

BIOSAN K13

FUMIGANT TABLET SANITIZER FORMALDEHYDE RELEASER FOR LARGE ENVIROMENTS

BIOSAN K13 is a powerful sanitizer in the form of a fumigant tablet (weight 1300 g) containing paraformaldehyde. It **is added** to the fumigants line, in particular to the classic 700 g BIOSAN K tablet. The highly effective action against pathogenic microorganisms and viruses is expressed by means of the heat generated by a slow and controlled combustion without flame. During this fumigation process, the heat produced allows the conversion of paraformaldehyde into gaseous formaldehyde in the amount of about 600 liters for each tablet. The process ensures for a duration of about 8 hours a constant and uniform concentration of gas. The developed gas is anhydrous and lighter than air, therefore it spreads uniformly in every part of the closed environment subjected to the fumigation process.



The result is a prolonged, deep and capillary sanitization. The energetic sanitizing action combined with the wide spectrum of action and effectiveness, the speed and simplicity of application and the absence of incompatibility with most materials make **BIOSAN K13** an economical and versatile environmental sanitizer when a preventive treatment is required to control the development of infections and diseases in the environment. The product also stops fermentation and is repellent for insects. It is not corrosive and after use and aeration of the environment it does not add any odor (1 *). Normally, for the sanitation of 100 m³ of the environment 3 liters of 33% liquid formaldehyde with 3 kg of potassium permanganate are used. The exothermic reaction that develops produces about 99 grams of formaldehyde which remains active for about 32 minutes. With a tablet of **BIOSAN K13** about 400 gr (600 lt) of gaseous formaldehyde are produced and remain active for about 6 hours.

Sectors of use: it can be used in farms (chickens, turkeys, rabbits, pigs, etc.) for the sanitation of environments, and cages, hatcheries, warehouses and equipment; in agriculture for the treatment of feed storage silos; for the treatment of means of transport for animals (railway wagons and trucks, ship holds, cold rooms) and all closed environments that require radical sanitation.

1. * The olfactory residuality depends on the porosity of the materials present in the environment. Normally it is negligible in environments intended for breeding.



Composition: paraformaldehyde: 40%; excipients: 60%

Instructions for use and dosage: on average one tablet is sufficient to treat 700 M3 of environmental volume to be treated.

Method of use

1. Protect any equipment present and close the environment. Disengage the ventilation systems.
2. Check that the relative humidity in the environment is at least 65%. 3. Light the tablet with a gas burner or with the aid of alcohol to be poured on the tablet (approximately 15 ml). 4. Wait for it to turn completely black (3 to 5 minutes). 5. Smother the flame by covering it. 6. Wait for fumigation until complete consumption.

Check out the demonstration video: <https://youtu.be/WOyYU4vBQEs>

Active ingredient characteristics

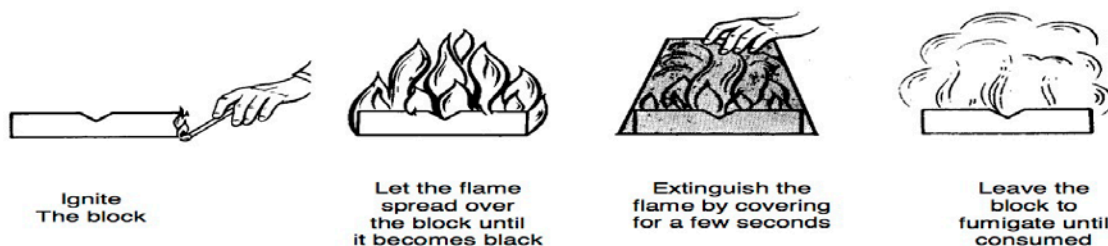
The studies carried out in our laboratories have shown that the chemical-physical properties of the formaldehyde that is generated in the gaseous phase from the thermal depolymerization of paraformaldehyde are such as to ensure its maintenance in the gaseous phase and the consequent optimal diffusion in the environment being treated. This is due to both the low molecular weight of formaldehyde and the inability to return to the solid state (condensation) due to exposure to low environmental temperatures or contact with cold surfaces. This last aspect is of significant importance as only in the gaseous state does the active ingredient interact optimally with the pathogens for the necessary contact time and then decompose without leaving a significant residue.

Other active ingredients with higher molecular weight, such as for example Ortophenylphenol (OPP) effectively used in our other fumigant tablets, which are in the registration phase (PT3 & PT4) are not suitable for the production of tablets for the treatment of large volumes with a few pieces. In this case, it is preferable to use several medium-sized tablets uniformly arranged in the environment rather than a few large tablets. This approach associated with an adequate heat input of appropriate duration throughout the fumigation allows the diffusion and maintenance in the gaseous phase of active ingredients of higher molecular weight that are more difficult to vaporize compared to formaldehyde..

Advantages:

- **Simply:** no specific application equipment is required.
- **Effective:** fumigation guarantees a highly effective and prolonged action thanks to the anhydrous gas (formaldehyde) that penetrates into every nook and cranny.
- **Stable:** the formulation in solid tablet form avoids the separation of components during transport which can occur in powder formulations, risking to compromise their performance.
- **Performant:** 1 tablet (1300 g) allows the treatment of about 700 M3.
The characteristics of the active principle in the gaseous state and the peculiar production process have made it possible to create and propose for large environments a tablet as effective as the 700 g one (BIOSAN K) which, however, allows to halve the application points with a further saving of 50% of the operator time.
- **Safe:** the application requires no operator effort except for the start-up phase (saving time, personnel, elimination of exposure risk): once positioned and switched on, 90% of the work is done (no more than 5 min. Per tablet). During activation (ignition and suffocation) use a protective mask for organic fumes (formaldehyde).

Ease of use



Efficacy

The following table summarizes the results obtained at third party laboratories:

Test	Species	Results
UNI EN 1657 (funghi)	Candida albicans	PASS
	Aspergillus niger	PASS
UNI EN 1656 (batteri)	Escherichia coli	PASS
	Proteus vulgaris	PASS
	Pseudomonas aeruginosa	PASS
	Staphylococcus aureus	PASS
	Enterococcus hirae	PASS
	Salmonella tiphimurium	PASS
AFNOR NF T72-281 (funghi & batteri)	Candida albicans	PASS
	Aspergillus niger	PASS
	Escherichia coli	PASS
	Pseudomonas aeruginosa	PASS
	Staphylococcus aureus	PASS
	Enterococcus hirae	PASS
	Bacillus subtilis (sporigeno)	PASS

The tests were conducted in the regime of **Good Laboratory Practices (GLP)**



▪ **AFNOR NF T72-281**

Methods of airborne disinfection of surfaces — Determination of bactericidal, fungicidal, yeasticidal, mycobactericidal, tuberculicidal sporicidal and virucidal activity, including bacteriophages

Packaging

- Cardboard box containing 12 tablets packed in a single heat-sealed recyclable plastic (PE) bag; each bag has labeling and instructions for use. Store at room temperature (10 ° C ÷ 50 ° C) in the original container away from direct sunlight.
- EUR PALLET of 54 boxes (**648 pcs**)
- EUR PALLET of 60 boxes (**720 pcs**)
- EUR PALLET of 66 boxes (**792 pcs**)

Note: Check in advance the possibilities of using the product. Use of the product may be subject to specific approvals and regulations in different countries. Users are required to verify the possibility of using the product according to the applicable regulations.

	
BIOSAN K – NEO K7	BIOSAN K13 – NEO K13
700 g – 259 g paraformaldehyde	1300 g – 259 x 2 = 518 g paraformaldehyde
1 TABLET for about 350 Mc	1 TABLET for about 700 Mc

Storage conditions:

Keep the product in the original bags and cartons. Do not expose to direct sunlight. Do not expose to temperatures exceeding 50 °C during transport or storage.

Exposure to higher temperatures can cause the tablet to lose its hardness, making it more brittle. This phenomenon does not change its effectiveness during fumigation.