

MICROBEADS

WHAT ARE MICROBEADS?

Microbeads are polyethylene microspheres that are widely used in cosmetics, skin care and personal care industries, as well as biomedical and health science research, microscopy techniques, fluid visualization and fluid flow analysis, and process troubleshooting.^[1] They are commercially available in particle sizes from 10 um to 1000 um (1mm) [4/10,000 to 4/100 of an inch]. Low melting temperature and fast phase transitions make this material especially suitable for creating porous structures in ceramics and other materials.

In the cosmetics industry they are usually used as exfoliating agents. Sphericity and particle size uniformity create a ball-bearing effect in creams and lotions, resulting in a silky texture and spreadability. Exceptional smoothness and roundness also provides lubrication during application. Microspheres in different colors add visual appeal to cosmetic products.^[2] Plastic particle water pollution by microplastics including plastic microbeads has become a substantial environmental concern.

Source: Wikipedia

ISSUES

beatthemicrobead.org is an organization that identifies some of the issues with the use of microbeads in cleansing and cosmetic products. Some of the issues they raise are:

- Microbeads are used in hundreds of personal care products (including toothpaste, shaving cream, shower gel and exfoliating scrubs);
- A single product may contain thousands of microbeads;
- Microbeads could constitute up to 10% by volume of a single product;
- Sewage treatment facilities are not designed to filter these tiny microbeads from wastewater so some microbeads will still be present in effluent water leaving the treatment plant;
- Microbeads are found throughout the marine environment (from Lake Geneva to the North Pole);
- Microbeads will not biodegrade;
- They are ingested by various sea species;
- They can end up in the food chain;
- They attract persistent organic toxins (POPs);
- Natural, biodegradable and effective alternative ingredients such as ground nut shells and salt crystals are readily available.

Source: <http://beatthemicrobead.org/en/history>

beatthemicrobead.org maintains lists of companies that use microbeads in their products and companies that have phased out their use, or are committed to doing so.

They also have a downloadable smartphone app that can be used to scan a product code to determine if it contains microbeads. The app can be downloaded from <http://get.beatthemicrobead.org/>.

In a *To Your Health* column dated September 18, 2014 in the *Washington Post* by Abby Phillip, she writes:

The tiny plastic beads found in many popular toothpaste brands are approved by regulators, but dentists are becoming increasingly alarmed that the beads could cause more dental hygiene problems than they solve.

Polyethylene plastic beads became all the rage in personal care products -- including toothpastes, face washes and body scrubs -- a few years ago. And the Food and Drug Administration says they're safe.

But the beads do not disintegrate and are not biodegradable, and dentists are concerned that they're getting stuck in the tiny crevices between the teeth and gums.

"They'll trap bacteria in the gums which leads to gingivitis, and over time that infection moves from the gum into the bone that holds your teeth, and that becomes periodontal disease," dentist Justin Phillip said, according to Phoenix ABC affiliate KNXV. "Periodontal disease is scary."

The beads are similar to the slightly larger exfoliating beads the Illinois legislature banned this year because the products can't be sifted out of the water supply and can end up in large bodies of water, where they can harm marine life.

But that same substance is in widespread use in toothpaste products, including a variety of Crest products such as Crest 3D White and Crest Pro-Health. And according to Crest, the product is really used only to provide color to toothpaste.

LEGISLATIVE BANS

Illinois passed the first state law banning the use of microbeads. California, Minnesota, New York and Ohio have bills before their legislatures. A bill has also been introduced in Congress.

WHAT CAN WE DO IN POUND RIDGE?

Legislatively, it's doubtful that anything can be done in Pound Ridge. A ban on the use of products with microbeads would be unenforceable. A ban on their sale could be contested as interfering in commerce, a task better left to the state.

We can let people know about the risks to their own health and to the environment, and we could promote the use of the *beatthemicrobead.org* app. By posting information on the

town's website, we could also write a 100-word piece for the *Record-Review*.