



Hydrogen Peroxide Technical Data Sheet

Interox[®]-EG-10 Hydrogen Peroxide, 31% (<10 ppb per cation)

Introduction

Solvay Chemical's Interox[®]-EG-10 is a high purity grade hydrogen peroxide (H₂O₂) that meets or exceeds SEMI Grade 2 (ULSI) guidelines. It is produced using a proprietary post purification process of a special hydrogen peroxide feedstock. This post purification process reduces metallic contaminants to levels less than 10 parts per billion.

Applications

Interox[®]-EG-10 H₂O₂ is used in the electronics industry for the manufacturing and processing of semiconductor wafers where high purity chemicals are required for the wet processing steps. Combined with other chemicals, high purity hydrogen peroxide is an effective and economical method of etching and cleaning silicon wafers.

Availability

Interox[®]-EG-10 hydrogen peroxide is available in bulk quantities at 31% concentration from Solvay Chemical's Deer Park, Texas, and Bernburg, Germany plants. To ensure product purity, Interox[®]-EG-10 hydrogen peroxide is shipped in Solvay Chemical's proprietary fluoropolymer lined ISO containers or proprietary fluoropolymer lined tanker trucks. Product repacked in tote tanks (IBCs), drums or bottles is available through selected Solvay Chemicals distributors. For more information, please contact Solvay Chemicals.

Customer Support

For assistance with product applications technology, the design of facilities for the storage and handling of high purity grades of hydrogen peroxide or with concerns about safe handling, please contact Solvay Chemicals.

Physical Properties

Hydrogen Peroxide is a clear, colorless, slightly viscous liquid. It is slightly denser than water, but is miscible with water in all proportions. Hydrogen peroxide decomposes exothermally to water and oxygen with no toxic residues.

The decomposition is normally slow (<1% per year) with no temperature rise under approved storage conditions, but is accelerated by heat and decomposition catalysts such as transition metals and their compounds, strong acids, and strong alkalis.

Typical Properties, 31%

Specific Gravity @ 20° C, g/mL	1.11
Density, lb/gal	9.2
Freezing Point °C	-26
°F	-14
Boiling Point °C	106
°F	223

Storage and Handling

- High purity grades of hydrogen peroxide should be transported and stored in vessels constructed of high density polyethylene or fluoropolymer. Product repacked into tote tanks (IBCs), drums, or bottles should be stored in their original vented package, upright, in a cool ventilated area where the package is protected from damage.
- Use only approved materials for all wetted surfaces, including pumps, piping, and hoses.
- Do not store other chemicals, fuels, or combustible materials near hydrogen peroxide.
- Areas where hydrogen peroxide is stored or handled should be equipped with a safety shower, an eye wash station, and a water hose.

Safety

- Persons working with hydrogen peroxide should be familiar with safety and handling procedures. Consult MSDS for appropriate information.
- Prevent fires by avoiding accidental spills. Water is the preferred method for extinguishing fires in which hydrogen peroxide is present.
- Prevent accidental decomposition by keeping the product free of contaminants. Interlox[®]-EG-10 hydrogen peroxide is stabiliser free, and is thus particularly sensitive to contaminants.
- Spills and leaks should be contained, diluted with copious amounts of water and disposed of in compliance with all applicable regulations.

Danger: Hydrogen Peroxide solutions are strong oxidisers 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. See MSDS for additional information.

Product Specifications

Typical Data - Interlox[®]-EG-10 Hydrogen Peroxide from Solvay Chemicals

	SEMI* Guideline Document C7.5-95	Typical Analysis		SEMI Guideline Document C7.5-95	Typical Analysis
Assay, 31% by weight	30.0 - 32.0	30.5 – 31.5	Chloride, ppb	<200	<30
Free Acid, μ equiv./g	<0.6	<0.1	Nitrate, ppb	<400	<30
TOC, ppm	<20	<5	Phosphate, ppb	<200	<30
			Sulphate, ppb	<200	<30
Aluminium, ppb	<10	<1.0	Lithium, ppb	<10	<1.0
Antimony, ppb	<5	<1.0	Magnesium, ppb	<10	<1.0
Arsenic, ppb	<5	<1.0	Manganese, ppb	<10	<1.0
Barium, ppb	<10	<1.0	Molybdenum, ppb	<10	<1.0
Beryllium, ppb	<10	<1.0	Nickel, ppb	<10	<1.0
Bismuth, ppb	<10	<1.0	Niobium, ppb	<10	<1.0
Boron, ppb	<10	<1.0	Potassium, ppb	<10	<1.0
Cadmium, ppb	<10	<1.0	Silver, ppb	<10	<1.0
Calcium, ppb	<10	<1.0	Sodium, ppb	<10	<2.0
Chromium, ppb	<10	<1.0	Strontium, ppb	<10	<1.0
Cobalt, ppb	<10	<1.0	Tantalum, ppb	<10	<1.0
Copper, ppb	<10	<1.0	Thallium, ppb	<10	<1.0
Gallium, ppb	<10	<1.0	Tin, ppb	<10	<1.0
Germanium, ppb	<10	<1.0	Titanium, ppb	<10	<1.0
Gold, ppb	<10	<1.0	Vanadium, ppb	<10	<1.0
Iron, ppb	<10	<1.0	Zinc, ppb	<10	<1.0
Lead, ppb	<10	<1.0	Zirconium, ppb	<10	<1.0

The above analysis is representative of Interlox[®]-EG-10 hydrogen peroxide currently being supplied by Solvay Chemicals. Statistical quality data for US or European product are available upon request.

*SEMI is the acronym for the Semiconductor Equipment and Materials International trade organization.

DANGER!

Hydrogen peroxide solutions are strong oxidizers and may cause severe eye and skin burns. Avoid contact with eyes, skin and clothing. Do not breathe vapor. Use only with adequate ventilation. Do not take internally, may be fatal if swallowed. Drying of this product on clothing or other combustible material may cause fire.

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

Solvay Chemicals, Inc. 24 hour Emergency Phone Number

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Solvay Chemicals is the world's largest producer of hydrogen peroxide and a leading global, integrated producer of high purity grades of hydrogen peroxide for the electronics industry.

For more information on hydrogen peroxide please visit us on the web in North America at www.solvaychemicals.us and in Europe at www.solvayinterox.be.

For more information pertaining to the various groups of products which the global network of Solvay companies supplies to the electronics industry please visit us on the web at www.solvaysemiconductor.com.

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