American Chemistry Council

CHEMISTRY CREATES AMERICA COMPETES™

ACC MEMBER SURVEY

Impact of Rising Regulations on Chemical Manufacturing & American Priorities

A Message from Chris Jahn, President & CEO of the American Chemistry Council:

This report provides valuable insight into the impact of the tremendous rise in chemical regulations and how they adversely impact national priorities and American manufacturing. The findings are the result of a survey of ACC member companies doing business in the U.S.

The chemical industry supports a vast supply chain and creates economic activity across the country. With $639 billion worth of shipments in 2022, the United States accounts for 11% of the world's total chemical production. American chemistry comprises 1.1% of the U.S. GDP and provides more than half a million jobs, with an average pay of more than $97,000 per year. For every chemistry industry job, more than six jobs are supported elsewhere in the economy.

Chemical manufacturing is also the backbone of products and innovations ranging from computer chips to high-tech automotive parts and electric vehicles. It also helps build smart devices, affordable housing, modern healthcare technology, and climate and energy technologies, all critical components of our supply chain.

Despite tremendous growth in recent years, the United States is second to China in global chemical production. U.S. chemical manufacturers continue to face challenges from persistent inflation, competition overseas, and a dramatic increase in regulations at home.

In fact, chemical manufacturing is the most heavily regulated subsector of manufacturing with the total number of regulations that apply to the industry doubling in the past 20 years. Adding to this growing regulatory burden there are a great number of planned rules targeting chemical manufacturing that will increase compliance costs by 50%.

Some aim to outright ban certain chemistries. Others may regulate important chemicals to levels where manufacturing becomes unviable or impossible. If enacted, these restrictions could have a detrimental impact that extends beyond the chemical industry. They could harm the supply chains for vital technologies, including semiconductors, clean energy solutions like electric vehicles, and many modern healthcare applications.

Not only is there a huge rise in the number of regulations that may negatively impact the chemical industry, but 30 percent fewer regulations are being reviewed by the Office of Management and Budget (OMB) compared to the last Democratic administration. The dramatic increase in the volume of regulations along with a decrease in quality control is a troubling one-two punch for U.S. innovation and manufacturing.

Unless policymakers take a different approach to how they develop and apply regulations, critical chemistries will suffer along with the important products supported by chemistry.

Chris Jahn
President and CEO
American Chemistry Council

Chemistry Contributes to Supporting National Priorities

72% of chemical manufacturers report producing a chemical input used in clean energy. They produce chemicals and synthetic materials used in batteries, hydrogen fuel cells and electrolyzers, wind turbines, solar panels, and carbon capture and sequestration.

62% of chemical manufacturers report producing a chemical input used in infrastructure. They produce chemicals and synthetic materials used in road construction, large infrastructure projects (i.e., bridges, dams), water treatment and distribution, energy-efficient buildings, and EV charging stations.

Health Care

62% of chemical manufacturers report producing a chemical input used in health care. They produce chemicals and synthetic materials used in lifesaving pharmaceuticals and vaccines, medical devices, and implants. They also produce chemistries used in high-purity air cleaning and biocides to improve patient safety.

Semiconductors

52% of chemical manufacturers report producing a chemical input used in making semiconductors. They produce chemicals, gases, and synthetic materials used in the production of semiconductors used throughout the modern economy. Advanced manufacturing of semiconductors includes multiple steps that require chemistry, including the creation of silicon crystals, wafer cutting, and polishing, and chemicals to etch complex circuitry.

Biotechnology/ Biomanufacturing Products

34% of chemical manufacturers report producing a chemical input used in biotechnology/ biomanufacturing products. They produce chemicals and synthetic materials used in vaccines, bio-based materials used across the economy, seed, crop protection, crop nutrition, and animal feed products for the farm sector.

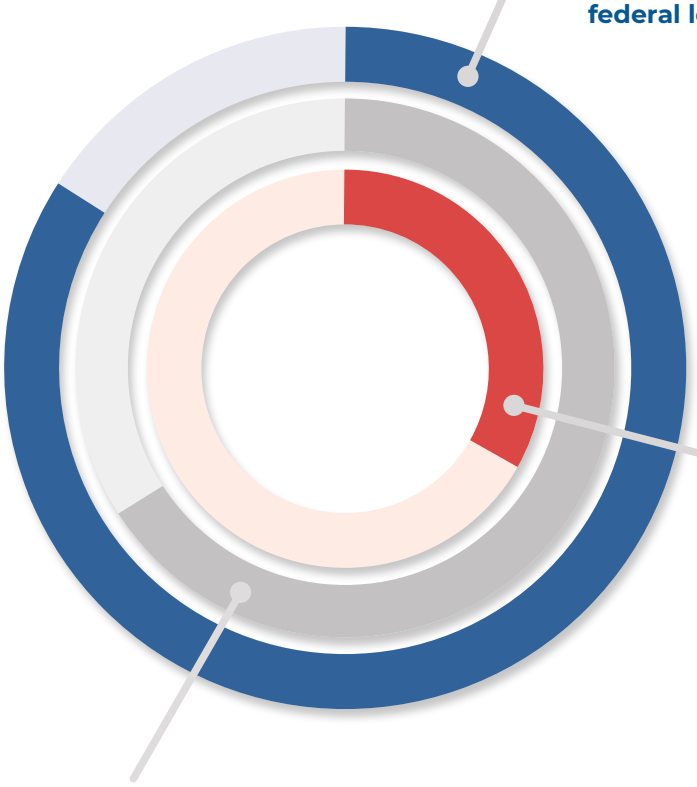
Chemical manufacturers also contribute important products to support National Defense and Transportation.

Growing Regulatory Burden

Most chemical manufacturers report that overall regulatory burden has increased across all levels of government. And they expect the number of regulations to continue to increase over the next year.

NOW

84%
report the level of regulatory burden has increased on the **federal level**



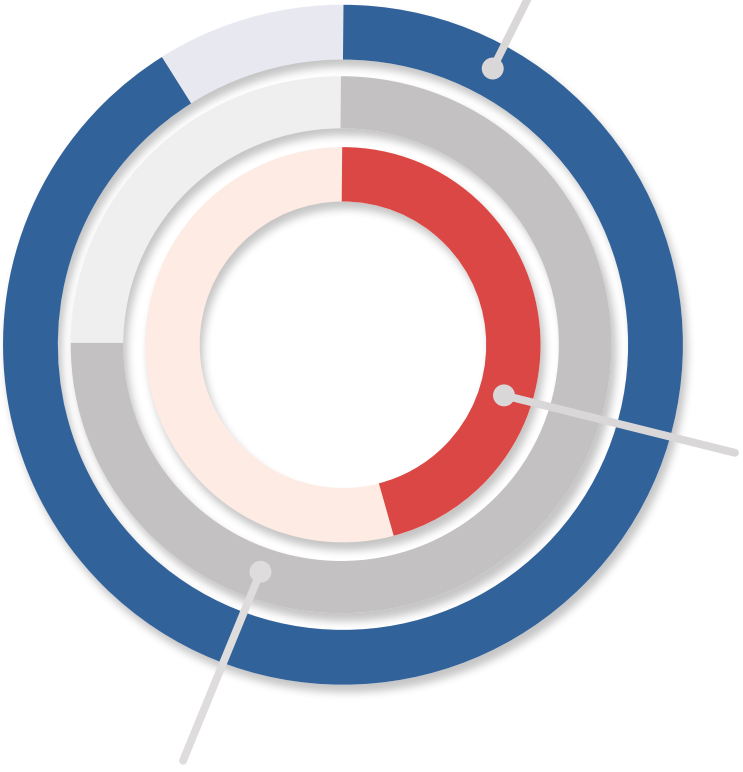
33%
report the level of regulatory burden has increased on the **local level**

66%
report the level of regulatory burden has increased on the **state level**

FUTURE

91%

anticipate the level of regulatory burden to increase on the **federal level**



46%

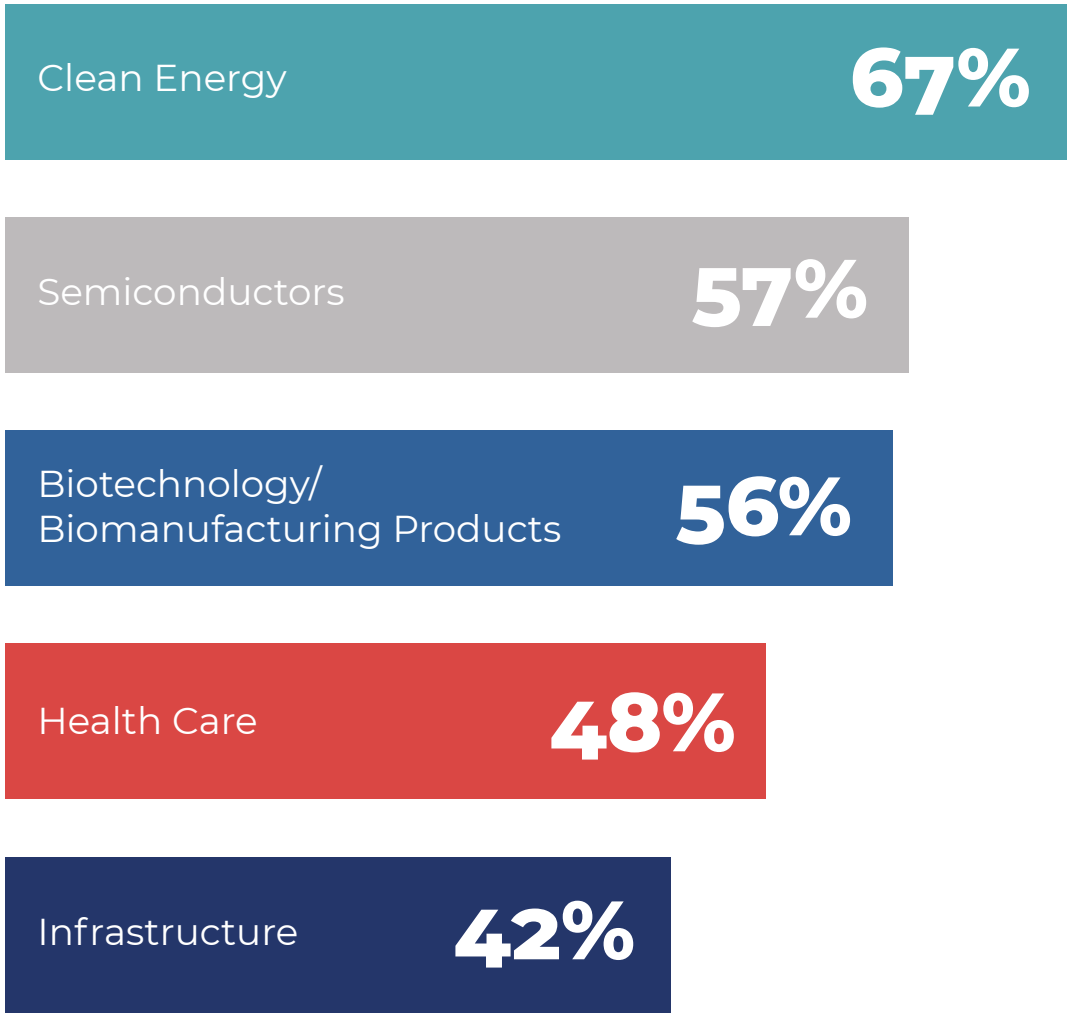
anticipate the level of regulatory burden to increase on the **local level**

75%

anticipate the level of regulatory burden to increase on the **state level**

Impact of Regulations on National Priorities

Many of the chemical manufacturers that produce chemical inputs to products/industries prioritized by the Administration reported that the current and/or forthcoming regulatory burden negatively impacts their ability to competitively produce the chemical input(s) in the U.S. Across chemical manufacturers participating in the survey, this was found to be the case for:



% of producers reporting current and/or forthcoming regulatory burden negatively impacts ability to competitively produce chemical input(s) in U.S.

Impact of Regulations on Manufacturing

Over the past year, about 2/3 of chemical manufacturers reported having been adversely affected due to government delay in making a regulatory decision and/or taking a regulatory action on a permit, license, or product approval in the United States.

Companies said new regulatory policies:

- 43% Impacted ability to obtain permits
- 12% Led company not to expand U.S. operations
- 9% Led company to move operations out of the U.S.

Asked to consider a scenario where existing regulatory compliance costs were **suddenly and permanently increased** significantly, manufacturers report they would:

decrease hiring

55%

decrease investment in R&D, new technologies, and new products

67%

divert resources from capital replacement (i.e., operational efficiency)

83%

Chemical Manufacturers Say:

> By not acting in a timely manner, EPA is effectively keeping new and innovative chemistries out of commerce. This affects not only our company but US consumers and, in many cases, the environment by foreclosing newer, more sustainable chemistries from approval or approving them only with significant restrictions unappealing to customers. Ironically, this results in older chemistries remaining on the market while newer, more effective, more sustainable, or otherwise better ones are available to replace them."

> Our products are essential in the production of semiconductors and are used in applications such as solar cells, LEDs, smartphones, and other electronics. Increased cost of compliance, inconsistent and aggressive enforcement, and delayed permitting/decision-making at regulatory agencies all make it more challenging to be competitive with outside markets."

> We develop and produce essential materials for the production of medical supplies. Such materials can be sourced from overseas. As regulatory costs rise, we become less competitive."

> Unexpected delays in PMN [Pre-manufacture Notice] approvals will impact the Administration's intent for 100% production of key ingredients of the EV Battery Supply Chain in the US."

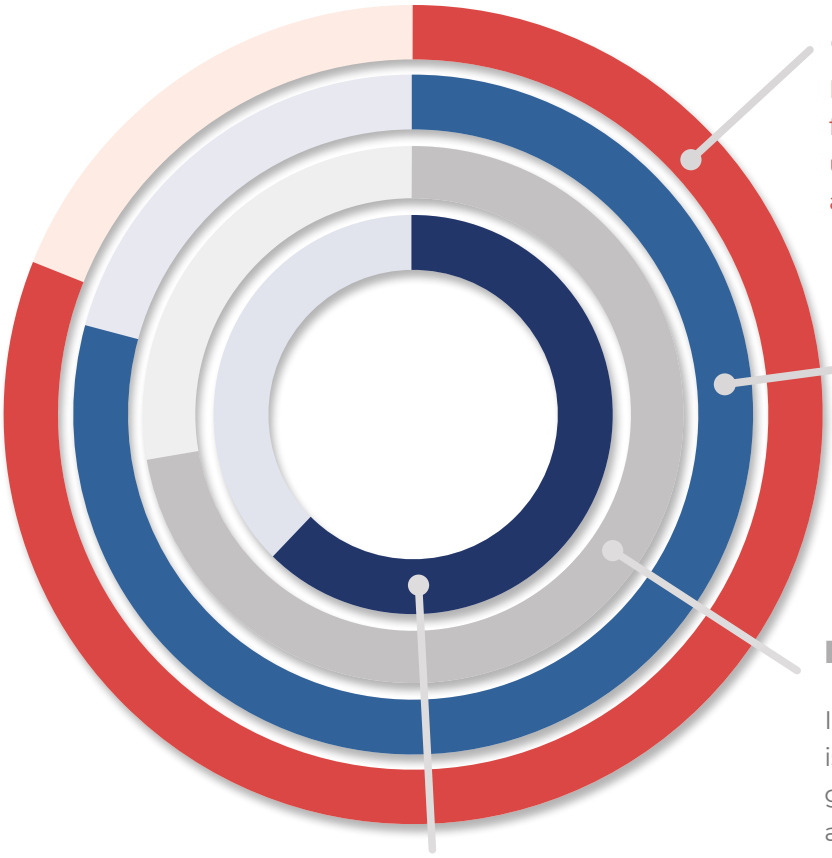
> At the federal level, EPA's misguided actions on PFAS [per- and polyfluoroalkyl substances] that are not tied to science-based outcomes (e.g., MCLs, HALS, CERCLA designations) are creating significant regulatory uncertainty and dramatically increasing the risk profile of necessary large (capex intensive) manufacturing capacity expansions designed to meet exponential demand for specific fluoropolymers for battery, hydrogen and semiconductor supply chains. Make no mistake, Chinese competitors are trying to take advantage of this uncertainty by scaling up production in China in an effort to meet global demand (not just Chinese demand), engaging in predatory pricing to drive out global chemical players, and infringing on IP [Intellectual Property]."

An earlier survey of ACC members examining EPA's New Chemicals Program exposed its stifling impact on U.S. innovation.

The survey found that **70% of chemical manufacturers decided to introduce new chemicals outside the U.S.** given the uncertainties and challenges of EPA's New Chemicals Program, including systemic delays, disregarded company-submitted data, and inconsistent reviews.

Regulatory Challenges and Issues

Chemical manufacturers reported that the most challenging regulations to comply with are due to:



81%
Regulatory agencies writing a final rule absent an adequate understanding of my business and my compliance challenges.

79%
Regulatory agencies using their legal discretion to set a standard that is more stringent than it should be.

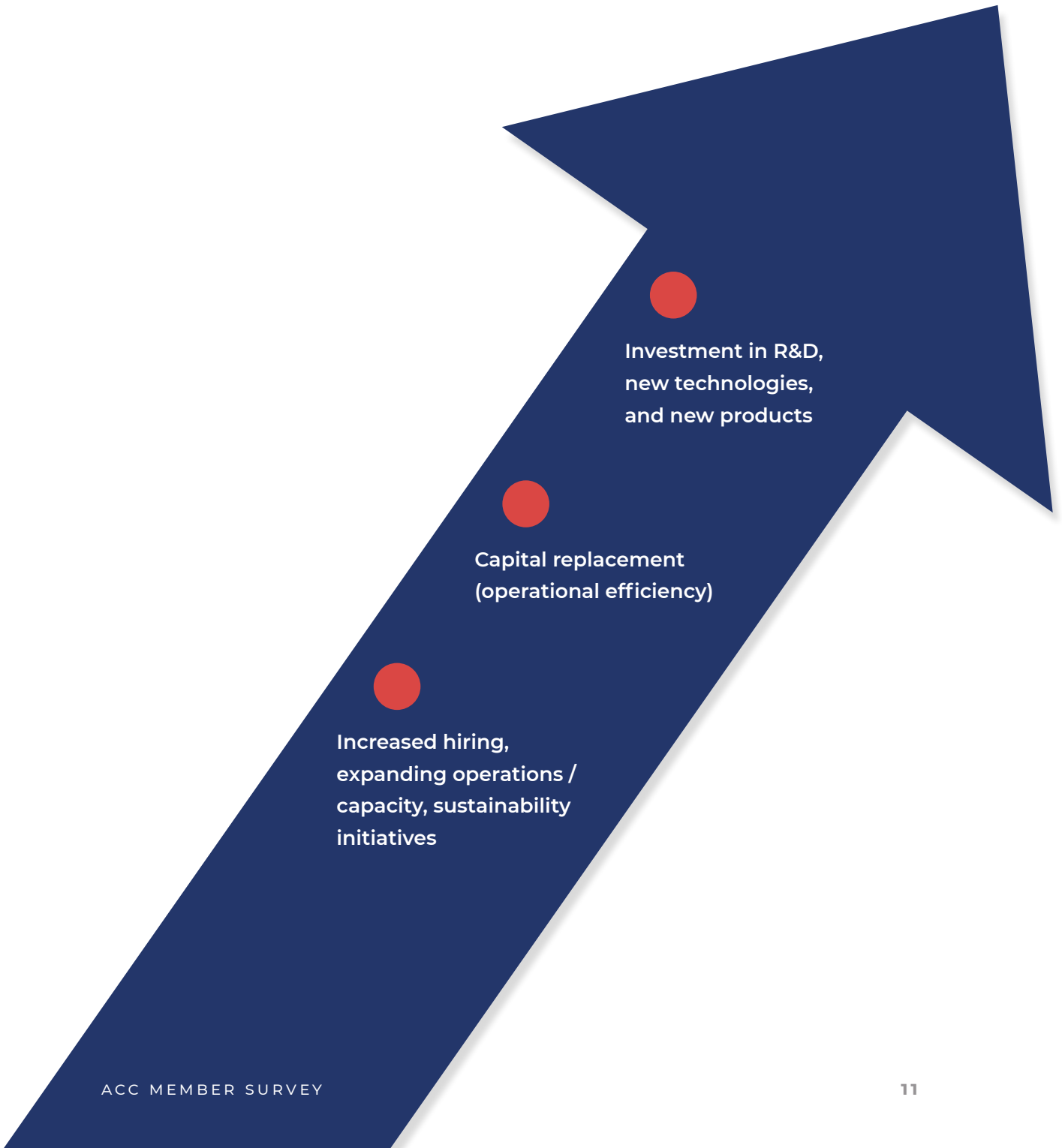
72%
Inconsistency between regulations issued by different levels of government (i.e., between USA and another country, between federal and state regulatory agencies, etc.).

62%
Regulatory agencies enforcing ambiguous requirements inconsistently or inappropriately.

And companies mentioned other reasons, including decision timelines that are inconsistent or delayed; slow responses to regulatory permits; new substance PMN is expensive and takes too long to approve; regulations and reporting burdens that do not reflect the risk to human health and the environment; and regulations based on improper or inadequate science.

Big Return on Fixing Regulations

Asked to consider a scenario where existing regulatory compliance costs were **suddenly and permanently reduced significantly**, chemical manufacturers said saved resources would be diverted towards:



Methodology

In September of 2023, the American Chemistry Council (ACC) conducted a survey of member companies doing business in the U.S. to better understand how they are being impacted by regulations. 58 companies participated in the survey. 38% of the companies surveyed are "small businesses" employing 550 or less full-time equivalents (FTEs).

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This report was prepared by ACC's Economics and Statistics Department. Questions about the survey and findings may be directed to:

Emily Sanchez | Director, Economics & Data Analytics
emily_sanchez@americanchemistry.com

chemistrycreates.org

American® Chemistry Council

700 Second St. NE, Washington DC 20002 | 202.249.7000

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