HYDROGEN PEROXIDE
SAFETY & HANDLING INFORMATION

INTRODUCTION

Solvay Chemicals, Inc. is committed to the American Chemistry Council's Responsible Care Management System. As part of our commitment to Responsible Care, Solvay Chemicals has developed this brochure. We also provide the following technical services:

- Advice on system design for unloading, handling, and storing hydrogen peroxide.
- Advice on selection and installation of hydrogen peroxide equipment and necessary safety equipment.
- Site inspection prior to initial deliveries of bulk shipments of hydrogen peroxide.
- A package of safety training materials for proper handling and use of hydrogen peroxide by plant personnel.

Safety is one of Solvay Chemicals' primary concerns. Hydrogen peroxide is a powerful oxidant, and improper handling or use of the product can create potential hazards. For example:

- If hydrogen peroxide solutions come in contact with eyes, severe injury or even blindness can result.
- Hydrogen peroxide will irritate and possibly cause chemical and/or thermal burns on the skin.
- Ingestion may be fatal.
- Decomposition of hydrogen peroxide generates heat and gas which can result in rapid pressure buildup leading to pressure bursts of inadequately vented containers.
- Decomposition of hydrogen peroxide can generate sufficient heat and oxygen to initiate combustion of ignitable materials.
- Oxygen enrichment of hydrocarbon vapors resulting from the decomposition of hydrogen peroxide can result in vapor phase explosions.
- Hydrogen peroxide can form explosive mixtures with some organic substances.

HEALTH HAZARDS/FIRST AID

Specific information pertaining to health hazards and safety may be found in the Solvay Chemicals Safety Data Sheets (SDS) for various concentrations of hydrogen peroxide. General considerations of personnel safety must include prompt first aid in case of localized body contact or exposure to hydrogen peroxide.

Eye contact. Hydrogen peroxide splashed in the eyes can cause severe damage and possibly result in blindness. This damage is sometimes delayed, so ulcerations might not develop in the eyes for several days. Even exposure to hydrogen peroxide vapor can sting and make the eyes water. Any contact of hydrogen peroxide with the eyes calls for immediate action. Irrigate the eyes with clean water for at least 15 minutes. Make certain that the washing action reaches all eye tissues and lid surfaces. Get medical attention at once!

Skin/clothing contact. Hydrogen peroxide splashed on the skin can cause irritation and blisters; even brief contact will whiten the skin due to the bleaching effect. Exposure to hydrogen peroxide requires immediate flushing of the skin with water. Prolonged exposure can result in thermal and/or chemical burns requiring medical attention. Drench contaminated clothing immediately with water and remove from the body.

Inhalation. Breathing mist or vapor from concentrated hydrogen peroxide can irritate and inflame the mucous membranes of the nose and throat. OSHA regulations state that a time-weighted average of 1 ppm (1.4 mg/m³) is the maximum permissible level of exposure to hydrogen peroxide vapor. Personnel affected by hydrogen peroxide vapors should be moved into fresh air immediately.

A NIOSH-approved full-face supplied-air respirator should be used during cleanup of spills in areas not adequately ventilated.

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Ingestion. If hydrogen peroxide is swallowed, the victim should drink large quantities of water immediately to dilute the stomach contents. Rapid evolution of gases can cause gastric distension and internal damage. Immediate medical attention is required. Do not attempt to induce vomiting. The attending physician may consider the advisability of inserting a gastric tube to relieve or prevent increased pressure that may result from rapid evolution of gases.

SAFETY FACILITIES

All facilities handling hydrogen peroxide should have the basic safety facilities listed below.

Safety showers - designed to provide a deluge of water

Eyewash stations - used for the gentle flow of potable-grade water

Hoses and water source - used to provide high-volume, low-pressure flushing of H_2O_2 spills.

All water supplies should have freeze protection if warranted by climate conditions. Eyewash stations and safety showers should be tested periodically.

PROTECTIVE EQUIPMENT

The following equipment will provide adequate protection in many industrial use settings.

- A hard hat with a brim.
- A face shield.
- Proper chemical-splash goggles (safety spectacles with side shields will provide adequate protection only when handling small quantities of dilute hydrogen peroxide normally encountered under laboratory conditions).
- Chemical-resistant protective gloves made of PVC or rubber.
- Standard PVC or rubber acid suit.
- Chemical-resistant boots.

HYDROGEN PEROXIDE PROPERTIES

Chemical properties. Hydrogen peroxide is used primarily as an oxidizing agent for many organic and inorganic compounds. However, when hydrogen peroxide is used with stronger oxidizers, it can act as a reducing agent. The principal by-product of hydrogen peroxide reactions is water. Since hydrogen peroxide does not create hazardous wastes, it is a preferred oxidizer in many industries.

It is important that mixtures of organics and hydrogen peroxide be treated with extreme caution. The complex chemistry of such reactions requires a thorough study of the potential safety hazards.

Consult Solvay Chemicals for a more detailed review of these potential safety hazards before beginning any work with hydrogen peroxide and organic substances. Hydrogen peroxide and many organic materials can create explosive mixtures if the proper safety precautions are not followed.

Physical properties. Hydrogen peroxide is denser than water, but is miscible with water in all proportions. Aqueous solutions of hydrogen peroxide look like water but have a faint, pungent odor. It is a non-combustible liquid, but heat and oxygen released during decomposition can ignite combustible materials.

TABLE ONE: PROPERTIES OF SOLVAY CHEMICALS STANDARD HYDROGEN PEROXIDE PRODUCTS				
		H_2O_2 content (by weight)		
		35%	50%	70%
Active oxygen, weight		16.5	23.5	32.9
Freezing point	º C	-33	-52	-40
Boiling Point	º C @ 760 mm HG	108	114	125
Density	g/mL @ 20º C	1.13	1.20	1.29
	lbs/gal @ 20º C	9.44	9.98	10.75
Viscosity	cP @ 20º C	1.11	1.17	1.24
Total vapor pressure	m Hg @ 20 º C	12.9	10.1	6.9
Heat of decomposition	Kcal/mol H_2O_2 @ 25º C	22.7	22.8	23.4
Btu/LB solution	@ 25º C	420	603	852
Volume-strength ratio	@ 0º C, 760 mm Hg	130	198	300
Volume-expansion ratio		700	1300	2500

TABLE TWO: DENSITY (lbs/gal) VALUES FOR HYDROGEN PEROXIDE SOLUTIONS AT VARIOUS CONCENTRATIONS AND TEMPERATURES			
H_2O_2 CONTENT (BY WEIGHT)	0 º C/32 º F	20 º C/68 º F	38 º C/100 º F
100	12.28	12.09	11.91
85	11.56	11.32	11.24
70	10.91	10.75	10.61
60	10.50	10.36	10.22
50	10.11	9.98	9.85
40	9.73	9.62	9.50
35	9.55	9.44	9.34
30	9.37	9.26	9.18
20	9.01	8.95	8.87
10	8.68	8.63	8.57
0	8.34	8.32	8.29

The “volume-strength” ratio, an old term still used occasionally, refers to the volume of gaseous oxygen available from a unit volume of hydrogen peroxide solution measured at 0°C and one atmosphere.

The volume-expansion ratio is the ratio of the resulting gaseous volume, steam and oxygen, to the liquid volume of the hydrogen peroxide that decomposes.

Stability and decomposition. The decomposition of hydrogen peroxide to form oxygen and water with the evolution of heat is expressed by the equation:

$2H_2O_2(l) \rightarrow 2H_2O(l) + O_2(g) + 1240$ BTU/lb of 100% H_2O_2

Commercial grades of hydrogen peroxide are quite stable, typically losing less than 1% relative strength per year. At this rate, the heat of decomposition is dissipated readily to the surroundings, and the hydrogen peroxide remains at ambient temperature.

However, several factors can increase the normally slow rate of hydrogen peroxide decomposition. The consequences of a rate increase can range from a deterioration of product concentration over a period of days or weeks, to a runaway reaction generating large amounts of heat and gas (oxygen and steam) at worst. The worst case scenario can lead to serious safety incidents including pressure bursts of vessels or pipes, fires due to spilled hydrogen peroxide, and personal injuries.

The primary factors which must be controlled to prevent an increased rate of hydrogen peroxide decomposition are **temperature, contamination** and **pH**.

The **temperature** of the hydrogen peroxide solution is an important variable, since the decomposition rate is roughly doubled by every 10°C increase. Given the heat generated by decomposition, a self-accelerating reaction can evolve if heat transfer to the surroundings is slower than the rate of heat generation. Hydrogen peroxide storage facilities and piping should be located well away from heat sources such as boilers, steam lines, etc. Storage of hydrogen peroxide in insulated vessels should be avoided.

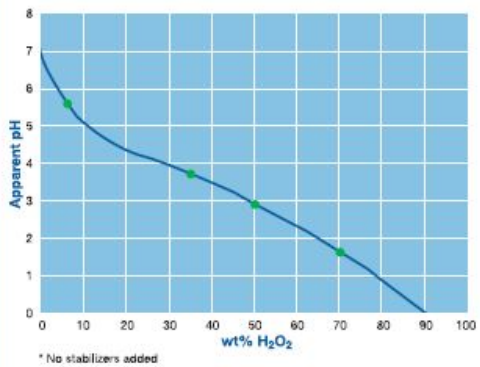
Contamination of hydrogen peroxide solutions is a second major cause of accelerated decomposition, since many common materials act as catalysts for the decomposition reaction. Some contaminants can create rapid decomposition of hydrogen peroxide if present even in concentrations as low as 0.1 part per million. Homogeneous decomposition is prompted by dissolved contaminants such as alkalis, strong acids and salts of transition metals (nickel, chromium, copper, iron, etc.). Homogeneous decomposition is most frequently started when another chemical is erroneously put into a hydrogen peroxide vessel (or vice versa) or by process fluid backflow through a poorly-designed or malfunctioning hydrogen peroxide feed system.

Heterogeneous decomposition of hydrogen peroxide is localized on the surface of solid catalytic contaminants, usually metals. Contact of hydrogen peroxide with improper materials of construction (copper, brass, zinc, mild steel, etc.) is a primary cause of heterogeneous decomposition. The accidental introduction of debris, such as tools, flashlights and so forth, into storage vessels is an all-too-frequent cause of heterogeneous decomposition.

Commercial grades of hydrogen peroxide contain stabilizers which chelate small amounts of impurities, providing protection against the effects of minor levels of contamination. Unfortunately, stabilizers are ineffective in dealing with gross contamination by decomposition catalysts.

The inherent stability of hydrogen peroxide is also affected by **pH**. Chart One shows the pH of high-purity hydrogen peroxide. Stability is normally best in the region of neutral real pH. The normally measured pH (apparent pH) is affected by hydrogen peroxide concentration. The decrease of stability at lower pH is not normally large, but at higher pH, the stability deteriorates very rapidly, and alkaline hydrogen peroxide may be very unstable. Contamination of hydrogen peroxide by acids and particularly alkalis must therefore be avoided.

Chart One: pH of high purity hydrogen peroxide



STORAGE AND HANDLING EQUIPMENT

Materials of construction. The primary consideration in selecting materials of construction for hydrogen peroxide storage and handling equipment is to utilize only those materials compatible with hydrogen peroxide. A list of materials to avoid is shown below, as well as the preferred metals and plastics for hydrogen peroxide handling

equipment. This list is by no means all-inclusive. These restrictions may not apply to some uses where contact time is very short and the hydrogen peroxide solution is dilute.

It is extremely important to note that all of the contact surfaces should be non-porous, smooth, and as free of surface impurities as possible to prevent decomposition of the hydrogen peroxide. Grind any welds which will be in contact with hydrogen peroxide to remove weld splatter and to smooth out scratches.

Any questions concerning suitable materials of construction for hydrogen peroxide service should be referred to Solvay Chemicals. Check the appropriate Technical Data Sheet (TDS) for specific product information.

Storage tanks. It is important to note that all hydrogen peroxide storage containers (e.g., drums, tanks, tank trucks or railcars) must be atmospheric vessels. Each should be equipped with a properly-designed continuous vent to release the small amounts of oxygen normally liberated from hydrogen peroxide and to allow displacement air to enter free of entrained matter.

An additional safety feature of hydrogen peroxide storage tanks involves the use of free-lifting manway covers. These serve as inspection ports as well as emergency pressure-relief ports in the event of rapid decomposition of the hydrogen peroxide in the tank.

Materials of construction
Typical unacceptable materials
- Brass
- Copper
- Nickel
- Iron and mild steel
- Bronze
- Synthetic rubbers
- Polypropylene
- Zinc

Recommended materials
- Aluminum
- 99.5% minimum purity alloys with the following Aluminum Association designations: 1060, 1260, 5254, 5652 or 6063
- Stainless steel types 304, 304L, 316, 316L
- **Other acceptable materials**
    - Chemical glass
    - Chemical ceramic
    - Polytetrafluoroethylene (PTFE; Teflon®[1])
    - Polyethylene* (high density, cross-linked, un-pigmented and UV stabilized)
    - Viton®[1], KelF®[2], Tygon®[3]
    - PVC* (temporary systems only)

*For 50% or lower concentration of H_2O_2
® Registered trademarks of DuPont[1], 3M[2], and U.S. Stoneware[3]

Pipes, valves and fittings. Hydrogen peroxide piping should be of butt-welded and flanged construction. Under no circumstances should socket welds be used in hydrogen peroxide systems. Threaded systems are not recommended, as threaded aluminum and stainless steel piping may not maintain liquid-tight connections. However, threaded connections may be used in areas where there is little hydrogen peroxide throughout (e.g., pressure safety valve connections). Piping should be routed outdoors whenever possible, to minimize the hazards which could be created by a leak.

Ball valves are recommended for hydrogen peroxide service. However, these valves must be vented. The valves can be commercially-available vented valves, or conventional ball valves can be modified by drilling a small hole (1/8") in one side of the ball so that, in the "closed" position, the cavity vents upstream into the liquid as shown in Figure One.

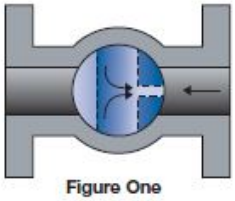


Figure One

Piping systems generally contain valves which could trap hydrogen peroxide between them. Pressure relief devices between such valves are required to ensure harmless release of any pressure buildup due to hydrogen peroxide decomposition in the isolated section of pipe. The piping system should be designed to keep the number of valves to a minimum in order to minimize the need for pressure relief.

Pumps. Pumps for hydrogen peroxide service are constructed of stainless steel or polytetrafluoroethylene (PTFE). Any of the following types of pumps are suitable for hydrogen peroxide service:

- Centrifugal pumps
- Gear pumps
- Single diaphragm metering pumps with compatible hydraulic fluids
- Double diaphragm metering pumps with compatible hydraulic fluids

Solvay Chemicals does not recommend the use of packed glands, as they require lubricants that may not be compatible with hydrogen peroxide. Only seal-less pumps and pumps with single mechanical seals with glass-filled PTFE on ceramic faces should be used. Double mechanical seals should not be used with hydrogen peroxide since they require barrier fluids which are often incompatible with hydrogen peroxide; in addition, they provide a space which can trap hydrogen peroxide.

Passivation. Before metal equipment is placed into hydrogen peroxide service, it must undergo pretreatment to deactivate the wetted surfaces. This involves thorough cleaning, pickling, passivating and testing of the metal surfaces which will come in contact with hydrogen peroxide.

Prior to pickling and passivating the equipment, the interior metal surfaces must be thoroughly cleaned to remove oil, grease and dirt. The pickling process uses a chemical solution to remove contaminants adhering to or imbedded in the metal surfaces. The passivation process forms a protective oxide coating on the metal surface.

Following the passivation and thorough rinsing with water, a small amount of hydrogen peroxide is put into the tank or piping. It is then sampled and analyzed to determine if the process has been successfully completed.

A properly-passivated hydrogen peroxide system can serve indefinitely, provided no internal surface damage or contamination has occurred during continuous hydrogen peroxide service. However, it is recommended that the passivated surfaces of the tank be periodically inspected to be certain of their integrity.

This is a generalized description of the passivation process. It is a procedure that should only be undertaken by trained personnel. For more detailed information concerning the passivation of hydrogen peroxide equipment, you may access our brochure "Hydrogen Peroxide Passivation Procedure" on our website: www.solvay.com.

Other design considerations. Hydrogen peroxide storage facilities should be located within a diked area to contain any spills that may occur. **(Never return spilled hydrogen peroxide to the storage vessel!)** This diked area should have a controlled drain, normally closed, to allow dilution and flushing of any spilled hydrogen peroxide solution. The

hydrogen peroxide drain should contain no organic material. In the restricted confines of the drain, the gas space above the liquid will be oxygen-enriched. Adding hydrogen peroxide to any organics in this drain may present a significant risk of a vapor-phase explosion. Therefore, segregate the hydrogen peroxide and organic compound drains. A water hose, safety shower and eyewash station should be installed very near the storage area.

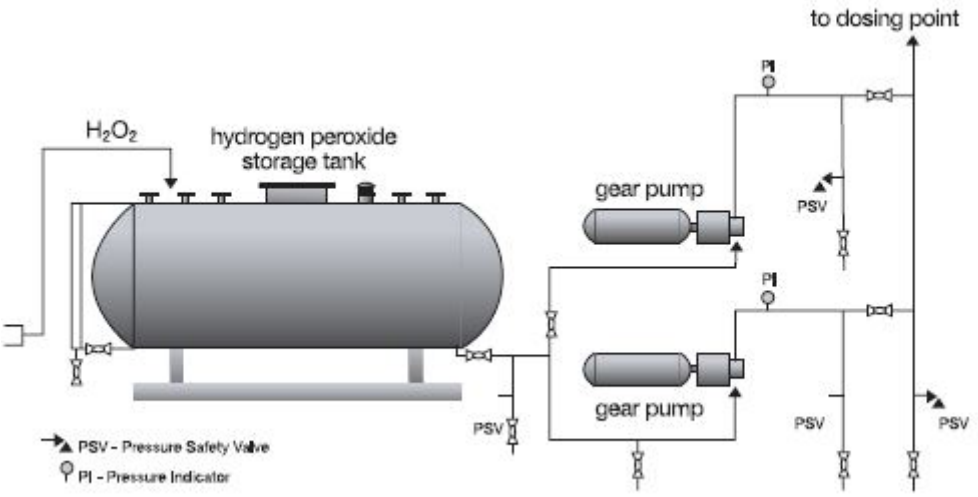
It is important that all hydrogen peroxide storage and handling equipment be dedicated to hydrogen peroxide service. Hydrogen peroxide can react violently with a number of materials, so hydrogen peroxide should be segregated from other chemicals and organic matter. The design of the hydrogen peroxide application system should have provisions to prevent contamination with other process chemicals. Hydrogen peroxide storage tanks and inlet hose connections should be clearly labeled to prevent puffing either the wrong chemical into hydrogen peroxide storage tanks or hydrogen peroxide into the wrong storage tank. The storage area for hydrogen peroxide should have sufficient access for tank truck deliveries.

Solvay Chemicals offers engineering assistance relating to hydrogen peroxide systems design, and will gladly answer any questions in this area.

Figure Two is a process and instrumentation diagram (P&ID) of a typical bulk storage and handling facility with two metering pumps for hydrogen peroxide dosing to a single application point. For a more detailed engineering review, consult Solvay Chemicals.

OSHA requirements for process safety management must be followed any time over 7,500 lbs. of hydrogen peroxide at concentrations of greater than 52% are used or stored. Refer to the Code of Federal Regulations, Title 29, Part 1910.119 for specific information.

FIGURE TWO: STANDARD TWO-PUMP/SINGLE-DOSING POINT SYSTEM



SAFETY BASICS

Process considerations. Hydrogen peroxide is a potentially dangerous chemical when handled improperly. When designing any process utilizing hydrogen peroxide, the following guidelines should be taken into consideration:

- Avoid long piping runs.
- Minimize valves and fittings.
- Provide a pressure-relief device in any line where solutions containing hydrogen peroxide can be trapped.

• Provide a physical break between the process and the bulk storage tank.
• Whenever possible, use drop feed into the process to eliminate the possibility of reagent siphoning.
• In applications involving hydrocarbons, always add hydrogen peroxide to the organic materials slowly.
• Never allow the hydrogen peroxide content to exceed 20% w/w in organic solutions.
• Utilize proper venting and/or an inert gas sweep in vessels where oxygen enrichment of head space could occur.

Decomposition in storage containers. Contamination of a hydrogen peroxide storage container with catalytic materials will result in accelerated decomposition which may attain an uncontrollable state. Common causes are metallic items being accidentally dropped in the container, airborne contamination, process liquors being forced back into the container or contaminated hydrogen peroxide being returned to the container. The first indication of decomposition is that the temperature of the container will start to rise above ambient. Decomposition is normally slow in the early stages and can usually be controlled by cooling down the container by spraying the outside surface with cold water. This should be done from a protected position at least 30 yards from the container.

Under no circumstances should the container be approached if gas emission or jetting of liquid is observed. Under these circumstances personnel could be injured by hot decomposing hydrogen peroxide or by tank rupture.

No attempt must be made to transfer or use decomposing product. Consult current federal, state and local regulations regarding the proper disposal of this product.

The container must not be used for hydrogen peroxide service again until it has been cleaned and re-passivated and the cause of decomposition has been established and eliminated.

Filtration. Solvay Chemicals strongly discourages the use of filters unless absolutely necessary. Filters concentrate impurities and are a focal point for hydrogen peroxide decomposition. However, if the process requires hydrogen peroxide filtration, follow the rules below:

• Use the largest mesh filter element feasible.
• Make sure the filter is equipped with a large-diameter pressure relief device.
• Clean and/or replace the filter element frequently.
• When the filter is not in service, rinse thoroughly with deionized water to eliminate stagnant hydrogen peroxide.

Dilution. Solvay Chemicals offers Dilution Grade hydrogen peroxide. This grade allows the customer to purchase 70% hydrogen peroxide and dilute down to its specific requirements, thus reducing shipping costs. However, the water source must be of approved quality. Trace amounts of metal impurities can catalyze decomposition, leading to safety or product quality problems.

Even with Dilution Grade hydrogen peroxide, which contains a corrosion inhibitor, concentrations of chloride ions in the dilute solution above approximately 10 ppm can cause severe corrosion problems. Solvay Chemicals requires that dilution water be tested in our laboratories prior to our approving shipment of Dilution Grade hydrogen peroxide. Retesting of dilution water on a regular basis is also required to ensure that water quality remains acceptable.

Fire-fighting. Hydrogen peroxide aqueous solution is non-combustible. If involved in a fire, it may decompose, yielding oxygen that supports combustion. Decomposition in confined spaces may result in pressure burst. If involved in a fire, keep containers cool by spraying with water. For fire-fighting, use only water; do not use other extinguishing agents. Keep upwind and operate from a safe distance. Firefighters should wear full personal protective equipment (bunker gear) and SCBA (self-contained breathing apparatus).

Spills. For small spills, such as those from a single drum or sample container, the hydrogen peroxide should be diluted with plenty of water (<1.0%). All surfaces, articles and clothing which have been contaminated must be similarly washed. Spilled hydrogen peroxide must NOT be mopped up with paper, cloth or other combustible material, and must NOT be reused. Dispose of the material, and follow reporting requirements in accordance with all applicable federal, state and local regulations.

For large spills, approach from upwind only if safe to do so. Attempt to stem the spill; dam spilled liquid with sand or earth. Allow only necessary personnel in the area. Avoid discharge to the environment. Immediately notify the appropriate federal, state and local authorities. Dispose of the spilled material in accordance with all applicable regulations, and subsequently decontaminate all surfaces, clothing and other articles with plenty of water. Do NOT use combustible materials to absorb or mop spills, nor seek to recover spilled hydrogen peroxide for reuse.

Although hydrogen peroxide solutions can be harmful to living organisms, this effect is short-term due to the rapid degradation of the solutions, and no bio-accumulation occurs.

SAFETY POSTER AND VIDEO

The Solvay Chemicals safety poster is available upon request and illustrates the basic safety rules to follow when handling hydrogen peroxide. Display this poster prominently to remind personnel of the proper safety precautions and emergency procedures.

Solvay Chemicals also offers a free safety video which describes the hazards of hydrogen peroxide and how to avoid accidents. Contact Solvay Chemicals for a copy.

SHIPPING HYDROGEN PEROXIDE

All hydrogen peroxide solutions containing more than 8% by weight hydrogen peroxide are categorized as a hazardous material by the U.S. Department of Transportation (DOT). Accordingly, DOT regulations concerning loading, unloading, placarding, marking and labeling must be followed.

DOT material classification		
Hydrogen Peroxide CAS Number: 7722-84-1		
Concentration, weight %	20 - 60	60
UN Number	2014	2015
Hazard Class	5.1	5.1
Packing Group	II	I
Label	Oxidizer Corrosive	Oxidizer Corrosive
Shipping Name	Hydrogen peroxide aqueous solutions, with not less than 20%, but not more than 60% hydrogen peroxide (stabilized as necessary)	Hydrogen peroxide, stabilized or hydrogen peroxide aqueous solutions, stabilized with more than 60% hydrogen peroxide

Railcars. Solvay Chemicals operates a fleet of high-purity aluminum and stainless steel railcars dedicated to hydrogen peroxide transport. These cars range in capacity from 8,000 to 22,000 gallons. Each rail car is equipped with a continuous filter vent and a rupture disk. The rail cars are top-unloading and preferably should be emptied by means of dedicated self-priming unloading pumps. A less desirable alternative is pneumatic pressure using very clean, oil-free air or nitrogen.

Solvay Chemicals will provide information on safely unloading railcars and can provide written procedures via technical data sheets.

Tank trucks. Solvay Chemicals also operates a fleet of dedicated hydrogen peroxide tank trucks with capacities ranging from 3,500 to 5,500 gallons. This highway fleet operates from the La Porte, Texas and Longview, Washington production facilities and from terminal sites located throughout North America.

All of the tank trucks are equipped with continuous filter vents, rupture disks and self-contained unloading systems. All tank truck drivers for Solvay Chemicals have undergone specialized training in the handling of hydrogen peroxide. This includes firsthand knowledge of hydrogen peroxide properties, characteristics and hazards, as well as practice in responding to problems which may arise during the transport and delivery of hydrogen peroxide.

Drums. Solvay Chemicals and its network of distributors can supply hydrogen peroxide in drums at concentrations up to and including 50%. These drums, constructed of high-density polyethylene, are available in 15-, 30- and 55-gallon sizes.

When storing or shipping drummed hydrogen peroxide, segregate the peroxide from other chemicals. Avoid the use of wooden pallets for drums of hydrogen peroxide. Each drum is equipped with a continuous vent to prevent internal pressure buildup. Do not block this vent. Also, rolling the drum may cause hydrogen peroxide to leak out of the continuous vent. Do not reuse hydrogen peroxide drums for other chemicals. Do not stack drums over two high.

SUMMARY

The following general rules for handling hydrogen peroxide will help avoid hazards that may be associated with this chemical.

- Wear the proper safety equipment when handling hydrogen peroxide.
- Avoid contamination of hydrogen peroxide from any source.
- Store hydrogen peroxide in vented containers of approved materials only.
- Keep hydrogen peroxide containers and equipment clean.
- Maintain dedicated hydrogen peroxide equipment.
- Display the Solvay Chemicals safety poster prominently as a reminder of emergency procedures.
- Always use large quantities of water to deal with hydrogen peroxide spills or personal contact.
- Always understand the chemistry of the application.

For 24-hour emergency telephone numbers:
Customer Emergencies: 1-800-424-9300 (CHEMTREC®)
Transportation Emergencies (USA): 1-800-424-9300 (CHEMTREC®)
Transportation Emergencies (INTERNATIONAL/MARITIME): 1-703-527-3887 (CHEMTREC®)
Transportation Emergencies (CANADA): 1-613-996-6666 (CANUTEC)
Transportation Emergencies (MEXICOSETIQ): 01-800-00-214-00 (MEX. REPUBLIC)
525-559-1588 (Mexico City and metro area)

For further information on hydrogen peroxide, call:
1-800-SOLVAY-C (1-800-765-8292) or 713/525-6500

CUSTOMER SATISFACTION

Quality: Solvay Chemicals strives to bring you the best in peroxygen products, service and technology. Exceeding, not just meeting, your expectations is the basis for our pursuit of continual improvement.

To demonstrate our commitment, Solvay Chemicals' Quality Management System is registered to the ISO 9001:2015 International Quality Management System Standard. Our registration encompasses the production and distribution of hydrogen peroxide at both of our manufacturing facilities in La Porte, Texas and Longview, Washington, as well as administrative activities at our Houston Headquarters.

Solvay Chemicals will continue to pursue excellence in everything we do. We dedicate ourselves to this effort because we know that our success depends on your satisfaction.

DELIVERY

In North America, Solvay Chemicals ships product from two plant sites and a number of strategically located distribution terminals. We operate a fleet of high-purity aluminum and stainless steel tank trucks and railcars dedicated to hydrogen peroxide service. We also can provide stainless steel IM101 ISO containers to deliver, store and dose liquid hydrogen peroxide. These isotainers are ideally suited to seasonal or short-term needs. In emergency situations, our Quick Response program will get isotainers of hydrogen peroxide to your site right away. For information on our excellent delivery capability, call 1-800-SOLVAY-C, or see our technical data sheet “Isotainers for Quick Response,” which is available on our website at www.solvay.com.

RESPONSIBLE CARE®

Recognizing the importance of preserving the environment of the planet we share, and the health and safety of the employees who produce our products, Solvay Chemicals actively supports the Responsible Care program of the American Chemistry Council.

Before using, read Safety Data Sheet (SDS) for this chemical.

Solvay Chemicals, Inc.
24-hour Emergency Phone Number – 800-424-9300 (CHEMTREC®)

Before using, read the Safety Data Sheet (SDS) for the chemical.