



Marine Wastewater Treatment Systems

Aquaviro Marine Wastewater Treatment Solutions

Australia's most comprehensive answer to recreational marine wastewater treatment

AQUAVIRO E-TREAT Concentrate

Concentrated Sewerage Holding Tank and Portable Toilet Treatment

Technical Bulletin - Four Pages, November 2007.

DESCRIPTION:

E-TREAT Concentrate is a concentrated sewerage holding tank and toilet waste neutralizer / treatment that comprehensively treats waste, sanitises and deodorizes. E-TREAT Concentrate does NOT contain formaldehyde.

E-TREAT Concentrate is comprised of a combination of two bacteriostatic chemicals selected for their effectiveness and biodegradability to produce a product of the highest possible performance. E-TREAT Concentrate will work in fresh and salt water. E-TREAT Concentrate works exceptionally well in conjunction with Ecosoft 548 Toilet Rolls.

E-Treat has been reformulated to incorporate the very latest in dye technology. This hi tech reformulation practically eliminates any issues with staining on most hard surfaces, skin, fabrics and equipment. Concentrated colour / product spills can be easily removed with just cold water and then soaked up with absorbent paper towel or cotton cloth! Simply wash any product off hands under cold – warm running water. Then wash hands with soap and water as normal.

E-treat retains its concentrated, easy to use application, but now with super 'non staining' dye formulation! This re-formulated version is available from late in 2007.

DIRECTIONS FOR USE:

Areas of Application:

- Marine, aviation, transport (e.g. buses) holding tanks and camping porta-loo's.
- Building industry on site portable toilets.
- Nursing home commodes.
- Underground mining portable toilets.
- Sanitary napkin disposable systems.

Product Features:

- E-TREAT Concentrate does not contain formaldehyde.
- E-TREAT Concentrate does not affect the waste treatment facility where final discharge of waste occurs.
- E-TREAT Concentrate has a unique and pleasant fragrance that absorbs and masks offensive odours.
- E-TREAT Concentrate allows for similar frequency of service to existing formaldehyde treatment products.
- E-TREAT Concentrate is biodegradable and can be disposed of through the municipal sewerage treatment systems.

Physical Properties:

- Colour - Deep Dark Blue
- Odour - Citrus/Apple
- ph - 7.5 - 8
- Composition - See Material Safety Data Sheet

Recommended Dilution:

E-TREAT Concentrate is extremely versatile and depending on the application, can be used by the operator to EXTEND / pump-out or service periods.

For new marine holding tanks, add to the toilet at a rate of 1 ml to every litre of tank capacity. For example, a new 60 litre marine holding tank requires 60 mls of E-TREAT Concentrate added to it.

Flush the toilet to ensure the E-TREAT Concentrate is deposited in the tank. Use the toilet normally. The E-TREAT Concentrate will perform very well inside the tank for days, depending on toilet usage and volumes of waste. Replace the E-TREAT Concentrate after the holding tank has been emptied. Use Ecosoft 548 toilet rolls to minimize holding tank build ups. Contact Aquaviro Australia for your nearest distributor.

To extend periods between pump-outs treat the tank as per the initial charge then add E-TREAT Concentrate at rate of 100 mls for every 50 litres of tank capacity one to three times per week depending on waste volumes and ambient temperatures.

For older / smelling marine holding tanks, where uric acid crystallization is not a major problem and the odours are not through the vessel itself, E-TREAT Concentrate can be used for a restoration clean. Add E-TREAT Concentrate to the tank first, at a rate of 15 - 20%, that is say 15-20 litres into a 100 litre holding tank. Fill the tank **completely** with, preferably, fresh water and leave a minimum of 48 hours - 5 to 7 full days is ideal. Agitate if possible by taking the vessel out for a "run". Pump-out the contents as per normal. The E-TREAT Concentrate will effectively clean the inside of the tank and restore to a "new" condition. Treat the tank as per a new tank.

For the de-scaling of older / smelling marine holding tanks, where uric acid crystallization is a problem and the odours are through the vessel itself, use Aquaviro Hull Cleaner and Scale Remover to do a complete de-scale and restoration clean, as per the instructions on the Hull Cleaner. Aquaviro Hull Cleaner will dissolve and dislodge the scale / uric acid deposits in the tank. Fill the toilet / waste pipework as well, blocking off an end if necessary, as many vessel odours come from uric acid scale in the pipes themselves. Once the system has been thoroughly and completely filled with Aquaviro Hull Cleaner at the correct dilution rate, left and emptied, then do one only restoration clean as per above with E-Treat Concentrate.

Small Portable Toilets / Buses, Coaches / Recirculating Systems

Pour 100 mls of E-TREAT Concentrate into the holding tank. Replace after emptying. For recirculating systems add 150 - 250 mls to the initial charge.

Building Site Toilets / Underground Mine Toilets

Depending on tank capacities, frequency of servicing and operating ambient temperatures, E-TREAT Concentrate can be used at a rate of 0.5% to 5 % depending on factors and conditions.

Seasonal changes may affect the recommended dilution rate. In particularly hot conditions, to overcome odours, E-TREAT Concentrate can be used at double or triple strengths.

Septic Tanks

Do NOT use E-TREAT Concentrate in septic tanks or any other biologically activated / motivated system.

Staining

The re-formulation using a new technology "non" staining dye has virtually eliminated all previous staining possibilities. However, always test the area where any chemical is to be

added first with a small amount of that chemical to ascertain if there is going to be any unforeseen or adverse effects.

Safety Information

Avoid using concentrate in confined spaces, avoid breathing vapour, use a respirator. Avoid eye and skin contact by using appropriate safety equipment - safety glasses/goggles and rubber/PVC gloves.

Spills and Leaks

Spillages may produce slippery surfaces. Wear protective clothing. Absorb excess amounts with sand or other suitable absorbent. Dispose of in an approved waste disposal facility in accordance with regulations. DO NOT allow spill or leaking material to enter any watercourse.

Fire/Explosion Hazard

Not considered to be a significant fire risk. Fire fighters to wear self contained breathing apparatus if risk of exposure to vapour or products of combustion.

Risk Phrases

R36/37/38 - Irritating to eyes, respiratory system and skin.

R42/43 - May cause sensitisation by inhalation and skin contact.

First Aid

Swallowed: DO NOT induce vomiting. Dilute with 1 - 2 glasses of water or milk, then raw egg. Contact a doctor or Poisons Information Centre.

Eye: Flush immediately with water for 15 minutes. Hold eye lids open. Seek medical advice.

Skin: Wash affected areas thoroughly with soap and water. If irritation occurs seek medical attention.

Inhaled: Remove from source of vapour to fresh air. Apply artificial respiration if not breathing.

First Aid Facilities: No special requirement.

Advice To Doctor: Treat symptomatically.

For advise contact a poisons information centre (eg, Australia phone 131126, New Zealand phone 03 4747 000) or a doctor at once.

Additional information is listed in material safety data sheet.

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Below are the truncated findings regarding Glutaraldehyde from the Australian Government Department of Health and Aging. The full report can be viewed at http://www.nicnas.gov.au/Publications/CAR/PEC/PEC3/Summary_Report.asp

Priority Existing Chemical Assessment Reports - Glutaraldehyde

Uses

Glutaraldehyde has the following uses in Australia:

- as a disinfectant in the health care industry;
- as a hardener in x-ray developing solutions;
- in tanning as a fixative;
- as a biocide in water treatment;
- in animal housing for disinfection;
- as a preservative in industrial oils;
- **as a biocide in sanitary solutions for portable and aircraft toilets;**
- in small quantities as a disinfectant for air ducts;
- as a tissue fixative in electron and light microscopy and histochemistry;
- as a biocide in aquaculture;
- in small quantities as an embalming agent; and
- as a therapeutic agent.

Conclusions

- From the assessment of information about the health and environmental effects of glutaraldehyde, hazards during its use, exposure data and control measures currently available, **it is concluded that glutaraldehyde can be used safely in Australia if the proper control measures are in place.**
- The main health effects of glutaraldehyde are irritation of the skin, eyes and respiratory system. The main symptoms seen in workers in Australia are contact dermatitis and eye, nose and throat irritation, with occupational asthma and rhinitis also observed. Adverse health effects have been observed principally in the health care industry, due to the high number of workers in this industry and the poor controls in many workplaces.
- Based on information about its human health effects and the results of animal and *in vitro* testing, glutaraldehyde is a hazardous substance at concentrations > 0.1% w/w according to the National Commission's *Approved Criteria for Classifying Hazardous Substances*.
- For the uses of glutaraldehyde described in the report, **it is unlikely that glutaraldehyde will pose a significant health and safety risk to the public or a significant risk to the environment.**