

**BUFFERSOL™****DESCRIPTION**

BUFFERSOL is a revolutionary, concentrated liquid product engineered to attack, penetrate and remove deposits such as traces of lead, aromatic hydrocarbons, chloride compounds and sulfide compounds from zinc-silicate coated tank surfaces and articles. Furthermore, it is formulated with specific acids and corrosion inhibitors, pH buffered to efficiently bind and neutralize strong acid and alkaline compounds in extreme cleaning conditions.

ADVANTAGES AND CHARACTERISTICS

- Effectively removes lead, hydrocarbon, chloride and sulfide deposits from zinc-silicate coated tanks and articles.
- Prevents, maintains and protects from corrosion.
- Acts quickly and thoroughly.
- No known effect on rubber and plastic compounds.
- Non-flammable, non-corrosive and non-toxic.
- A water soluble product that may be used with a wide range of other products.
- May be safely used on all common metal surfaces and their alloys, whether painted, varnished or not.
- pH buffered, thus acting as a neutralizing agent in acidic or alkaline environments.
- Cost effective, easy to handle and apply.

According to MARPOL 73/78 chemical tankers are only permitted to use tank cleaning agents, which had been approved and evaluated by the International Maritime Organisation (IMO).

BUFFERSOL was evaluated in accordance with MEPC.1/Circ. 590 through IMO's Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals (ESPH Working Group) and found to meet the requirements of regulation 13.5.2 of Annex II of MARPOL 73/78.

PHYSICAL PROPERTIES

BUFFERSOL is an aqueous concentrated liquid solution consisting of a specific blend of acids and corrosion inhibitors, pH buffered.

Appearance / Color	: Clear, colorless liquid
Specific gravity	: 1.05–1.08 gr/cm ³ at 15°C
pH	: 5.5
Solubility in water	: Very soluble
Odor	: Odorless

PACKAGING

Order Number	: 833033 (30 ltrs), 832134 (210 ltrs)
Container	: Plastic jerrican, Plastic drum

APPLICATION AND USE**A. Dosing Procedure**

The quantity of **BUFFERSOL** to be used is proportional to the degree of contamination, the surface area to be treated, the desired degree for cleaning and the available downtime.

In small systems, most frequently, **BUFFERSOL** is used undiluted.

In larger systems, where the circulation method is required and contamination is normal, a 10% solution of **BUFFERSOL** with water is adequate, and should be enough in volume to fill the tank up to 1% of its capacity. If the contamination is heavy, higher concentrated solutions with **BUFFERSOL** must be made. Furthermore, more of the system's capacity must be filled, so that greater quantities will be circulated.

B. Cleaning Procedure

In small tanks and small surface areas, **BUFFERSOL** may be applied by conventional methods with a brush, sponge or a mop.

Once applied, **BUFFERSOL** must be left for a period long enough, for it to act effectively, whilst allowing time to wash it off, before it dries out. The application must be repeated two more times and finally rinsed with large quantities of water (preferably at



high-pressure) for one hour. Then, the treated surface should be left to dry.

With Butterworth tank-washing systems, for large cargo tanks, a 10% solution of **BUFFERSOL** with water must be used in order to fill 1% of the tank's volume capacity, which then is circulated for 2–6 hours at 20–70°C by the feeding pump, found below the tank's bottom, to the heater and then to the tank's sprinkler system. Thus, the solution is re-circulated, resulting in thorough cleaning.

Also note that if the solution is still adequate, and contamination is not heavy, it can be used for washing 2–3 tanks. For this, the bottom valve of the treated tank may be shut, allowing access of the solution through the system to the second tank. Likely, the same cleaning procedure is followed for the rest of the tanks.

For optimum results, especially in cases of heavy contamination, fresh **BUFFERSOL** solution may be used separately for each tank.

In all cases, after completion of the application, the solution must be discarded and the system must be washed with fresh water for at least one hour.

Note that when desired, **BUFFERSOL** may only be used diluted by making a solution with fresh, de-ionized or distilled water. In all cases, avoid the use of river or sea water.

SAFETY AND HANDLING

HANDLING	Handle with care. Store in a dry, cool and well ventilated environment.
SAFETY	IMMEDIATE ACTIONS
Eye Contact	Avoid Eye contact. Otherwise, flush with plenty of water for a few minutes. Seek medical attention.
Skin Contact	Avoid Skin contact. Otherwise, wash contaminated area thoroughly with water. Seek medical attention.
Inhalation	Do not breathe gas/vapors. Otherwise, seek fresh air source at once. Seek medical attention. In case of insufficient ventilation, wear suitable respiratory equipment.
If Swallowed	Avoid ingestion. Otherwise, consume a considerable quantity of water. Do not induce vomiting. Seek medical attention.
GENERAL INSTRUCTIONS	Avoid spillage, splashing and mishandling. Precautionary measures for body protection are strongly recommended before use.

Read the Material Safety Data Sheet before using this product.

For detailed information on safety and health, please refer to Material Safety Data Sheet and/or Product Label.

MARICHEM MARIGASES Worldwide Services or any subsidiary or associated companies warranties of merchantability and competence, if any, along with any expressed warranties concerning this merchandise, shall not be actionable or pertinent or effective if the good is used contrarily or differently to the directions herein and in no other way due to impending hazards from inappropriate use of the good explained herein. Merchandise might vary insubstantially depending on country of origin. The information provided concerning merchandise is exclusively presented to the customer.