

TURI Grants

Each year, TURI provides grants to industry, small businesses, academic researchers, community organizations, and municipalities to support efforts to reduce the use of toxic chemicals. The annual cycle is based on TURI's fiscal year that runs from July through June. Typically, grant applications are available in April and decisions are made in August for the current fiscal year. **We encourage anyone interested in pursuing a grant to talk to us at any time.** We can help shape your idea and recommend partners to strengthen your application.

Small Business Grants provide funding to qualified small businesses in Massachusetts to change processes or replace toxic chemicals with safer alternatives.

Contact Joy Onasch, joy@turi.org or 978-934-4343.

Academic Research Grants provide seed funding to UMass faculty and graduate students to conduct research intended to help Massachusetts companies develop solutions for some of the more challenging uses of toxic chemicals.

Contact Greg Morose, greg@turi.org or 978-934-2954.

Industry Grants provide funding to qualified Massachusetts manufacturers to implement process modification or modernization opportunities for toxics use reduction.

Contact Joy Onasch, joy@turi.org or 978-934-4343.

Community Grants are available for community organizations and municipal departments to create and promote healthier communities by raising awareness and educating people about safer alternatives to toxics.

Contact Felice Kincannon, felicek@turi.org or 978-934-3346.

TURI Grant Projects – Fiscal Year 2019

Small Business Grantees

Absolute Gymnastics (in Tyngsboro), All Around Gymnastics (in Plainville), Black & Gold Gymnastics (in Middleton), Gymnastic Academy of Boston-Norwood, and Kaleidoscope of Dance and Gymnastics (in Wareham) replaced foam pit cubes containing flame retardants with cubes not containing flame retardants. Flame retardants are endocrine disruptors and can affect hormonal development.

The Auto Technology Program at Assabet Valley Regional Technical High School (in Marlboro) replaced toxics that are currently used to clean vehicle parts. The project team purchased bio-based part washing systems to reduce chemical exposures for high school students and

their instructors and teach them environmentally-friendly practices. The project team reduced the use of perchloroethylene (a known human carcinogen listed as a Higher Hazard Substance in Massachusetts) and other solvents by 92 gallons per year and will save the school over \$3,000 annually.

Dory Cleaners (in Swampscott) converted their dry cleaning shop from using perchloroethylene to professional wet cleaning technology. This safer alternative allows the small businesses to clean “dry-clean-only” clothes with water and detergents in computer-controlled machines. Workers then use tensioning and pressing equipment to achieve high-quality results.

Academic Research Grantees

Professor Ram Nagarajan of the Department of Plastics Engineering at UMass Lowell partnered with **Bradford Industries (in Lowell)** for a second year to find and evaluate safer solvent blends to replace the use of the toxic solvent dimethylformamide (DMF). In the first phase of the project, the research team identified combinations of safer and effective solvents that dissolve the target polymer used by the company. The second phase tested the relative ratios of solvents in the mixtures to meet the company's performance and cost requirements.

Assistant Professor James Reuther of the Chemistry Department at UMass Lowell aims to find a safer and more effective nail polish remover for methacrylate-based gel nail polish. Gel nails are popular with customers due to a harder surface that reduces chipping and extends nail polish life. However, the removal of the polish requires application of acetone remover for up to 15 minutes. Acetone can cause serious eye irritation, drowsiness and dizziness; chronic exposure to acetone-based nail removers may damage the central nervous system and renal system.

Assistant Professor Hsi-Wu Wong of the Department of Chemical Engineering at UMass Lowell partnered with **Waters Corporation (in Milford)** for a second year to continue identifying and testing the performance of safer

solvents used in liquid chromatography equipment. The new formulations will replace the harmful solvents currently in use, including methanol, acetonitrile and tetrahydrofuran.

Industry Grantees

Kettle Cuisine (in Lynn), a maker of small-batch, all natural soups for restaurants, food-service operators and grocery retailers, continued its work with UMass Lowell's Food Safety Lab to reduce the use of sodium hydroxide. Sodium hydroxide, which is used to clean food processing tanks, is corrosive to the eyes, skin and the respiratory tract. Project work determined how the facility could optimize their use of the cleaning chemical (thereby reducing volume) and identified potential alternatives.

used in a vapor degreaser. The company purchased a water-based cleaning system that is expected to eliminate 3,300 pounds of TCE use per year. By not using TCE, the company expects to save \$10,000 per year, improve worker health and safety and reduce regulatory obligations.

Morgan Advanced Materials (in New Bedford), a manufacturer of ceramic feedthroughs for the medical and aerospace industries, eliminated trichloroethylene (TCE)

MSI Transducers Corp. (in Littleton) is a designer and manufacturer of acoustic transducers used for a variety of commercial and defense applications. The company reduced its use of lead and lead waste generated in the manufacturing process by re-engineering five injection molding tools.

Community Grantees

Don't Take That Receipt! (in Holyoke), a public health and environmental justice group of youth and adults, built upon a previous project that included the creation of an educational video about exposure to bisphenol A (BPA) and bisphenol S (BPS) from store receipts. View the video at www.bpa-free.me. The next phase of the project included communicating the dangers of BPA and BPS through personal exchanges and social media. The team reached out to stores in and around the low-income community of Holyoke and other towns in western Massachusetts, focusing on retailers, workers and consumers.

Lawrence Fire Department integrated toxics use reduction awareness into their fire safety visits to all 103 auto body and car repair shops in the city. During the visits, the fire prevention team conducted an initial safety assessment, provided owners with a list of safety concerns to work on and encouraged owners to use safer products. Products that contain toxic chemicals include wheel washes, spray gun washers, brake cleaners, degreasers and lead wheel weights. They also piloted a safer paint gun washing system. Annual inspections will encourage toxics use reduction and safer product trials.

The Field Fund, Inc. (in Martha's Vineyard) works to preserve and maintain Martha's Vineyard's playing fields using an organic, systems-based approach. The project team is sharing their success with other communities who are evaluating whether to invest in natural grass or artificial playing fields. The team created a video, web site and fact sheets for documenting that thoughtfully maintained, natural grass is a durable, safe, economical playing surface that is also beneficial to children and the environment.

Worcester Public Schools worked to make school buildings safer for students, teachers and tradesmen. The project team identified safer alternatives that tradesmen use to maintain the buildings. Products containing toxics include adhesive removers, caulking, lubricants, rust removers, and boiler additives. The project team also identified safer products for maintaining school buses, such as degreasers, lubricants, oils and coolants. They are sharing the information with facility managers and vocational teachers across the state.