

Recycling Plastic Clamshells and Bottles, the Same but Different

By [Earth911](#)

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You've probably seen the #1 [plastic resin code](#) on various plastic containers when you're sorting your recycling. Those containers are made of polyethylene terephthalate (PET), also known as polyester. Because PET is strong, lightweight, and easily molded, it is a [popular material for packaging](#) a wide range of foods and consumer goods.

PET is one of the most recyclable plastics. It's likely that your local recycling program accepts plastic #1 bottles and jugs. However, it may not accept plastic #1 clamshells, tubs, trays, or lids.

But if [plastic #1](#) bottles and clamshells are both made of PET, why wouldn't your local recycler also accept clamshells?

Same Plastic, Different Manufacturing Process

Manufacturers use different processes to produce different types of PET containers. They make clamshells using a process

called **thermoforming**, and bottles and jugs through a process called **blow molding**. These distinct processes result in PET products of different grades, each with specific uses.

PET is 100% recyclable no matter what grade it is. But the PET thermoform containers pose various recycling challenges.



PET Clamshell Recycling Challenges

A 2016 article by the National Association for PET Container Resources (NAPCOR) identified **key issues with recycling PET thermoform containers** such as plastic clamshells. These containers often have labels with strong adhesives that are difficult to remove. They produce more fine particles when processed and have a **different bulk density** than PET bottles. This makes it difficult to process clamshells and bottles together.

When plastic clamshells are processed at **material recovery facilities (MRFs)**, operators and sorting equipment have a hard time differentiating the clamshells from other similarly shaped containers made of different plastics — and from the more desirable PET bottles. So, when the final PET bales are created to be shipped for processing, they are “contaminated” with the plastic clamshells.

The MRFs want to produce the purest bales of a given material to get the best market rate. In the case of plastic #1, those bales would include only bottles and jugs.

The recycling facilities lose money by dealing with lesser quality PET plastic when clamshells are mixed in with bottles and jugs. As a result, many recycling programs and MRFs won't accept clamshells for recycling, even though they are made of recyclable PET plastic.

What You Can Do

If your local recycling program does not accept plastic clamshells, please be sure to keep them out of your recycling bin. But don't throw them out — they are recyclable. In fact, NAPCOR reported that [more than 100 million pounds](#) of PET thermoform material were recycled in the U.S. in 2018.

To find a local recycling solution for plastic clamshells, enter your ZIP code in this [Earth911 Recycling Search](#). If there are no recycling solutions near you, avoid purchasing products with plastic clamshell packaging. Also, consider contacting the manufacturer or producer. Tell them about your concerns and let them know you will purchase their product again when they switch to a type of packaging you don't have to throw in the trash. As a consumer, [you can help influence businesses](#) to change.

About the Author

Derek McKee is an R&D chemist in the coatings industry. Because of his background, he really likes to educate others about personal safety and environmental protection. Writing lets him reach more people than the ones in his company.

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