# Plastic pollution from chewing gum is a hidden environmental crisis



Thousands of tonnes of plastic pollution may be seeping into the environment each year, and much of it originates from an unexpected source: chewing gum. Most commercial chewing gums are manufactured using a mix of oil-based synthetic rubbers, akin to the materials found in car tyres. This sobering fact, previously unknown to many, raises serious concerns about the implications of our seemingly innocent gum-chewing habits.

For years, the public has remained largely unaware of the composition of chewing gum, which is often vaguely labelled as “gum base” on ingredient lists. This lack of transparency masks the reality that chemical analyses reveal these bases contain not only sweeteners and flavourings but also styrene-butadiene — a durable synthetic compound used in tyres — polyethylene, the plastic commonly used in shopping bags, and polyvinyl acetate, a component often found in wood glue.

The scale of the chewing gum industry is significant, with projections estimating its worth at around US$48.68 billion (£37.7 billion) by 2025. Research indicates that three companies monopolise 75% of the market, with Wrigley, a major player, capturing an estimated 35%. While the exact production figures are hard to pin down, a peer-reviewed estimate suggests that approximately 1.74 trillion pieces of gum are produced each year globally. Given that the average piece weighs about 1.4 grams, this translates into a staggering 2.436 million tonnes of gum annually, of which over 730,000 tonnes, or 30%, is synthetic gum base.

The environmental ramifications are troubling. Once discarded, chewing gum does not biodegrade, with some estimates suggesting it can take between 50 to 1,000 years to fully decompose. Evidence reveals that discarded gum hardens and breaks down into microplastics, which present a mounting threat to ecosystems. Cleaning up this type of pollution is laborious and costly, with UK councils reportedly spending around £7 million annually to remove gum from public spaces.

While there have been initiatives aimed at addressing the gum pollution crisis, their effectiveness is questionable. In the UK, the environmental charity Keep Britain Tidy launched a task force to clean up historical gum stains in collaboration with major manufacturers. This initiative reflects a partial approach to an extensive issue, treating symptoms rather than tackling the root cause of gum pollution. Critics argue that corporate contributions to clean-up efforts do not address the broader problems associated with gum consumption and production. This has led some environmental advocates to emphasise the necessity of redefining the terminology used in discussions about gum disposal, insisting on the importance of viewing chewing gum as a form of plastic pollution rather than mere littering.

The distinction between litter and pollution critically shifts accountability from consumers to producers. By reclassifying this issue, responsibility lies with manufacturers who must be urged to redesign their products with environmental sustainability in mind. This aligns with the broader plastic pollution dialogue that stresses the importance of strategies such as reduction, reuse, recycling, and redesign.

Moreover, recent studies reveal that chewing gum itself carries health implications. Research shows that gum can shed microplastics into saliva, with one gram of gum releasing around 100 microplastics, thus raising concerns about the potential ingestion of these particles through regular consumption. As the understanding of these issues grows, it becomes increasingly imperative for both consumers and manufacturers to consider the environmental and health risks associated with chewing gum.

Efforts to implement gum recycling initiatives, like those introduced by the Dutch company Gumdrop Ltd, have seen some success, but the challenge remains to foster a culture of responsible consumption and disposal. Ultimately, tackling the plastic problem posed by chewing gum requires collective action and a rethinking of how we interact with products that, despite their appeal, contribute significantly to the pollution crisis we face today.

### Reference Map

1. Paragraph 1: (1)
2. Paragraph 2: (1), (2)
3. Paragraph 3: (1), (3)
4. Paragraph 4: (1), (7)
5. Paragraph 5: (1), (5), (6)
6. Paragraph 6: (1), (4)
7. Paragraph 7: (3), (6)
8. Paragraph 8: (1), (2), (3)

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://dailynews.co.tz/chewing-gum-is-plastic-pollution-not-litter-problem/> - Please view link - unable to able to access data
2. <https://www.theatlantic.com/health/archive/2025/03/ingredient-chewing-gum-plastic/682237/?utm_source=apple_news> - This article discusses the shift from natural substances like chicle to synthetic polymers such as polyethylene, polyvinyl acetate, and styrene-butadiene rubber in chewing gum production. These synthetic materials contribute to gum's chewiness and bubble strength but also lead to microplastic ingestion, raising health concerns. The piece highlights the historical context of gum's evolution and the current health implications of its plastic content.
3. <https://www.plasticsoupfoundation.org/en/news/chewing-gum-is-chewing-plastic> - The article emphasizes that modern chewing gum is primarily made from synthetic rubber, including polyethylene, a common plastic used in various products. It highlights the environmental impact of discarded gum, noting that it contributes to plastic pollution and the accumulation of microplastics in oceans. The piece also mentions the challenges in recycling gum and the need for proper disposal methods.
4. <https://www.wlwt.com/article/chewing-gum-can-shed-microplastics-into-saliva/64289924> - This research reveals that chewing gum releases microplastics into saliva, with 1 gram of gum shedding approximately 100 microplastics. The study found that both synthetic and natural gums predominantly release four types of synthetic polymers, including polyethylene and polystyrene. The findings raise concerns about the health implications of ingesting microplastics through gum consumption.
5. <https://www.conserve-energy-future.com/is-gum-biodegradable.php> - The article explains that chewing gum is non-biodegradable due to its composition of about 80% plastic, including plasticizers and polymers. It takes approximately 50 years for gum to start decomposing and between 500-1000 years for complete disintegration. The piece also discusses the challenges in composting gum and recommends proper disposal methods to mitigate environmental impact.
6. <https://www.greenseas.org/blog/plastics-in-chewing-gum-a-sticky-situation/> - This blog post highlights that modern chewing gum is made from synthetic petroleum derivatives, including butyl rubber, polyethylene, and polyvinyl acetate. These ingredients are often listed under the generic term 'gum base' on labels. The article discusses the environmental impact of gum litter, noting that it contributes to plastic pollution and is non-biodegradable, leading to microplastic accumulation in oceans.
7. <https://www.fastcompany.com/91300137/chewing-gum-contributes-to-plastic-pollution> - The article discusses the environmental impact of chewing gum, noting that synthetic gum does not biodegrade and can persist in the environment for many years. It highlights the labor-intensive and costly process of cleaning up gum pollution, with estimates suggesting that the annual cleanup cost for councils in the UK is around £7 million. The piece also mentions efforts to address the problem, such as installing gum collection pots and promoting responsible disposal.