



# BIOXY S<sup>NEW</sup>

## PERACETIC ACID SANITIZER & ODOR CONTROL INNOVATIVE

### DESCRIPTION

**BIOXY S<sup>NEW</sup>** is a powdered product that generates peracetic acid in water at neutral pH levels. **BIOXY S<sup>NEW</sup>** was formulated to sanitize surfaces in contact with food, reservoirs, C.I.P. evaporators, fillers, aseptic equipment and pasteurisers found in dairies, wineries, breweries, and food, beverage and meat processing and packaging plants. **BIOXY S<sup>NEW</sup>** is also ideal to sanitize water tanks, boilers, cooling towers and other equipments related to water and wastewater treatment. **BIOXY S<sup>NEW</sup>** is non foaming. **BIOXY S<sup>NEW</sup>** control malodor generated by sulfate reducing bacteria (SRB) and bacteria generating Volatile Fatty Acids (VFAs) in pulp and paper mills and wastewater treatment facilities.

### DIRECTIONS FOR USE

Use **BIOXY S<sup>NEW</sup>** on previously cleaned equipment.

Use **BIOXY S<sup>NEW</sup>** at a concentration of 0.2 to 2% (2 to 20 g **BIOXY S<sup>NEW</sup>** per liter). Keep this solution in contact with food surfaces for at least 10 minutes; then rinse abundantly with potable water.

**SANITATION:** Use at a concentration of 0.2% (2 g **BIOXY S<sup>NEW</sup>** in 1 liter of water). This concentration of 0.2% yields 200 ppm of active peracetic acid. Allow this 0.2% solution to circulate at 5-40°C (40-105°F) and keep in contact for at least 60 seconds. Drain. **Do not rinse if concentration is equal or below 200 ppm peracetic acid.**

### PROPERTIES

Appearance: White powder

Odour: Mild

pH (0.2%) : 7.00±1.00 / Neutral

pH (2.0 %) : 7.00±1.00 / Neutral

### MADE IN CANADA

### FOR FOOD PLANTS AND OTHER INDUSTRIAL USE ONLY



## Comparison BIOXY S <sup>NEW</sup> vs Liquid Peracetic Acid

Description	BIOXY S - atomes	Liquid Peracetic acid
<b>Activity</b>	10% active (2 times more concentrated)	5% active
<b>Concentration used</b>	0.2% 2 g / L = 20g / 10 L	0.4% 4 ml / L
<b>Physical status</b>	Solid	Liquid
<b>Transportation</b>	Safe	Hazardous
<b>Odor</b>	No odor	Offensive – Strong acetic acid smell
<b>pH</b>	Reacts with water to generate peracetic acid at <b>neutral</b> pH levels	The pH is highly <b>acidic</b>
<b>Corrosion / surfaces</b>	<b>No induced corrosion</b>	Extremely corrosive to surfaces
<b>Handling / employees</b>	Safe to handle	Extremely dangerous to handle
<b>Storage</b>	Requires a limited place	Requires large and a secured space to prevent leaking
<b>Chemical stability</b>	Stable	Decomposes if exposed to heat or organic materials



## ADDITIONAL ADVANTAGES OF USING BIOXY S

- It is not hazardous to work with
- It's a non foaming
- It is organic
- It remains always at pH neutral
- No offensive odor
- Non flammable
- Non reactive
- Prevents and removes yeast and mold
- It can be shipped by regular transport (Not classified as a dangerous good)
- Less susceptible to hot weather as compared to regular liquid peracetic acid.
- Vented areas are not required when storing
- Insurance premiums drop
- When disposing of barrels or pails, recycling bin is recommended. No need to request special transport for pick up
- Environmentally designed
- No trihalomethanes (THM), no chlorinated by-products formed
- It will increase shelf life of fresh fruits and vegetables simply by using our non toxic solution.
- It kills Listeria, Legionella and thousand other pathogens immediately
- It removes and prevents biofilms
- Product volume usage is half of liquid peracetic acid 5%
- If powdered product is spilled *as is* or in water solution, no harmful chemicals are created
- If powdered product is spilled *as is* or in water solution, no harmful odors are created
- If powdered product is spilled *as is* or in water solution, no corrosion is created
- If powdered product is spilled *as is* or in water solution, no toxic fumes are created
- Transport cost by weight is less and it is not regulated as dangerous goods
- Product can be mixed and applied manually without danger



## BIOXY S<sup>NEW</sup>

### Stability of BIOXY S<sup>NEW</sup> 2% (Stock Solution).

Time	BIOXY S <sup>NEW</sup> (2% solution )
0 hr	150 ppm
2 hr	1050 ppm
3 hr, 30 min	1800 ppm
9 hr	1950 ppm
12 hr	2100 ppm
21 hr	1950 ppm
28 hr	1800 ppm
36 hr	1350 ppm
47 hr	1050 ppm
57 hr	600 ppm
70 hr	300 ppm

Titrated with Lamotte Test kit for peracetic acid (code 7191-01)

#### Application:

-Make a **Stock Solution** of 2% (20 g **BIOXY S<sup>NEW</sup>** per 1 L city water) at room temperature.

-Mix the solution for at least 30 minutes.

-Then let the solution mature for 3 hours for maximum *in-situ* generation of peracetic acid.

-After 3 hours, the solution is ready to be used for sanitation and is good for at least 36 hours.

#### -The **Stock Solution**:

1- can be diluted manually 1/10 to sanitize surfaces;

2- or it can be diluted automatically via a Dosmatic pump MiniDos 10%. Use the Dosmatic pump at 10% in order to dilute the stock solution 1/10 to sanitize open surfaces with a final concentration of peracetic acid ranging from 135 ppm to 200 ppm. Do not rinse if peracetic acid concentration is below 200 ppm;

3- or it can be pumped *as is* into a CIP tank via a Peristaltic metering pump. If the CIP sanitation tank is filled with 90 L water for example, pump 10 L **BIOXY S<sup>NEW</sup> Stock Solution** in order to achieve a concentration ranging from 135 ppm up to 200 ppm).

The pH of the **BIOXY S<sup>NEW</sup> Stock Solution** is around pH 7 (neutral) and is the best alternative to the regular liquid peracetic acid products.



## BIOXY S<sup>NEW</sup>

Stability of BIOXY S<sup>NEW</sup> 0.2% (Ready-To-Use Solution; RTU).

Time	BIOXY S <sup>NEW</sup> (0.2% solution )
0 hr	15 ppm
2 hr	45 ppm
3 hr, 30 min	90 ppm
9 hr	150 ppm
12 hr	165 ppm
21 hr	210 ppm
28 hr	210 ppm
36 hr	210 ppm
47 hr	225 ppm
57 hr	180 ppm
70 hr	150 ppm
77 hr	105 ppm

Titrated with Lamotte Test kit for peracetic acid (code 7191-01)

### Application:

- Make a **RTU Solution** of 0.2% (2 g **BIOXY S<sup>NEW</sup>** per 1 L city water) at room temperature.
- Mix the solution for at least 30 minutes.
- Then let the solution mature for 9 hours for maximum *in-situ* generation of peracetic acid at neutral pH levels.
- After 9 hours, the solution is ready to be used for sanitation and is good for at least 2 days.

### -The **RTU Solution**:

- 1- can be used as *is* to sanitize surfaces. Do not rinse if peracetic acid concentration is below 200 ppm.

The pH of the **BIOXY S<sup>NEW</sup> RTU Solution** is around pH 7 (neutral) and is the best alternative to the regular liquid peracetic acid products.

## BIOXY S<sup>NEW</sup>

Efficiency of **BIOXY S<sup>NEW</sup>** at 0.2% (200 ppm) and at 0.08% (80 ppm) concentrations.

Micro-organismes	Population de départ (CFU/ml) pour un standard MF 0.5	Temps d'exposition	Population (CFU/ ml) après exposition au produit à 0.08%	Réduction logarithmique	Population (CFU/ ml) après exposition au produit à 0.2%	Réduction logarithmique
Salmonella spp	8.10 <sup>6</sup>	Après 2 mn	< 2	6,6	< 2	6,6
		Après 30 mn	< 2	6,6	< 2	6,6
Listeria monocytogenes	9.10 <sup>6</sup>	Après 2 mn	< 2	6,7	< 2	6,7
		Après 30 mn	< 2	6,7	< 2	6,7
Escherichia coli O157 H7	2.10 <sup>7</sup>	Après 2 mn	< 2	7	< 2	7
		Après 30 mn	< 2	7	< 2	7
Bacillus subtilus ATCC 6633	6.2.10 <sup>6</sup>	Après 2 mn	870	3,9	680	> 3,9
		Après 30 mn	560	4	360	> 4,2
Klebsiella pneumoniae ATCC 13883	7.10 <sup>6</sup>	Après 2 mn	< 2	6,5	< 2	6,5
		Après 30 mn	< 2	6,5	< 2	6,5
Staphylococcus aureus ATCC 33591	8.10 <sup>6</sup>	Après 2 mn	< 2	6,6	< 2	6,6
		Après 30 mn	< 2	6,6	< 2	6,6