to transport

Packing group	: Not permitted to transport
Packing instruction (Cargo aircraft)	: Not permitted to transport
Packing instruction (Passenger aircraft)	: Not permitted to transport

IMDG

UN number	: UN 2014
Proper Shipping name	: HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport Hazard class	: 5.1
Sub-risks Hazard class	: 8
Packing group	: II
Marine pollutant	: No
Labels	: 5.1 - Oxidizing substance 8 - Corrosive
EMS Number	: F - H, S - Q

Section 15 Regulatory Information

Label : Hazardous components which must be listed on the label: Hydrogen Peroxide.
Classified as hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC)

Symbols	: C	Corrosive.
Risk Phases	: R8	Contact with combustible material may cause fire.
	R34	Causes Burns.
Safety Phases	: S 1/2	Keep locked up and out of reach of children.
	S3	Keep in a cool place.
	S28	After contact with skin, wash immediately with plenty of water.
	S36/39	Wear suitable protective clothing and eye/face protection.
	S45	In case of accident or if you feel unwell, seek medical advice Immediately (show the label where possible).

Other information : Percentage concentration of the solution must be indicated next to the product name.

Section 16 Other Information

NFPA	**Health Hazards 3**	**Flammability 0**	**Stability 1**	**Special Hazards OX**
HMIS	**Health Hazards 3**	**Flammability 0**	**Physical hazard 1**	**Personal Protection H**

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight =1, Minimal = 0
Special Hazards: OX = Oxidizer
Protection = H (Safety goggles, gloves, apron, the use of supplied air or SCBA respirator is required in lieu of vapors cartridge respirator)

Uniform Fire Code Oxidizer; Class2-Liquid

Disclaimer:
This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. While this information and recommendations set forth are believed to be accurate as of the date hereof, **BTTCOGROUP** makes no warranty with respect hereto and disclaims all liability from reliance thereon.

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