

Xylitol



Xylitol is a naturally occurring five-carbon sugar alcohol, appears as a white crystalline carbohydrate. It naturally exists in fruits and vegetables and is also artificially produced from xylan-rich plant materials. One piece of Xylitol gum typically contains 1.06 grams of Xylitol. Extensively researched and globally recognized, Xylitol is FDA-approved as a natural sweetener (Nayak, 2014).

Mechanism of Action

Xylitol lowers mutans streptococci levels in plaque and saliva by disrupting their energy production, causing cell death. It also prevents them from sticking to teeth and reduces their acid production (Nayak, 2014).



Photo by unknown author by Walmart



Photo by unknown author by Target

Instructions For Use

Gums and mints: should be used 3-5 times daily, for a total intake of 5 grams

- Gum chewed for approximately 5 min and mints should be allowed to dissolve (cda, n.d.)

Toothpaste: brush your teeth 2x/daily for 2 minutes

Mouth wash: swish for 30-60 seconds and spit solution out in the sink

Recommended Use

- Reducing risk for dental caries and contributing to the reversal of cavity formation.
 - Limits carbohydrate intake.
 - Dry mouth relief.
- (Warner, 2024)



Photo by unknown author by Walmart

Contraindications

People with heart disease, have had a stroke, or other blood clotting disorders should avoid Xylitol because of its ability to speed up platelets clotting process.

Patients with IBS should also avoid these products because it increases osmotic pressure causing gas and bloating, and can lead to diarrhea in large amounts.



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Product & Average Cost

Located at convenience shop (Walmart, Target, etc) or pharmaceutical for OTC

- Pure Xylitol: \$6~\$12 per pound
- Xylitol mints: \$7~\$25
- Xylitol gum: \$5~\$12
- Xylitol toothpaste: \$6~\$8
- Xylitol mouthwash: \$7~\$12

Is it ADA Approved?



Yes, the ADA approves xylitol as a sweetener in sugar-free gum. All gums with the ADA Seal are sweetened by non-cavity-causing sweetness. Chewing sugar-free gum has been shown to increase saliva flow, which reduces plaque acid and strengthens teeth and reduce tooth decay (ADA, 2023).

References:

- Nayak, P. A., Nayak, U. A., & Khandelwal, V. (2014). *The effect of xylitol on dental caries and oral flora*. Clinical, cosmetic and investigational dentistry, 6, 89–94. <https://doi.org/10.2147/CCIDE.S55761>
- Research Services and Scientific Information, ADA Library & Archives. (2023, May 4). *Chewing gum*. American Dental Association. <https://www.ada.org/resources/ada-library/oral-health-topics/chewing-gum>
- Warner, L. (2024, September 4). Xylitol: *What to know about this popular sugar substitute*. Harvard Health. <https://www.health.harvard.edu/nutrition/xylitol-what-to-know-about-this-popular-sugar-substitute#:~:text=Xylitol%20is%20lower%20in%20calories%20and%20carbohydrates%20than%20sugar&text=The%20sugar%20alcohol%20contains%20about,diabetes%20or%20related%20metabolic%20syndromes>
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