



Manufacturing Chemists since 1908

Morox 35

MSDS Sheet

1. Chemical Product and Company Identification

Moretex Chemical Products, Inc
314 West Henry St.
Spartanburg, SC29306
U.S.A.
(864)583-8441

Product Name
Morox 35
Chemical Name: Inorganic Peroxide, Oxidizer
CAS # 7722-84-1

Synonym(s)
Hydrogen Peroxide 35% by Wt. In aqueous solution. * Hydrogen Peroxide - Chemical Grade * Hydrogen Peroxide - Dilution Grade * Hydrogen Peroxide - Food Grade * Hydrogen Peroxide - Pulp Grade * Hydrogen Peroxide - Technical Grade

Intended Use
Oxidizing agent, used in the pulp and paper industry as a bleaching agent and drinking of waste water. Used in the manufacture of peroxygens such as peroxides, perborates and percarbonates. Used for surface treatment in the metals industry and elimination of nitrogen oxide gasses in nitric acid pickling operations. Used in water treatment for removal of various undesirable compounds such as hydrogen sulfide, cyanides, phenols and other products. It can also be used as a bacterial agent in water treatment.

2. Hazards Identification

Emergency Overview

Hydrogen Peroxide, aqueous solution is a clear colorless liquid with a slightly pungent odor. Harmful if swallowed. Oxidizer: accelerates combustion of organic materials (wood, paper, oil, clothing). Elevated temperatures above 38 C (100F) can increase the decomposition rate of the product. Material will decompose when exposed to heat, metals, alkalis, reducing agents or other impurities and generate oxygen gas, steam, and heat.

Routes of Exposure Skin and eye contact, ingestion and inhalation

Potential Health Effects:

Ingestion: This product is harmful if swallowed. Large exposure may be fatal. Can burn mouth, throat and stomach. Oxygen gas in the esophagus and stomach causes extreme swelling leading to severe injuries.

Skin Prolonged exposure may cause skin irritation. Prolonged exposure may cause skin irritation or burns

Eyes Irritating and may injure eye tissue causing corneal damage and possible blindness.

Inhalation Irritating to nose, throat, and respiratory tract. Severe overexposure may be fatal.

Target organs Overexposure may cause lung damage, eye damage and skin damage.

Chronic Effects Not listed as a possible carcinogenic by OSHA, IARC or NTP. Mutagenic for bacteria and yeast. No studies were found on the possible teratogenic effects of hydrogen peroxide in humans or experimental animals. No studies were found on the possible developmental or reproductive effects of hydrogen peroxide in humans or experimental animals.

3. Composition / Information on Ingredients

<u>Component</u>	<u>CAS #</u>	<u>% W/Wtt</u>
Water	7132-18-5	40-80%
Hydrogen peroxide	7722-84-1	20-60 %

ACGIH - Threshold Limits Values - Time Weighted 1Ppm TWA
Averages (TLV-TWA)

Ingredient Information Hydrogen Peroxide: OSHA PEL: 1 ppm (1.4 mg/m3) TWA. NIOSH IDLH: 75 ppm.

4. First Aid Measures

First Aid

<i>Ingestion</i>	DO NOT induce vomiting. Examine lips and mouth to determine whether the tissues are damaged which may indicate ingestion. (Absence of such signs is not conclusive.) Loosen tight clothing. If victim is not breathing, give artificial respiration. If victim is conscious, give plenty of water to dilute stomach contents. Seek immediate medical attention.
<i>Skin</i>	Wash with soap and water. Immediately take off all contaminated clothing. Rinse again. Do not allow contaminated clothing to dry before washing clothing on site. Seek medical attention if skin is burned or if symptoms continue.
<i>Eyes</i>	Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Seek medical attention. Eye effects may be delayed for as long as a week or more after exposure.
<i>Inhalation</i>	Remove victim to fresh air. If breathing stops, administer artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention. Effects (lung edema) may be delayed for a few hours and aggravated by physical effort
<i>Notes to Physician</i>	Risk of permanent corneal injury and possible blindness if splashed into eyes.

5. Fire Fighting Measures

Flammable Properties This product is not combustible, but is a strong oxidizer. Mixtures with combustible or flammable materials may ignite easily, burn fiercely, or may explode in contaminated, closed containers. 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 materials to ignite and result in a fire

Extinguishing Media

Suitable Extinguishing Media Small Fires: USE WATER ONLY. Use large amounts of water and spray to cool containers. Evacuate enclosed and surrounding areas. Large Fires: USE WATER ONLY. Evacuate enclosed and surrounding areas immediately. FOR LARGE FIRES: Wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH approved and full protective gear. DO NOT move cargo or vehicle if cargo has been exposed to heat Move containers from fire area if you can without risk. ALWAYS STAY AWAY from the ends of tanks. Flood fire area with water from a distance. Cool containers with flooding quantities of water until well after the fire is out. For massive fires, fight fire from maximum distance or use unmanned hose holders or monitor nozzles. If this is not possible, withdraw from the area and let burn.

Unsuitable Extinguishing Media Do not use dry chemicals, CO2, Halon, foam or fire blanket

Protection of Fire Fighters

Protective Equipment for Fire Fighters Self-contained breathing apparatus/full protective clothes should be worn in fire conditions.

Specific Hazards Arising from Chemical

Oxidizer - Keep away from flammable and combustible materials. Residual hydrogen peroxide that is allowed to dry on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire. Runoff may create a fire or explosive hazard. DO NOT flush to sewer unless diluted to 1 % or less concentration due to explosion hazard. May cause environmental damage. Hydrogen peroxide decomposes on heating to produce oxygen gas, steam and heat

6. Accidental Release Measures

<i>Personal Precautions</i>	In case of large spills, follow all facility emergency response procedures.
<i>Environmental Precautions</i>	SMALL SPILL: Do not use absorbents. Contain spill using noncombustible material such as vermiculite, sand or earth. If material is spilled on wooden floor or other combustible material, flush with large quantity of water. If material is spilled on noncombustible floor or ground, allow material to decompose.
<i>Methods for Containment</i>	LARGE SPILL: Contain spill using noncombustible material such as vermiculite, sand or earth. DO NOT use combustible absorbents. Avoid contact with combustible materials such as wood, paper, oil or clothing. Dike far ahead of solution for later disposal. If inside: Evacuate enclosed and surrounding areas immediately. Contact local fire department and notify proper authorities.

7. Handling and Storage

<i>Handling Procedures</i>	Use only inert lubricants and packings for pumps, valves and other equipment Exchange lubricants at regular intervals. Avoid contact with incompatibles. Keep container closed when not in use. Avoid contact with skin and eyes. Keep away from sources of heat and ignition. DO NOT use pressure to empty container. DO NOT return unused product to the container. Observe all warnings and precautions listed for this product.
<i>Storage Procedures</i>	Store in original vented containers or in dedicated bulk storage facilities. Keep away from sun and heat Store in a cool, dry, and fireproof area away from heat sources including friction and impact. Drums: DO NOT stack drums. DO NOT store on wooden pallets.. Store on concrete. Bulk: Store in property designed tank such as stainless steel or aluminum with containment dike. Store separate from all other materials. DO NOT confine in unvented vessels or between closed valves. Containers of this material retain product residues. Incompatible Materials: High pH materials, metals, salts, organics, reducing agents, dust and dirt.

8. Exposure Controls / Personal Protection

<i>Exposure Guidelines</i>	OSHA PEL: 1 ppm (1.4 mg/m ³) TWA ACGIH TLV: 1 ppm TWA NIOSH IDLH: 75 ppm
<i>Engineering Controls</i>	Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
<i>Personal Protective Equipment</i>	
<i>Eyes/Face</i>	Wear safety glasses with side shields, or chemical goggles plus a face shield.
<i>Skin</i>	Wear protective gloves, neoprene, butyl rubber or vinyl. Wear plastic or rubber safety toed boots. Wash exposed skin with soap and water. When contact is likely, wear PVC or rubber rainsuit and wash down rainsuit after each use. For general use, clothing of poly/cotton blend may be worn. Change clothing when contaminated and wash on-site. Do not allow contaminated clothing to dry before washing clothing on-site.
<i>Respiratory</i>	In the case of insufficient ventilation wear suitable respirator (NIOSH/MSHA approved).

9. Physical & Chemical Properties

Appearance

<i>Form</i>	Liquid
<i>Color</i>	Colorless
<i>Odor</i>	Slightly Pungent
<i>Odour Threshold</i>	Not Available
<i>Physical State</i>	Liquid
<i>PH</i>	<2
<i>Freezing Point</i>	-17 - -56°C (1.4 – 69°F)
<i>Boiling Point</i>	103 – 120 °C (217 – 248°F)
<i>Flash Point</i>	Not Flammable
<i>Evaporation Rate</i>	> 1 (Butyl Acetate =1)
<i>Flammability</i>	Not Flammable

<i>Upper/Lower Flammability</i>	Not Flammable
<i>Vapor Pressure</i>	28 – 15 MmHg @ 86F
<i>Vapor Density</i>	0.66 – 0.95 (Air =1.0)
<i>Specific Gravity</i>	1.07 – 1.23 (water = 1)
<i>Solubility (H2O)</i>	100% in water
<i>Coefficient of Water/Oil Distribution</i>	Not Available
<i>Octanol/H2O Coeff</i>	Not Applicable
<i>Auto Ignition Temperature</i>	Not Flammable
<i>Decomposition Temperature</i>	Not Available
<i>VOC</i>	< 1 Mg/l by EPA Method 8260 for volatile organics by purge and trap GC/MS
<i>Viscosity</i>	1.05 -1.21
<i>Percent Volatile</i>	100 % (nearly)

10. Chemical Stability & Reactivity Information

Conditions to Avoid When placed in an unsuitable container or introduced to other contaminants, elevated temperatures above 38 C (100F) can increase the decomposition rate of the product

Incompatible Materials Incompatible with high pH materials, metals, salts, organics, reducing agents, dust and dirt.

Hazardous Decomposition Products Hydrogen peroxide decomposes on heating to produce oxygen gas, steam and heat.

Possibility of Hazardous Reactions Stable when stored under suitable storage conditions. Will not occur.

11. Toxicological Information

Toxicological Information Harmful if swallowed. large exposure may be fatal.

Component Analysis - LD50 For Hydrogen Peroxide 90%: Oral (ID50): > 2000 mg/kg (mouse). Vapor (ID50): 1431 ppm. 4 hours [rat].

Inhalation Effects Irritating to nose, throat and respiratory tract. Severe overexposure may be fatal.

Irritation to skin Prolonged exposure may cause skin irritation or burns..

Irritation to eyes Irritation and may injure eye tissue causing damage and possible blindness.

Carcinogenic/mutagenicity Both IARC (Group 3 - not classifiable as to its carcinogenicity to humans) and ACGIH (A3 - confirmed animal carcinogen with unknown relevance to humans) have concluded that the available animal carcinogenicity information from tests of hydrogen peroxide is of unknown relevance to humans,

Rhode Island – Hazardous Substance list

Hydrogen peroxide	7722-84-1	Toxic;	Flammable
-------------------	-----------	--------	-----------

12. Ecological Information

Ecotoxicity

Aquatic toxicity Harmful to aquatic organisms especially to algae. fish: 96 hour LD50 Pimephales promelas (fathead minnow) ::: 16.4 mg/l. Crustaceans: 48 hour LD50 Daphnia pulex (water flea) ::: 2.4 mg/l. Algae: Freshwater algae are affected by hydrogen peroxide concentrations from 2 - 20 mg/l, while 1 mg/l affects certain marine algae.

Environmental Effects Hydrogen peroxide occurs naturally as a result of photochemical processes in living organisms. Tropospheric half-life of hydrogen peroxide is normally 10-20 hours. Soil half-life varies between several minutes to 15 hours. Decomposition in soil takes minutes or several hours depending on the mineral content and concentration of micro-organisms. Decomposes into water and oxygen.

Persistence/Degradability Hydrogen peroxide is decomposed by enzymatic action and does not accumulate in cell systems. BO05 and COD: Not applicable.

13. Disposal Considerations

Disposal Instructions Hydrogen peroxide is a characteristic hazardous waste as defined by RCRA: 40CFR261. EPA Hazardous Waste Number: 0001 (ignitable waste) State/Provincial and local regulations are complex and may differ from Federal regulations. Contact a hazardous waste disposal firm for disposal advice. Empty containers may contain residues and should be washed with water prior to disposal. May create a fire or explosion hazard. Material will decompose when exposed to heat, metals, alkalis, reducing agents or other impurities and generate oxygen gas, steam, and heat. May cause environmental damage.

14. Transport information

Goods Description Proper Shipping Name: Hydrogen Peroxide, aqueous solution [with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary)]. or Hydrogen Peroxide, aqueous solution [with not less than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary)].

Basic Shipping Description

Material DOT HMR Information

Proper Shipping Name See Goods Description above

Hazard Class 5.1 (Oxidizer)

Subsidiary Hazard Class

Identification Number UN2014

Packaging Group II

Marine Pollutant Identifier

Severe Marine Pollutant Identifier

Labels Required 5.1, 8

Packaging Exceptions None

Vessel Stowage Location D

Packaging Non Bulk 202

Packaging Bulk 243

Quan. limits Passenger 1 L (20 – 40%)

Quantity Limits Cargo 1 L. (20 – 40%)

General label Codes: 5.1 (Oxidizer), 8 (Corrosive).

Transport Summary Not recommend shipping hydrogen peroxide by air.

15. Regulatory Information

US Federal Regulations This product is listed on the U.S. EPA TSCA Inventory. OSHA HCS: Subject to OSHA Hazard Communication Standard. CAA RMP: Not subject to CM RMP. OSHA PSM: Greater than 52% concentration is subject to OSHA PSM. TQ 7500 lbs.

CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

Hydrogen peroxide 7722-84-1 1000 Lb TPQ (concentration >52%)

OSHA Regulated Regulated under 29 CFR 1910.1200. Not subject to OSHA PSM. Consult Federal, State/Provincial, and local regulations for changes and applicability to your materials.

SARA 302 Not subject to SARA Section 302.

SARA 311/312 TQ for reporting: 10,000 pounds hydrogen peroxide

SARA 313 Not subject to SARA Section 313.

Canada DSL listed

WHMIS Classification C, DB2 - Poisonous and infectious material- Other effects - Toxic

General Not subject to CERCLA. (An unlisted characteristic DO01 waste is reportable under CERCLA. The RQ is 100 pounds for a DO01 waste.) 40CFR302.4

16. Other Information

HMIS RATINGS

Health 2

Flammability Classification 0

Reactivity 1

Personal Protection: X

NFPA RATINGS

Health 2

Flammability Classification 0

Reactivity 1

Special Hazards OXY

Disclaimer

The product is intended for sale only to industrial users. The information in this MSDS is intended to assist these users in determining the suitability of this product for their business applications. Users must inspect and test the product before use to satisfy themselves as to the contents and suitability. Moretex Chemical specifically disclaims all warranties express or implied; specifically, **ALL WARRANTIES AS TO SUITABILITY, FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY OF THIS PRODUCT.** The exclusive remedy for all proven claims is replacement of our product. In no event shall Moretex Chemicals be liable for any special, incidental, or consequential damages. The information in this MSDS should be provided by the buyer, transporter or other handlers of this product to all who will use, handle, store, transport or otherwise potentially be exposed to this product. The MSDS has been prepared for the guidance of such persons and Moretex Chemical believes this information to be reliable and up-to-date as to the date of publication, but makes no warranty that it is. If the revision date of this MSDS is more than three years old then contact Moretex Chemical for an updated version.

Issue Date: 3/6/08