



INTEROX[®]

HYDROGEN PEROXIDE

35% - 59.5% SOLUTIONS
TECHNICAL & SPECIALTY GRADES

UN 2014

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Molecular weight: 34.02

INTEROX[®] Hydrogen Peroxide

Description

Hydrogen peroxide is marketed as an aqueous solution. Hydrogen peroxide solutions are clear, colourless liquids, miscible with water in all proportions. The commercial product contains low levels (<1%) of stabilisers. Technical grade solutions are, in fact, relatively pure, and are used for the vast majority of applications specialty grades are manufactured for specific end uses, primarily for food and beverage packaging and hair care industries.

Technical data

Peroxide content (w/w)	35%	50%	59.5%
Peroxide content (w/v at 20°C)	39.6	59.8	74.5
Oxygen liberated (v/v)	130	197	246
Density (kg/l 25°C)	1.13	1.20	1.24
Freezing point (°C)	-33	-52	-56
Boiling point (°C)	107	114	119
Diluent	water		
Miscibility with water at 20°C	Miscible in all proportions		

Thermal stability

Recommended storage temperature	Ambient
Strength loss at 25°C	Less than 1% per annum

Packaging, transport

Container type	net contents
HD polyethylene carboy	25 kg
HD polyethylene drum	230kg/260kg
Intermediate Bulk Container (IBC)	1100kg/1200kg
ISO tank	ca 20 tonnes
Transport temperature	ambient

Speciality Grades and Applications

Solvay Interox is happy to provide trained personnel to discuss the storage, formulation, dilution and application of hydrogen peroxide solutions.

Formulation grade:

Hydrogen peroxide is susceptible to many types of contamination and needs careful formulation to give marketable end products.

Interox[®] CG-50 (only available in strength of 50%) is a cosmetic grade which contains a relatively high level of stabilisers which gives an extremely stable end product when formulated. Cosmetic grade should be used where hydrogen peroxide solutions are to be included in complex formulated products (widely used by market leaders in the hair care industry) or in simple formulated products to give good shelf life when stored in dilute form.

Despite the fact that cosmetic grade hydrogen peroxide contains increased levels of stabilisers it is nevertheless still subject to rapid decomposition if gross contamination occurs. It is imperative that the dilution of this material is carried out in an approved manner using dilution water of a suitable purity.

Aseptic packaging grades:

These grades are purified to allow use in food contact and food processing applications.

Interox[®] AG Bath (only available in strength of 35%) aseptic packaging grade is a global brand of Solvay Interox and is specially manufactured for use in bath style aseptic packaging and other critical applications. This product has a moderate level of stabilisers in a combination that allows use at temperatures of 70°C in disinfection of web style packaging material intended for use with long shelf life food and beverage products. The product always complies with ruling Tetrapak hydrogen peroxide specifications.

Interox[®] AG Spray (only available in strength of 35%) aseptic packaging grade is used for specific spray style aseptic packaging applications. In use the product is heated at high temperature to make a fog used to disinfect pre formed containers used to store long life and extended storage (higher level of disinfection) food and beverage products. Due to the heating process the product must contain very low levels of stabiliser to avoid unwanted build up in the spray/heating systems of the packaging machines. The minimum amount of stabiliser is added to Interox[®] AG Spray to give good end use characteristics while still ensuring a safe stable product. Interox[®] AG Spray meets food grade standard complying with FCCVI requirements and can be used in applications allowed by the Food Standards Code.

Interox[®] AG Spray can also be used in non food applications where a particularly pure product is required.

Transfer

If possible hydrogen peroxide solutions should be dosed directly from the supply container. Alternatively, scrupulously clean plastic, glass or stainless steel pourers may be used. The equipment must be used for this purpose only and should be clearly marked to this effect. Any equipment used for storage, transfer or dosing of hydrogen peroxide solutions must be constructed so as to provide adequate venting and preclude the possibility of “locked-in” sections of pipework or valves. Detailed guidelines are available from Solvay Interox.

Mixing

It is essential that undiluted hydrogen peroxide solutions are not mixed with incompatible materials or violent decomposition and/or an explosion may occur.

Hazardous properties of INTEROX[®] Hydrogen Peroxide

Hydrogen peroxide is classified as hazardous and as a dangerous good. Hydrogen peroxide solution in contact with eyes can cause severe and permanent corneal damage. Vapour from concentrated hydrogen peroxide solutions can irritate and inflame the mucous membranes of the nose and throat. Skin contact with concentrated hydrogen peroxide for prolonged periods of time can result in thermal and/or chemical burns.

Hydrogen peroxide is incompatible with strong acids, alkalis, reducing agents, oxidising agents, rust, transition metals and their compounds (such as iron, copper, brass, bronze, cobalt, nickel, lead), as well as organic and combustible materials. Although hydrogen peroxide by itself is not combustible, decomposition of concentrated hydrogen peroxide generates both heat and an oxygen-rich environment, which together can promote combustion of organic materials.

Safety Measures

Avoid contact with eyes and skin. When working with this product always wear eye protection and protective clothes and gloves. Ensure adequate ventilation in areas where the product has ready access to the workplace atmosphere. Do not eat, drink or smoke in areas where this material is used.

First aid

If swallowed give water to drink. Do not induce vomiting. Seek medical advice from doctor or poisons information centre without delay. If eye contact occurs, immediately irrigate with water continuously until medical attention is obtained. If skin contact occurs, wash skin with ample water. Remove any contaminated clothing, soak in water then launder thoroughly before re-use. Seek medical attention if symptoms develop. If inhaled, remove from source of exposure. If required seek medical advice. Advice to doctor: treat symptomatically; if eye contact, refer to eye specialist.

Fire

Hydrogen peroxide solutions are not combustible. Use large quantities of fine water spray from a safe distance, to cool and extinguish fires involving this product.

Storage and Handling

Hydrogen peroxide solutions should be stored upright in the original vented containers or approved, chemically passivated, vented storage tanks made of stainless steel grade 304L or 316L, away from sources of heat. Keep storage area free from combustible materials and incompatible chemicals. Eyewash, safety shower and water spray facilities must be available in the immediate vicinity. Storage facilities should conform to relevant regulations of the competent authority in each state or territory. Hydrogen peroxide solutions must not be stored with other dangerous goods nor any other incompatible substances.

Disposal

Residues of hydrogen peroxide solutions must never be returned to the storage container. Any residues or spillages should be disposed of to waste with adequate dilution. Hydrogen peroxide carboys and drums should be thoroughly washed out with water, have the labels removed and be punctured prior to disposal to waste. (Note: approval may be required from relevant authorities).

Additional safety information can be obtained from the Material Safety Data Sheet (MSDS) which is available from Solvay Interox.

Disclaimer:

“This Product Leaflet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this Product Leaflet and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.”

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