



## Brief on substance within most sugarcane containers

Recent information has been brought to our attention concerning the **sugarcane or bagasse** packaging and as our customers, we would like to let you know of what we known so far.

Several types of packaging (including most bagasse) contains **fluorine** in the form of short-chain **polyfluoroalkyl substances (PFAS)**. It is a type of substance added to make items grease-resistant. PFAS are widely utilized today for several food applications such as pizza boxes, microwaveable popcorn and non-stick pans. People near PFAS manufacturing plants experience higher exposures but contact with PFAS food packaging remains to be a source of exposure. <sup>[1][2][3]</sup>

Recent readings have shown that **PFAS may pose a risk to human health** due to the fluorine content.<sup>[4]</sup> There are organizations as well who have tagged fluorinated bagasse as a material to avoid.<sup>[5]</sup> Authorities have also taken notice as some states are beginning to ban it altogether.<sup>[6]</sup> However, the limited number of studies on the specific effects and significance of the threat **remain inconclusive** as short chain PFAS have only been present in the past decade and studies are still ongoing.<sup>[7][8]</sup> The studies also pose the question on its compostability. While the bagasse pulp will completely break down, **the PFAS will remain**, due to its long shelf life, and can seep into soil and water systems. <sup>[1][2]</sup>

This is not to say that bagasse doesn't have its advantages. Similar to bioplastics, it still **reduces carbon emissions by using natural resources** (sugarcane waste) as raw material instead of the fossil fuels used to make plastic. <sup>[9]</sup> Once composted, the bagasse component degrades which addresses the immediate issue of plastic reduction until better alternatives are made available. There has also been confusing information spreading locally and here is our take on it:

1. **PFAS containers are PFOA/PFOS free**- This is true. PFOA and PFOS are the long-chain form of PFAS and proven to be toxic. PFAS was created in response to PFOA and PFOS.

2. **PFAS is what makes the items oven and microwave-safe**. It also reduces its grease proofing. PFAS is a chemically stable substance that protects the bagasse from external stressors such as heat and oil. There are no current PFAS-free containers in the world that will exhibit the same properties. You can test this by putting it in the oven, and if it does not burn, it most likely would contain PFAS.

3. **PFAS containers have passed FDA and international composting standards**. These permits can be furnished upon request. This means it is safe by government standards. However the limitation is that it does not test for PFAS at the moment.



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We hope to produce PFAS-free alternatives soon should the demand be enough, but this comes with its own disadvantages as **it is no longer oven or microwave safe**. Its grease-resistance has also been reduced, wherein anything with excessive oil will seep, but moderate applications such as fried items are passable.

Thank you for your kind understanding as we continue to evaluate and offer responsible and transparent eco-solutions. We are also thankful to the community for continuously being critical of these new solutions and we urge you to continue to do so, as these are necessary to push innovation in a field that needs it the most.

Should you have further questions or would like to continue to discuss this, please feel free to email me at [poch@sip.ph](mailto:poch@sip.ph).

For the people and the planet,  
Poch  
Founder, Sip

### References:

- [1] <https://www.epa.gov/pfas/basic-information-pfas>
- [2] <https://www.atsdr.cdc.gov/pfas/health-effects/exposure.html>
- [3] [https://www.ewg.org/interactive-maps/pfas\\_contamination/map/](https://www.ewg.org/interactive-maps/pfas_contamination/map/)
- [4] <https://www.sciencedirect.com/science/article/abs/pii/S0278691520300983?via%3Dihub>
- [5] <https://www.ceh.org/wp-content/uploads/2019/05/CEH-Disposable-Foodware-Report-final-1.31.pdf>
- [6] <https://www.saferstates.org/toxic-chemicals/pfas/>
- [7] [https://www.researchgate.net/profile/Allan\\_Jensen6/publication/299230070\\_Short-chain\\_Polyfluoroalkyl\\_Substances\\_PFAS\\_A\\_literature\\_review\\_of\\_information\\_on\\_human\\_health\\_effects\\_and\\_environmental\\_fate\\_and\\_effect\\_aspects\\_of\\_short-chain\\_PFAS/links/56fe879c08ae1408e15d04ac/Short-chain-Polyfluoroalkyl-Substances-PFAS-A-literature-review-of-information-on-human-health-effects-and-environmental-fate-and-effect-aspects-of-short-chain-PFAS.pdf](https://www.researchgate.net/profile/Allan_Jensen6/publication/299230070_Short-chain_Polyfluoroalkyl_Substances_PFAS_A_literature_review_of_information_on_human_health_effects_and_environmental_fate_and_effect_aspects_of_short-chain_PFAS/links/56fe879c08ae1408e15d04ac/Short-chain-Polyfluoroalkyl-Substances-PFAS-A-literature-review-of-information-on-human-health-effects-and-environmental-fate-and-effect-aspects-of-short-chain-PFAS.pdf)
- [8] <https://ntp.niehs.nih.gov/whatwestudy/topics/pfas/index.html>
- [9] <https://www.sciencedirect.com/science/article/abs/pii/S0956053X08004133>