

Product Leaflet

FA 8.1.0.1.

INTEROX PROXITANE SANITISER

Hydrogen Peroxide and
Peroxyacetic Acid Mixture

UN 3149



SOLVAY INTEROX



created by free version of

DocuFreezer

PROXITANE Sanitiser

Hydrogen Peroxide and Peroxyacetic Acid Equilibrium Solution

Description A water clear, colourless liquid comprising an equilibrium mixture of hydrogen peroxide, peroxyacetic acid, water and acetic acid.

Typical Properties*

Technical Data	Peroxyacetic acid content	5% w/w
	Hydrogen Peroxide content	min. 25% w/w
	Acidity as acetic acid	ca. 7.5% w/w
	Density at 20°C	ca. 1.13 g/cm ³
	Freezing point	below -30°C
Miscibility at 23°C	Miscible in all proportions with	water
Thermal Stability	Critical temperature (SADT)	ca. 60°C
	Recommended storage temperature	-20°C to 35°C
	Maintenance of activity at 20°C	ca. 12 months

Packaging, Transport

container type	net contents
HD polyethylene carboy	25 kg
HD polyethylene drum	225 kg
Intermediate Bulk Container (I.B.C.)	1700 kg
Transport temperature	ambient

Transport and Packaging Regulations The transport of Proxitane must conform to any local regulations of competent authorities.

Regulation	Class	Subsidiary Risk	Packaging Group	Reference
ADG Code ⁽¹⁾	5.1	8	II	Sect. 7 & 9
IMDG Code ⁽²⁾	5.1	8	II	Page No. 5149
IATA ⁽³⁾	5.1	8	III	Sect. 4

(1) The current edition of the Australian Code for the Transport of Dangerous Goods by Road and Rail.

(2) The current edition of the International Maritime Dangerous Goods Code.

(3) The current edition of the Dangerous Goods Regulations, International Air Transport Association.

* Not a specification.

Hazardous Properties of PROXITANE†

Proxitane solutions in contact with eyes can cause severe and permanent corneal damage. Vapour from Proxitane can irritate and inflame the mucous membranes of the nose and throat. Skin contact with concentrated Proxitane for prolonged periods of time can result in thermal and/or chemical burns. An Exposure Standard for Proxitane has not been established, but that for hydrogen peroxide is 1.4 mg/m³ air and that for acetic acid is 25 mg/m³ air.

Proxitane is incompatible with strong acids, alkalis, reducing agents, oxidising agents, rust, metals and their compounds, resins, promoters, accelerators and combustible materials. Although Proxitane by itself is not combustible, decomposition of concentrated Proxitane generates both heat and an oxygen-rich environment which together can promote combustion of organic materials.

Safe Handling of PROXITANE†

- Safety Measures** Avoid contact with eyes and skin. When working with Proxitane always wear eye protection and protective clothes and gloves. Ensure adequate ventilation in areas where Proxitane 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 and 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** Not combustible. Use large quantities of fine water spray from a safe distance, to cool and extinguish fires involving this product.
- Storage, Handling** Proxitane 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 for hosing down must be available in the immediate vicinity. Storage facilities should conform to relevant regulations of the competent authority. Proxitane must not be stored with any other dangerous goods nor any other incompatible substances. Detailed guidelines are available from Solvay Interlox regarding design and fabrication of Proxitane dosing systems and storage.
- Transfer** Where possible Proxitane 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 Proxitane 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 Interlox.
- Mixing** It is essential that undiluted Proxitane is not mixed with incompatible materials or violent decomposition and/or an explosion may occur. Undiluted Proxitane must not be brought into contact with other concentrated cleaning and sanitising agents.
- Disposal** Residues of Proxitane must never be returned to the storage container. Any residues or spillages should be disposed of to waste with adequate dilution. Proxitane carboys and drums should be thoroughly washed out with water, have the labels removed or defaced and be punctured prior to disposal to waste.

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

Sanitising with PROXITANE

- A.** Proxitane was formulated for use on precleaned surfaces and contains no surfactant. Its effectiveness may be impaired by any major soiling such as adherent grease, fats, oils, protein, starch, sugar, animal or vegetable matter.
- B.** Proxitane concentrate should be diluted with soft town water at a rate of variously 1 part to 100 parts water down to 1 part to 500 parts water giving 500 ppm to 100 ppm of peroxyacetic acid in the working solution. The actual dilution used depends on the class of contaminating microorganism and the efficiency of plant precleaning (Note A). Guidance can be given by Solvay Interlox technical personnel or determined by inhouse trial.
- C.** Solution should contact the plant surfaces for 10 to 30 minutes depending on the degree of residual soiling (Note A) and the class of microbial contamination. Aerobic bacteria require lower concentrations of peroxyacetic acid/shorter contact times; fungi the opposite. Spray balling with falling film contact is economically preferred to flood filling especially since the fog of peroxyacetic acid generated will sterilise the void in the vessels.
- D.** Peroxyacetic acid is biocidally most efficient at $\text{pH} < 7$, hence the need to rinse out the alkali. The pH of a 1 : 100 dilution of Proxitane is about 3.2 and a 1 : 500 dilution about pH 4.0.
- E.** Working solutions must be prepared within an hour of intended use and should be used sacrificially for each plant sanitation. This is because dilution of the concentrate resets the equilibrium from peroxyacetic acid back to acetic acid and hydrogen peroxide.
- F.** Working solutions should be used at ambient (20°C) conditions but may in special circumstances be used hot (70°C).
- G.** There is no need to post rinse a Proxitane sanitised plant. The plant should be sealed from the top and allowed to bottom drain. Since Proxitane contains no surfactants, the surface tension of its solutions is like water so they will drain free leaving no residues. If post rinsing is required it should be done with micro filtered town water, sterilised if possible to minimise reinfection.
- H.** Solutions of Proxitane may be fogged onto walls, floors and into the air to kill surface and dust borne microbes.

Proxitane was developed for sanitising stainless steel or glass vessels and pipework. Compatibility with other materials such as rubbers, polymers, gaskets etc. should be confirmed with Solvay Interlox prior to application.

- J.** Proxitane solutions may not be used in systems containing mild steels or copper and copper alloys.
- K.** Proxitane solutions must not be added to other chemicals or formulations. Instead of improving its biocidal performance the admixture often destabilises the peroxygens, with associated hazards.

Example of Use

Sequence	Operation	Contact Time
1.	Hot water rinse until rinsings are clear (Note A)	5 – 10 mins.
2.	Hot caustic/detergent rinse (Note A)	10 – 30 mins.
3.	Cold water rinse until rinsings are pH 7 (Note D)	5 mins.
4.	Proxitane rinse at appropriate dilution (Notes B, C)	10 – 30 mins.

PROXITANE Sanitiser

General Information

Proxitane is a widely approved cost effective sanitising solution with over twenty years of proven performance in many practical applications*.

Peroxyacetic acid, the active compound in Proxitane, is amongst the most powerful biocides known to man. It is effective against a wide spectrum of microbiological contaminations including aerobic and anaerobic bacteria and their spores; yeasts, moulds, fungi and their spores, and viruses. It is extremely rapid in its action even at ambient temperatures.

Computer searching of the literature, both applied and academic, has not revealed a reference to the induction of mutagenesis, leading to the development of resistant species, by peroxyacetic acid.

Proxitane is used as a biocide to sanitise degreased and precleaned processing, transfer and storage plant in stainless steel or glass. It can be applied or fogged on floors, walls, plant and in the atmosphere.

Proxitane is "low-foaming" and ideal for use in "Clean in Place" systems.

In many industries, Proxitane has replaced chlorine based formulations, quaternary ammonium compounds, iodophors and other compounds in day to day sanitisation. Areas where Proxitane is commonly used include:

BREWERIES. Since problem yeasts require powerful biocides, Proxitane has become the sanitiser of choice in many breweries. In both the fermentation/ maturation plant, the bright beer tank farms and bottling/packing cellars fully automated Clean In Place (CIP) systems connected to bulk Proxitane tanks produce a highly efficient, cost effective sanitising regime with minimal operator involvement. Another distinct advantage is that Proxitane sanitisation can be performed under a CO₂ head, reducing production down time and gas usage.

FOOD HYGIENE. In food and beverage processing and production, Proxitane finds application in the regular cleaning cycle of syrup make-up plant, treated water carbonators, fruit crushing areas, juice concentrators and reconstituturs, food or condiment cookers and processors, transfer pumps and piping and bottling/packaging/carrying machines.

DAIRIES & DAIRY FARMS. In milk processing, Proxitane is used in cream and yogurt production areas, in dried milk product preparation and for sanitisation of plant, including compatible membranes.

LAUNDRIES. The fact that Proxitane is particularly suitable for washing at low temperatures gives the advantage of energy savings and reducing conditions that can harm cellulose fibres. In addition to savings in energy, water and time, Proxitane should not affect dyes and finishes, is compatible with fibres, has good biocidal activity and has a high level of biodegradability which should be beneficial in effluent treatment.

Additional Benefits

No Rising: Proxitane is an FDA approved sanitising solution which allows for use of Proxitane on food contact surfaces without rising as long as drainage is available. Using Proxitane reduces cleaning/sanitisation time and water consumption/effluent discharge costs.

No Corrosion: Peroxygens in general passivate stainless steels. Any concentration of Proxitane can be passed through stainless steel plant without the problem of corrosion. This holds whether the solutions are used hot or cold. It allows a single formulation, Proxitane, to account for any class of problem microorganism.

No Adsorption: Results to date do not indicate adsorption of the compounds in Proxitane to the materials of plant construction. Nor do they adsorb to the materials used in water treatment plant ie. the membranes used in Reverse Osmosis and Ultrafiltration, the resins used in Ion Exchange and the carbon or sand used in pretreatment beds. This allows fast drain down and rinse out times with quicker reuse of plant.

B.O.D./C.O.D. Reduction: Proxitane is beneficial to plant effluent. Whether by direct chemical action of the hydrogen peroxide and peroxyacetic acid or by a "pay back" of developed oxygen from their decomposition, discharges from your plant to the trade waste sewers should be lower if Proxitane is used.

Non Derivatizing: Peroxygens are not known for proliferating side reactions. The active constituents in Proxitane do not derivatise organics in your trade waste to more refractory or toxic products.

Acrid Odour: From the plant and operator safety viewpont, the pungent odour of the concentrate is a benefit since it alerts operators quickly to a leakage or spillage of Proxitane.

* A summary of approvals is available from SOLVAY INTEROX.



created by free version of

DocuFreezer

FA 8.10.1.e.1.0.A.0995

This Data Sheet 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 Data Sheet 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. Freedom from patent rights must not be assumed.



created by free version of

DocuFreezer