

NORTHEAST DAIRY

The Official Publication of the Northeast Dairy Foods Association, Inc.

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Food Safety

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Excuse Me, but What Is THAT in my Ice Cream?

BY CAROLINE K. REFF

Ice cream is a tasty summertime tradition in the Northeast, as friends and families gather at scoop shops for everything from classic chocolate and vanilla to more adventurous mocha almond chip or moose tracks. To the average consumer, the most dangerous thing about ice cream is a hot day that melts the delicious treat faster than one can eat it. However, if you work for an ice cream manufacturer or in a scoop shop, you know that there can be real danger lurking in a tub of bulk ice cream.

Many scoop shops use some form of a standard 3-gallon tub made of paperboard with a metal ring at the top and bottom that has been in use for a century. Unfortunately, this metal ring poses a real risk for injury, like cuts and scrapes, during the fabrication, manufacturing and scooping process.

The earliest bulk ice cream containers were made entirely of metal, until a fiber-based drum supported on both ends by metal rings was introduced in the 1930s. This innovation, first commercialized by Sealright, reduced weight

without sacrificing the strength of the containers, but it had its drawback — razor sharp edges around the metal rings! Amazingly, many ice cream manufacturers and scoop shops are still using this type of container, when a number of packaging companies offer non-metal alternatives made of fiberboard and plastic.

CUTS AND SCRAPES HAPPEN

Unfortunately, cuts and scrapes are a reality at both the manufacturing and the scooping ends of ice cream. Most injuries involving metal rings happen when fabrication, stocking, storing, manually handling or scooping from the containers. Employees on the manufacturing floor often injure themselves while fabricating bulk containers. Loading fabricating machines with razor-sharp metal strips used to form the metal rings is especially dangerous, and even the slightest miscalculation or malfunction can result in a scrape or even more serious cut to hands and arms.

The dangers don't stop there. While not a regular occurrence, it is possible for metal shavings from the rings or even a nut or bolt from the machinery to drop into the ice

cream during packing. Most food manufacturers use metal detectors to scan for such objects, but this technology is of no use when ice cream is packaged in metal-based containers.

Finally, the metal rings are a significant danger at the scoop shop. Employees must handle the containers, as well as reach in and out of them hundreds of times each day to scoop ice cream for customers. Many scoop shop employees will tell you that cuts and scrapes from the sharp edges of the metal rings are a common occurrence, which can result in both injury and waste of an entire tub of ice cream that must be disposed of in case of contamination from blood-borne pathogens. Worst yet is the possibility, though slight, that undetected drops of blood contaminate the product that then goes on to the customer's ice cream cone! Scoop shop employees are also at risk of scrapes and cuts to legs and

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feet, as they typically step on the empty containers to make more room in the trash.

No one wants an employee to suffer even the most minor scrape, no less a serious injury, and certainly no consumer wants to find a metal shard or think about the possibility of blood in his or her ice cream. Yet, some manufacturers and scoop shop owners still have not made the switch to safer alternatives.

FINDING A SOLUTION

The risk of the metal ring is nothing new. D. Thomas + Associates, a Kansas City, Missouri, company that provides packaging solutions for the food industry, developed the first plant forming system to replace metal ring canisters in 2005. At the time, there were few, if any, non-metal options. Partner Tim Layton remembers visiting various high profile ice cream shops and noticing the metal bands on the containers sticking up. He'd typically ask employees if they were ever cut, and many said it was simply a hazard of the job. D. Thomas + Associates decided it shouldn't have to be, and the company began working with engineers and others

in the ice cream industry to design a system to fabricate metal-free containers on site that were also durable enough to preserve the ice cream and light enough to economical transport the ice cream to customers. By 2005, D. Thomas + Associates introduced a non-metal bulk packaging solution, called NMC3.

A report from insurance provider Lockton Companies, LLC, and initiated by D. Thomas + Associates in 2006 said the "NMC3 paperboard container and the machinery to fabricate them are product innovations. They can help control costs through enhanced product safety and quality, as well as reduce worker and vendor injuries."

Shortly after D. Thomas + Associates debuted its concept, Weidenhammer New Packaging, LLC, introduced a similar paper/plastic ring in 2008 that represented a more optimum combination of materials and machine. This product offered a water tight seal design, simple modern forming machine technology and excellent lid fit performance. In 2011, D. Thomas + Associates joined forces with Weidenhammer. "We knew we needed a partner to help us take this to the next level," said Layton.

Since then, Weidenhammer has been a driving force behind the switch to non-metal ring bulk ice cream containers. Over the past few years, the company has made a number of public statements illustrating the need to eliminate the risk of metal ring-style bulk drum packaging from the market and continues to make it its mission to inform the industry, customers and the public about this danger and how easily it can be eliminated, according to Glenn Emory, general manager, North America, Weidenhammer New Packaging, LLC.

Emory acknowledges that the company certainly sees a profit to be made from this product, but he is always adamant that this is not the primary goal. “We understand that there are other packaging companies out there offering similar solutions, and we applaud that,” he said. “Our main priority is safety. For those who work on the manufacturing end to the employees and customers at the scoop shop, Weidenhammer is convinced that there remains zero justification for the continued existence of metal ring packaging in the ice cream industry.”

The industry is catching on, according to Emory, who reported that Weidenhammer has achieved sales of roughly 25 percent of the bulk ice cream market and continues to grow in the double-digit level each year. Many ice cream manufacturers, including Northeast Dairy Foods Association members **HP Hood**, **Turkey Hill** and **Cornell University**, have made the decision to eliminate metal components in their bulk ice cream containers. Some companies, particularly smaller ones that don’t use in-plant forming options, have opted for plastic pails and/or folding cartons as a more affordable and safer option.

“Change can be challenging, yet these members and industry pioneers have already blazed the trail by welcoming innovation and product improvement in bulk ice cream packaging. They’ve reassessed their go-to-market strategies, reviewed in-plant material flow, production processes and the impact through to the scoop shop,” Emory explained. “Companies are realizing that metal components in packaging provide zero advantage, but metal-free packaging offers many, including

enhanced worker safety, a wider material selection to support the brand and less product waste. Working together, we, as an industry, can raise awareness, incorporate existing solutions and work together to keep employees and consumers safe from harm.”

FOOD EXPERT: CONTINUAL IMPROVEMENT

Scott Rankin, Ph.D., is a professor and chair of the Department of Food Science at the College of Agricultural & Life Sciences at the University of Wisconsin-Madison. Rankin is a known expert on the risks of food contamination and the damage that can ensue. In fact, after hearing about the metal ring-free packaging options, the University of Wisconsin’s Babcock Hall Dairy adopted the design to make the change to non-metal bulk containers.

“For us, the plastic closure system represents an improved design,” said Rankin. “There are many concerns related to the potential for a metal closure to pose a physical hazard, including the final manufacture of the container itself and its handling at the retail level. The manufacturing industry



is continually seeking ways to improve the safety of food products and packaging. As a result, packaging manufacturers seek and employ improved methods and materials for product functionality and safety. Metal packaging materials and closures have their place, such as in canned foods, but other packaging systems can utilize alternate materials that improve functionality, handling, manufacturing, sustainability and of course food safety.”

Rankin acknowledges that the risk of bloodborne pathogens ending up in someone’s ice cream cone is slight, but he explained that there are still hazards associated with metal rings that can cause physical injury to employees or result in metal accidentally entering the product during manufacturing or serving.

“From our perspective, the plastic design is an improvement,” he stated. “Although there’s no specific regulatory standard on this, there certainly are practical improvements involving package integrity, handling performance and overall safety. Our dairy switched over to a plastic closure design for these reasons.”



THRIFTY ICE CREAM LEADS THE WAY IN SAFER SOLUTIONS

Scott Becsi remembers the days when as a young child he would ride his Schwinn bicycle to the local Thrifty Drug Store to peer over the ice cream counter and make his choice from among all the delicious flavors. At the time, a single scoop was a nickel, a double scoop a dime and a triple scoop just 15 cents.

“I must have been destined to be a very cost-conscious person because I quickly figured out that purchasing two 5 cent singles was a better deal than one 10 cent double because I was getting two cones!” he said.

Today, Becsi’s love for ice cream remains as strong as ever as the general manager of Thrifty Ice Cream, a popular brand

that has been well known on the West Coast for 80 years. The company is wholly owned by Rite Aid Pharmacies, which has approximately 700 locations in Southern California that dip Thrifty Ice Cream out of canisters that do not have metal components. The company instituted the non-metal technology in 2005 — longer than any other major ice cream manufacturer in the U.S., according to Becsi.

After three decades in the ice cream business, Becsi has seen ice cream bulk packaging evolve from the handling of dangerous metal rings to today’s plastic ring options. He acknowledges that the use of plastic closed a huge safety gap for his employees and product.

“Before we made the switch, we would take workers’ compensation claims from operators making the containers at least once a month,” he said. “At the ice cream shops, we would also get complaints and sometimes actual claims from employees scooping from and disposing of the metal ring containers. That’s why we made the move to something that was scannable during manufacturing and much safer to handle at every point in our process.”

Thrifty partnered with Weidenhammer New Packaging, LLC, for a better solution and has never looked back. Becsi considers this change as a “way of protecting the value of your brand.”

“Good news travels fast, but bad news travels at the speed of light,” he said, noting that this has become an even greater concern in the age of social media. “We’re always trying to make things better. Even though it may be a bit of an investment in the short run, in the long run, these kind of improvements and safety precautions are better for our employees, our consumers and our brand.”

Becsi has a hard time understanding why every ice cream manufacturer hasn’t made the switch. “I guess it’s the human condition to think change equals conflict,” he said. “People like routine. They have been trained to do things in a certain way. It is difficult to adjust when you’ve been doing something the same way for 40 years, so why change now? In the end, those are really not good arguments from my perspective.”

Becsi is proud of Thrifty Ice Cream and the idea that it is as popular today as it was when he was a boy, and he is committed to keeping that reputation growing strong. “Our parent company, Rite Aid, is a Fortune 500 company, and that enables us to set an example for others,” he said. “Thrifty Ice Cream has the ability to be a leader in the industry because of our size and scope, and we intend to continue to share our best practices in the hopes that others may follow.”

Caroline K. Reff is the editor of *Northeast Dairy*.

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7410-C Stadium Drive,
Kansas City, MO 64129

info@weidenhammer.us
+1 816 924 7069

