

New Program Empowers Next Generation of Scientists with Safer Chemistry Tools

A groundbreaking initiative is bridging the gap between the classroom and the chemical industry.

DURHAM, NC, UNITED STATES, February 10, 2026 /EINPresswire.com/ -- A groundbreaking



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initiative is bridging the gap between the classroom and the chemical industry. [NextGenChem](#), a new educational program launched by [ChemFORWARD](#) and [Beyond Benign](#), is equipping college students with professional-grade tools to design safer products and accelerate the transition to sustainable chemistry.

Backed by corporate leaders, including Google, the program provides free access to the Chemical Hazard Data Trust, managed by ChemFORWARD. The chemical hazard data platform used by global electronics and beauty brands to vet chemicals for human and environmental

impacts.

Bridging the Industry-Academia Gap

While traditional chemistry education often relies on static textbooks, NextGenChem introduces students to the same data-driven decision-making used in the modern workforce. Through a three-unit, open-access learning module, students learn to:

- Review comprehensive human and environmental hazard data.
- Distinguish between hazard, risk, and chemical alternative assessments.
- Identify functional, safer alternatives to avoid "regrettable substitutions".

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Success Story: AI and Green Chemistry at CUNY

The impact of this tool is already being seen in the field. A study published in the Journal of Chemical Education by Dr. Ji Kim at Guttman Community College (CUNY) highlights a unique classroom experiment.

Students were tasked with synthesizing cyclohexene using sustainable catalysts. To find solutions, they leveraged AI chatbots like Gemini, ChatGPT, and Microsoft Copilot to brainstorm greener reagents, then used ChemFORWARD to validate those suggestions against real-world hazard data. The results were practical and innovative: students tested catalysts ranging from Amberlyst-15 to dried orange peels.

"ChemFORWARD brought meaningful, real-world context to education," says Dr. Kim. "It encouraged critical evaluation of AI-generated suggestions rather than passive acceptance."

A Vision for 20,000 Future Scientists

The NextGenChem program is built for scale. Its goals over the next five years include:

- 100 classrooms granted free access every semester.
- 4,000 students reached annually.
- 20,000 future chemists and toxicologists better prepared for the sustainable workforce.

"Chemistry is essential. It makes up the molecular building blocks of the products that we use every day. It's all around us and part of us. We need to ensure that chemists are trained to create those building blocks sustainably," said Amy Cannon, Co-founder and Executive Director of Beyond Benign, "We can do chemistry better and smarter, but only as long as we're given the tools and the training to do so."

Get Involved

For Educators: To bring these real-world tools to your classroom, contact educator@chemforward.org. Modules are also available via the Green Chemistry Teaching and Learning Community (GCTLC).

The banner features a photograph of four students in white lab coats working in a chemistry laboratory. They are gathered around a table with various glassware, including beakers, flasks, and a burette. One student is using a pipette, another is looking through a microscope. In the background, a chalkboard displays chemical structures and formulas. The text 'NextGenChem' is overlaid in the top left. Below the photo, the headline reads 'New Program Empowers Next Generation of Scientists with Safer Chemistry Tools' in yellow and white. A yellow button with the text 'READ MORE' is positioned in the bottom right corner of the banner.

NextGenChem

New Program Empowers Next Generation of Scientists with Safer Chemistry Tools

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New Program Empowers Next Generation of Scientists with Safer Chemistry Tools

For Supporters: Help fund the next generation of sustainable scientists by visiting [NextGenChem.org](https://www.NextGenChem.org).

About ChemFORWARD

ChemFORWARD is a non-profit, science-based organization committed to creating broad access to chemical hazard data, illuminating safer alternatives, and ending toxic chemical exposure. We populate, manage, and maintain the Chemical Hazard Data Trust, a shared repository of comprehensive chemical hazard assessments that are conducted by leading toxicology firms, peer-reviewed by independent toxicologists, and reviewed for validity biannually. This foundational hazard information covers over 220,000 chemicals known to be used in commerce across multiple supply chains and is essential for hazard-first decision-making.

About Beyond Benign

Beyond Benign is a non-profit organization dedicated to Green Chemistry education. Our mission is to empower educators to transform chemistry education for a sustainable future through Green Chemistry. Key Beyond Benign programs include the Green Chemistry Commitment and the Green Chemistry Teaching and Learning Community (GCTLC), designed to support educators and institutions in building capacity and fostering innovation in the field of Green Chemistry. By equipping educators with the tools to teach safe and sustainable chemistry, Beyond Benign is helping shape the next generation of chemists and citizens who prioritize both human and environmental health.

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