

SPORACTIV®

INDUSTRIAL AND INSTITUTIONAL

SporActiv® CLEAR

SporActiv® CLEAR features newly discovered *Bacillus* strains with the capability to digest the widest range of waste components and odor-causing compounds. Our highest-count 20X formulation, CLEAR was developed to deliver an effective and powerful clean for a variety of IIC concerns that many market-leading products may not be able to address.

	CHALLENGE	SOLUTION
Odor Control	In some cases, organic material can persist even after cleaning, which leads to odors. A wide range of odor-causing substances can be the root cause of foul smells. Volatile fatty acids (VFAs), ammonia, mercaptans, and uric acid are just a few examples of compounds that can contribute to odors in pet stains on carpet or rotting food particles in the drain.	The <i>Bacillus</i> in SporActiv® CLEAR view this leftover organic material as food, digesting it and removing it from the system. These strains have been scientifically selected to break down a broad range of common odor-causing compounds in cleaning applications like carpet, tile and grout, bathrooms, drains, and more.
FOG Removal	Residue from FOG can be difficult to remove. A greasy film can remain on surfaces, and drains or pipes can become clogged if FOG is not removed effectively.	SporActiv® CLEAR <i>Bacillus</i> can break down FOG on surfaces or in drains and pipes. The <i>Bacillus</i> can then remove this FOG from the environment, leaving surfaces clean and drains operating smoothly.
Waste/Stain Removal	Stains due to pet accidents or food spills on carpet, tile, or grout can be challenging to clean. Organic material can make its way into cracks and crevasses or inside the porous material that makes up these surfaces and persist long-term.	The <i>Bacillus</i> in SporActiv® CLEAR achieve a deeper clean by penetrating farther into surfaces where stains may hide. <i>Bacillus</i> are living organisms, which means they continue to grow and keep working hours after initial application. This more thorough clean also helps prevent the formation of odors from leftover organic material.

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ODOR CONTROL WITH *BACILLUS*

SporActiv[®] CLEAR contains some of our highest-performing *Bacillus* strains that degrade a wide variety of odor-causing compounds and effectively reduce stains and FOG.

Most *Bacillus* strains are capable of breaking down many common waste and odor components. However, some compounds are particularly difficult to degrade and require specialized *Bacillus* strains to do so. By screening for and selecting these powerful strains during product development, we ensured that SporActiv[®] CLEAR is able to digest the hard-to-remove odorous substances that most market-leading microbial products are unable to tackle.

PUTTING SPORACTIV[®] CLEAR TO THE TEST

We tested SporActiv[®] CLEAR for efficacy against a wide range of odor-causing compounds, including nitrogen-containing compounds, volatile fatty acids (VFAs), sulfur-containing compounds, and more. Figure 1 shows that bacterial growth in media treated with SporActiv[®] CLEAR increased when odor-causing compounds were the main source of nutrients. *Bacillus* consume these compounds as food or use essential components like nitrogen and sulfur to support growth. These results demonstrate that the *Bacillus* in SporActiv[®] CLEAR are able to remove these compounds from the environment. The table below shows a selection of odor-causing substances that SporActiv[®] CLEAR can digest.

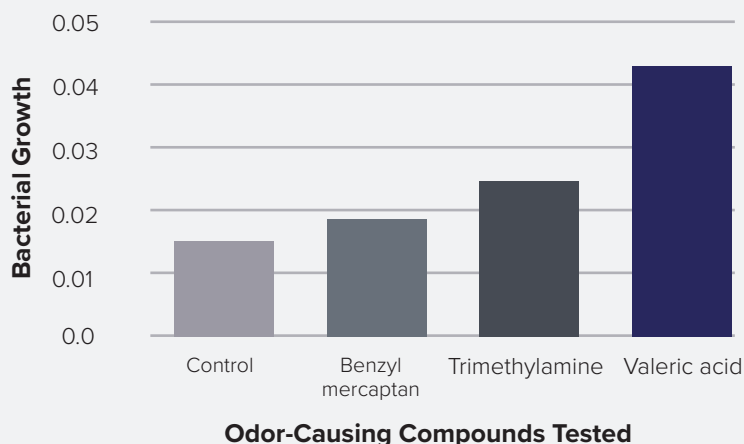


Figure 1: SporActiv[®] CLEAR utilizes odor-causing compounds to support bacterial growth.

Compound Name	Description
Acetic acid	VFA with vinegar odor
Ammonia	Component in urine
Benzyl mercaptan	Sulfur compound with skunk odor
Butyric acid	VFA with rancid odor
Dimethyl sulfide	Sulfur compound common in fish and vegetables with a rotten cabbage odor
Ethyl mercaptan	Sulfur compound with rotten egg smell, common additive to odorless gasses
Isobutyric acid	VFA with sweaty feet odor
Isovaleric acid	VFA with rotten cheese odor
Lactic acid	VFA with sour milk odor
p-cresol	Derived from breakdown of aromatic amino acids, sickly-sweet odor common in used toilets
Propionic acid	VFA with smell of body odor
Putrescine	Associated with the smell of rotting flesh with a putrid odor
Skatole	Component in feces
Trimethylamine	Odor associated with bad fish, also produced as plants with high nitrogen content degrade
Uric acid	Component in urine
Valeric acid	VFA with spoiled milk odor

Table 1: A selection of odor-causing compounds that SporActiv[®] CLEAR has shown efficacy against in lab testing.