

Hydrogen Peroxide (H₂O₂) Onsite Dilution

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Introduction

Technical Grade hydrogen peroxide may be used if deionized water is available. Where deionized water is not available, Dilution Grade hydrogen peroxide must be used. Regardless of which grade of hydrogen peroxide is used, all dilution water must be approved by Solvay Chemicals, Inc. before the first delivery and reapproved annually. The dilution site should have:

- A storage tank approved by Solvay Chemicals with an eductor tube or sparger for mixing.
- Safety shower.
- Eyewash.
- Water hose.
- Safety poster.

All personnel should wear the personal protective equipment shown below.

- Hard Hat
- Chemical Splash Goggles
- Rubber or PVC Suit (Coat and Pants)
- Rubber or PVC Gloves
- Rubber Boots

Procedure

1. Verify that the dilution water is from a source that was approved by Solvay Chemicals and that the water filter is operating properly.
2. Calculate the amount of water needed:
To dilute 70% H₂O₂ to 50% H₂O₂: Gallon of water needed = 0.0479 (pounds of 70% H₂O₂).
To dilute 70% H₂O₂ to 35% H₂O₂: Gallon of water needed = 0.1198 (pounds of 70% H₂O₂).
3. Meter all the water into the storage tank.
4. After all the water has been metered into the tank, pump in the 70% H₂O₂.
5. Wash away spills with large amounts of water.

Storage and Handling

- Store hydrogen peroxide in the original vented container, upright, in a cool, ventilated area where it is protected from damage, or in bulk storage tanks made from approved alloys of aluminum or stainless steel.
- Do not store other chemicals, fuels, or combustible materials near hydrogen peroxide.
- Never return unused hydrogen peroxide to the storage container.
- When empty, rinse all peroxide containers thoroughly with clean water before discarding.
- Use only approved material for pumps, piping, and hoses.



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Safety

- Persons working with hydrogen peroxide should be familiar with personal protective equipment, first aid measures and the proper safety and handling procedures. Consult the Material Safety Data Sheet (MSDS) for appropriate information.
- Prevent accidental decomposition by keeping the product free of contaminants.
- Prevent fires by avoiding accidental spills. Water is the preferred method for extinguishing fires in which hydrogen peroxide is present.
- Spills and leaks should be contained, diluted with copious amounts of water and disposed of in compliance with local regulations.
- Hydrogen peroxide storage or handling areas should be equipped with a safety shower, an eyewash station, and a water hose.

First Aid

In case of product splashing into the eyes and face, treat eyes first.

- **Eye contact:** Flush eyes immediately with water for at least 15 minutes. Call a physician.
- **Skin contact:** Immediately flush skin with water while removing contaminated clothing and shoes. Call a physician if irritation persists.
- **Inhalation:** Remove the victim from the contaminated area to fresh air. Call a physician in case of respiratory symptoms.
- **Ingestion:** Consult with a physician immediately in all cases. DO NOT induce vomiting. If victim is conscious, rinse mouth and give fresh water.

Danger: Hydrogen Peroxide solutions are strong oxidizers and corrosive to the eyes, mucous membranes and skin. Consult the MSDS for the appropriate Personal Protective Equipment to wear when handling hydrogen peroxide. In case of contact with the eyes, skin or clothing, flush with large amounts of water for 15 minutes. In case of ingestion, sit upright, drink large quantities of water to dilute the stomach contents and seek immediate medical attention. Product in contact with combustible materials may cause fires.

Before using, read Material Safety Data Sheet (MSDS) for this chemical.
Solvay Chemicals, Inc.
24 hour Emergency Phone Number - 1-800-424-9300 (CHEMTREC®)

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