UMass Lowell researchers have developed a paint-stripping solvent that they say provides a safer alternative to the toxic, potentially deadly products currently on the market.

A team led by Toxics Use Reduction Institute (TURI) research manager Greg Morose, which included public health, chemistry and engineering students, developed a new paint remover that performs as well as products that contain the toxic chemical methylene chloride.

The dangers of methylene chloride are widely documented. At least 14 workers have died since 2000 while using products containing the compound to refinish bathtubs, according to the National Institute of Occupational Safety and Health (NIOSH). The vapors from methylene chloride can stop breathing and trigger heart attacks in less than one hour, according to public health officials.

“These deaths are preventable,” says Prof. Emeritus of Public Health and TURI Director Michael Ellenbecker. “Methylene chloride is one of the most toxic and dangerous chemicals that anyone is using today.”

Dust masks and cartridge respirators sold in home improvement stores don’t adequately protect workers or consumers from methylene chloride fumes. Only a full-face respirator with a separate air supply or exhaust ventilation to remove the fumes are sufficient, according to NIOSH.

Through careful selection, testing and toxicity research, the TURI research team identified three existing safer chemicals that, when combined in a certain ratio, remove most paint coatings within 20 minutes, comparable to the time it takes for products with methylene chloride.

The university, which funded the research along with TURI and the U.S. Environmental Protection Agency, recently applied for a patent for the paint-stripping solution and is seeking companies interested in licensing it.

“We hope to partner soon with a company to get this new formulation onto store shelves,” Morose says. He stresses that all paint-stripping products need to be used carefully.

The work of UMass Lowell’s researchers caught the attention of CBS News correspondent Anna Werner, who is producing a series about the dangers of methylene chloride. She visited campus in December to interview Ellenbecker and Morose. The segment aired in January on “CBS This Morning.”
UMass Lowell is a national and regional leader in online education, according to new rankings from U.S. News & World Report.

UMass Lowell’s online graduate programs in education, information technology and criminal justice are ranked in the top 15 in the nation.

The university’s online bachelor’s degrees were ranked No. 3 in New England and No. 22 of more than 200 public and private programs ranked nationwide, up more than 30 spots over last year.

“These rankings are the latest validation of the superior educational opportunities UMass Lowell online students across the country experience every day,” said Chancellor Jacquie Moloney, who founded UMass Lowell’s online program more than 20 years ago.

Among the high rankings are the College of Education’s graduate programs, which are No. 8 in the nation and No. 1 in Massachusetts and New England.

The university’s graduate degree in information technology is ranked No. 13 in the nation and, among public programs, is No. 1 in New England.

At No. 14 in the nation, UMass Lowell’s online graduate programs in criminal justice and criminology are top-ranked among those offered by public institutions in New England and Massachusetts. The university’s online programs in the Manning School of Business also ranked highly. Graduate degrees in accounting and finance were the top-ranked public programs in Massachusetts, No. 3 in New England and No. 30 in the nation.

The university’s online graduate degrees in engineering are ranked in the top 100 in the U.S. and the highest of any public program in Massachusetts.

UMass Lowell’s online programs are national leaders in key metrics including quality and affordability, according to the latest U.S. News & World Report ranking.

New Scholarship Benefits Children, Grandchildren of Alumni

Available Fall 2018 for Incoming Freshmen and Transfer Students Who Live Out of State

UMass Lowell attracts talented students from all 50 states and more than 80 countries around the world. They’re drawn to the university for the chance to get an exceptional education at an affordable price. For students who live outside of Massachusetts and are the children or grandchildren of alumni, that education just became even more affordable.

Beginning in fall 2018, the university will offer Legacy Scholarships, an annual award of up to $10,000 to incoming freshmen and transfer students who live out of state and are the children or grandchildren of UML graduates. The scholarship is renewable for eight continuous semesters for full-time students who maintain good academic standing.

“The Legacy Scholarship is our way of recognizing alumni who contribute so much to the life of our school, and it helps us expand our proud River Hawk family,” says John Feudo, vice chancellor for advancement. “It means that legacy students from outside Massachusetts will be able to attend UML at close to our in-state rate.”

For more information about the Legacy Scholarship or to download an application, visit www.uml.edu/legacy. Applications for incoming freshmen must be received by March 1; applications for incoming transfer students are due by June 1.

The new Legacy Scholarship will provide up to $10,000 to students who live out of state and are the children or grandchildren of alumni, enabling them to enroll at UML for close to in-state rates.
No Winter Break for Campus Renovations

Engineering and Sciences Facilities Get Overhauled

Facilities Management steamed ahead over winter break on several big projects across campus.

Major renovation work continued at Perry and Pasteur halls, where the university is creating state-of-the-art labs and new administrative offices for the Francis College of Engineering and the Kennedy College of Sciences. The $53 million Perry Hall renovation, which is on track to be completed by early 2019, includes a new main entrance, building upgrades and the addition of a fourth floor. The $15 million Pasteur Hall renovation, which is creating all-new second, third and fourth floors, is slated to be completed this fall.

The Cumnock Hall auditorium has temporarily closed so that construction can begin on the new Cumnock Marketplace. The $5 million project will create a place where students can get a bite to eat and spend time between classes; it is scheduled to open in the fall.

Work was completed on the Aiken Fields on East Campus. The $6 million complex, which features two new turf recreational fields and two tennis courts, will open in the spring.

The New England Robotics Validation and Experimentation (NERVE) Center moved to its new home at the Innovation Hub, located at 110 Canal St. in downtown Lowell. Staff members at the Toxic Use Reduction Institute (TURI) set up a new research lab after moving to the Offices at Boot Mills in downtown Lowell. TURI has leased space on the second floor of the Offices at Boot Mills West. The new 10,000-square-foot location includes a wet lab, microbiology lab, demonstration lab and analytic lab.

University Partners with Tech Innovator for Job Training, Research

State Grant Funds

Workforce Training

UMass Lowell’s partnership with technology innovator E Ink Corp. has expanded beyond student co-op jobs and internships.

A leader in the global e-paper market, E Ink is collaborating with the university on a major workforce training program. Funded by a $196,000 state Workforce Training Fund grant, the program was developed by the Division of Online and Continuing Education (OCE). E Ink is also now using the university’s research facilities.

“This is exactly the kind of partnership we want to have with companies, because it touches several key areas throughout the university,” says Catherine Kendrick, dean of OCE.

Over the past several months, UML faculty, many from the Manning School of Business, have been delivering deliver one- and two-day seminars at E Ink’s Billerica campus—covering everything from core professional skills to project management boot camp.

E Ink’s paper-like electronic display technology is widely used in everything from e-readers to traffic signs, electronic price tags and public artwork. The company is considering joining the university’s new Fabric Discovery Center in Lowell’s Hamilton Canal District. The facility will have advanced equipment for prototyping new technologies, including ways of printing electronic ink on fabric for rollable displays and wearable electronics.

During a recent visit to campus, E Ink CEO Frank Ko said he sees the partnership expanding even further, as E Ink will need top-notch chemical and color scientists, engineers and businesspeople. It also has a companywide commitment to sustainability, while UMass Lowell is recognized nationally for its sustainability efforts.

“We see working with a great university and co-working on the research side as very helpful,” he said.

Meanwhile, UMass Lowell is becoming a pipeline for future E Ink employees. The company employs several alumni, and five students did co-ops or internships at E Ink last fall.

Biology Asst. Prof. Jennifer Fish and applied biotechnology major Ralph Saint Louis use a stereo microscope to look for developmental defects in a vertebrate specimen.

Research Supported by the National Institutes of Health

Deformities of the head and facial bones, such as cleft lip or cleft palate, are among the most common birth defects, affecting about 1 in 500 births in developed countries. Children born with these craniofacial anomalies, or CFAs, often suffer from speech and dental problems and may be at greater risk for learning, developmental or social challenges.

Diagnosing and treating CFAs is complicated by variation in the severity of the defects. Researchers widely recognize that genetic mutations can lead to the development of CFAs, but it is still unknown what mechanisms contribute to this variation.

Asst. Prof. Jennifer L. Fish of the Department of Biological Sciences is spearheading a project to understand the molecular mechanisms responsible in patients who have mutations in the gene called SATB2. Her research, which is funded by a three-year, $366,000 grant from the National Institutes of Health (NIH), will study how mutations in SATB2 cause defects, specifically in the growth of the lower jaw, and why these defects vary from individual to individual.

Fish is collaborating with Yuri Zarate, M.D., of the Arkansas Children’s Hospital in Little Rock.

Their goal is to improve understanding of how SATB2 is involved in jaw growth. “We can potentially help mediate progressive defects as the child ages and the jaw grows,” says Fish.
Celebration Recognizes Arena’s Role in City’s Economic Revival

University and elected officials and other supporters gathered in late January to celebrate the 20th anniversary of the opening of the Tsongas Center at UMass Lowell. At a reception to celebrate the occasion, Chancellor Jacquie Moloney described the building as a catalyst for the ongoing transformation of downtown Lowell.

“There is no doubt that the Tsongas Center symbolizes Lowell’s economic revitalization,” she said. “We have always been proud to partner with the city on this project and on so many other economic development fronts.”

The building is named for the late U.S. Sen. Paul Tsongas, whose vision and determination were driving forces behind the construction of the arena. His widow, U.S. Rep. Niki Tsongas, two of his daughters and grandson were on hand for the celebration.

“He would be so proud,” Tsongas said. The family dropped the puck in a ceremony at center ice before a game between the River Hawks men’s hockey team and Hockey East rival Boston College.

The building opened on Jan. 27, 1998. In 2010, the university acquired the arena from the city for $1 and renamed it the Tsongas Center at UMass Lowell. Since then, the Tsongas Center has welcomed more than 2 million people and has undergone extensive renovations. Now, more than 300,000 people attend events there annually, and UMass Lowell ranks in the top 10 in the nation in NCAA Division I hockey attendance.