



# SAFER, BETTER TASTING PET FOOD

## Acidification: Sodium Bisulfate vs Phosphoric Acid

The pet food industry uses acidifiers in cat food to improve palatability and for feline urinary health to prevent struvite stone formation. Acidification is also used in soft treat manufacturing for microbial control and in palatants for pH reduction and preservation.

The two most common options for acidification are SBS Pet® (sodium bisulfate) and phosphoric acid. For recipes using phosphoric acid, SBS Pet can

easily be substituted at the rate of 1 kg SBS Pet per 1 kg of 75% phosphoric acid.

While the addition rates may be equal, the two products have many differences of which pet food formulators should be aware. This knowledge can be especially valuable for companies working to satisfy the rapidly growing demand for natural pet food products.



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## Nutritional Considerations

Pet food formulators must balance various nutritional considerations. One key focus is the calcium to phosphorus ratio, which has an ideal balance between 1:1 and 2:1. If the ratio is too high, it can impair phosphorus absorption. If it is too low, it can lead to

nutritional problems from calcium deficiency—including bone loss. In addition, excess phosphorous can be detrimental for cats' kidney function.

**What does this mean when selecting an acidifier?**

SBS Pet®	Phosphoric Acid
SBS Pet is a natural product that acidifies the diet and improves palatability without affecting the calcium/phosphorus ratio.	Inorganic phosphorus is the main element in phosphoric acid. High inorganic phosphorus in diets are associated with adversely affecting renal function parameters in healthy cats (Dobenecker et al., 2018) and an increased risk of developing chronic kidney disease (CKD) (Böswald et al., 2018).
SBS Pet is a source of sodium that can help increase water consumption, which in turn helps dilute urine, thereby reducing the risk of struvite or calcium oxalate formation.	Phosphoric acid is not a source of dietary sodium.

## Safety, Storage and Handling

	SBS Pet®	Phosphoric Acid
<b>Safety</b>	<p>Dry, granular acid can be added to the micro bin or mixed with pre-mix before extrusion for flexibility.</p> <p>Can be swept up with a broom if spilled for enhanced employee safety and easy disposal.</p>	<p>Clear, colorless liquid acid that requires investment and maintenance in a corrosion resistant delivery system.</p> <p>Can burn employees if a leak occurs in the system. If spilled, liquid cleanup requires dilution and treatment in wastewater.</p>
<b>Storage and Handling</b>	<p>SBS Pet is a dry product that contains no water and will not freeze.</p> <p>SBS Pet is available in 50 lb. bags and 2,000 lb. totes.</p>	<p>75% phosphoric acid will freeze around -15°C (5°F) and 85% phosphoric acid freezes at 21°C (70°F), which can make transportation, storage and handling difficult in colder climates and in cooler weather.</p> <p>If freezing point is reached, crystal formation occurs which can delay manufacturing and raise costs. Insulated and heated pipes and tanks can be used to prevent solidification and crystal formation, but this capital investment can be prohibitive.</p>



**Contact us to learn more about SBS Pet and the difference this acidifier can make in your formulations.**



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