Bio4HUMAN - Identifying bio-based solutions for waste management applicable to the humanitarian sector

Bio-Based Solution Info Sheet

GS - GREEN PLA BOTTLE

Baseline alternative

Conventional plastic bottles.

General description

PLA (Polylactic Acid) bottles are made entirely from plants, including the cap and label. Unlike regular plastic, they come from renewable sources and are better for the environment.
Sizes from 100 ml up to 2L. Currently, 250 ml, 500 ml, and 1-liter bottles are ready for production. They meet international standards and can be made with different neck sizes (28 mm and 38 mm). They can be used for water or oil.

Lifespan

9-12 months.

Cost

0.6-0.7 EUR/bottle (1-2L) VS baseline: 1L: between 0.4-0.8 EUR; 2L: between 0.7-1.2 EUR, depending on the brand.

Environmental aspects - added value

- End of life: Industrially compostable. In nature/landfill the bottle will take a long time to break down – several years.
- When they break down in nature or industrial compost, they do not create toxins or microplastic.
- Recyclable and can be burned releasing no harmful toxins, offering multiple end-of-life disposal options that are less harmful to the environment. Whether the bottles are recycled, composted, or used for energy recovery, their plant-based nature guarantees minimal environmental impact.
- 100% plant-based and 100% non-GMO.

Additional comments

- For the product itself it is TRL 9 (full commercial deployment) - it means the possibility to produce blown PLA bottles, PLA bottles with water and PLA preforms and biobased caps. As for the production (bottling) unit – the Solution Owner is at stage 4 (technology validated in a lab).
- The data are estimates because these products are not currently manufactured with these dimensions.
- Better to not expose directly to sun as it starts to deform at 60ºC-65ºC.

SCAN FOR BIO-BASED SOLUTIONS PORTFOLIO OF ALL SOLUTIONS

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