



**Stepan** 

# Building Toward a More Sustainable Tomorrow

**2022 SUSTAINABILITY REPORT**

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# MESSAGE FROM THE CEO

Stepan Company's ambition to provide innovative chemical solutions for a cleaner, healthier, more energy efficient world remains our guiding philosophy and is complemented by our sustainability principles of **People, Planet, Products**, and **Practices**. In a world where the Environmental, Social, and Governance (ESG) sphere is ever-changing, I am proud to be part of a Company that prioritizes the health and safety of our employees, is committed to addressing climate-related challenges, and invests in sustainability-driven innovation and operational improvements.

Our **People** are the cornerstone of Stepan's success, and our multinational and diverse team has demonstrated focus, adaptability, and resilience through challenging business environments. First and foremost, we achieved our best performance on record, a Total Recordable Injury Rate (TRIR) of 0.42, which is a significant step toward our 2025 target of 0.25. Our Employee Engagement Survey results showed that the Company scored above industry benchmarks in every dimension measured. Employee networks have been established that represent the diversity of community within our organization and provide forums for team members to explore challenges and foster ideas to improve the workplace experience and sense of belonging. We remain committed to employee development and creating opportunities through formal training and thoughtful talent management.

Through global collaboration and growing capabilities, we have increased our ability to monitor the Company's environmental footprint, make data-driven decisions, and take progressive steps to lower our impact on the **Planet**. We are guided by the Task Force on Climate-related Financial Disclosures (TCFD), and in 2022 we kicked off our program to align to its framework and assess physical as well as transition risks and opportunities. Since 2016, Stepan has reduced our combined Scope 1 and 2 greenhouse gas (GHG) emissions by 11%, enabling us to achieve our goal of 10% reduction ahead of our 2025 target year, and this reduction occurred across an expanded manufacturing footprint. Additional progress was made in 2022 toward achieving our 2025 resource targets, with water usage across our baseline sites reduced by more than 35% versus our 2016 usage, and renewably-sourced electricity accounting for 47% of our total global demand.

Working together with customers, suppliers and other partners, Stepan's innovation teams are focused on developing sustainable **Products** and meeting the growing expectations for safe, circular, or biobased offerings for the markets we serve. Expansions in our fermentation platform have allowed us to identify a growing range of applications and end-markets for bio-surfactants, including cleaning, personal care, and industrial applications. Innovative approaches developed by Stepan scientists to introduce recycled, recovered, and biobased materials in our Polymer products are unlocking improvements in product carbon footprints for rigid foam insulation. Our growing focus on sustainable agriculture and supporting the formulation needs of customers developing biobased solutions will help growers as farming practices and application requirements evolve.

Robust **Practices** and policies serve as the anchor for our ESG efforts and support our ability to meet stakeholders' expectations in achieving high standards for ethics, compliance, and reporting. In response to evolving standards, this report is delivered in accordance with the 2021 Universal Standards of the Global Reporting Initiative (GRI), and the Sustainability Accounting Standards Board (SASB). Additionally, Stepan remains a proud supporter of the United Nations Global Compact (UNGC) and its Ten Principles for Businesses.

I would like to thank Stepan's employees and our many partners for helping us make significant progress on our sustainability journey. As our business moves forward in 2023, I am confident we will uphold our established success and build toward a more sustainable tomorrow.



Sincerely,

A handwritten signature in black ink that reads "Scott R. Behem".

**President and Chief Executive Officer**



**Stepan Company delivers innovative chemical solutions for a cleaner, healthier, more energy efficient world.**



# ABOUT STEPAN

As a leading global manufacturer of specialty intermediate chemicals, Stepan Company is committed to helping our customers succeed. Stepan's expanding portfolio of chemistries and services features diverse applications and delivers benefits for the environment, human health and well-being, and agricultural productivity. We acknowledge the need to address climate change and are developing innovative solutions that reduce GHG emissions and promote the efficient use of resources.

Stepan employees are dedicated to delivering products that support societal goals while upholding our Company Values. We grow our capabilities and identify opportunities for a more sustainable future through ongoing collaboration with our customers, suppliers, and other partners. Across all areas of our impact, our Values serve to guide our actions.



### People First

Empowering Everyone to Make a Difference



### Continuous Improvement

Improving Every Day



### Integrity

Doing the Right Thing



### Growth, Innovation and Sustainability

Shaping the Future Through Curiosity



### Customer Focused

Partnering to Deliver Value

In 2022, Stepan delivered over 900 products to more than 2,300 global customers across a diverse set of industries through our work in three core business segments: Surfactants, Polymers, and Specialty Products.



900+

products delivered to more than 2,300 global customers

Surfactants are widely used in personal care, cleaning products, and disinfectants, as well as custom applications for agriculture, oilfield, and construction markets. In the Polymers segment, Stepan delivers a range of products used in insulation, coatings, adhesives, sealants, and elastomers (C.A.S.E.) applications, as well as components for automotive, boating, and other industrial products. In the Specialty Products segment, Stepan is a leading producer of patented, science-based products including flavors, emulsifiers, and solubilizers used in the food, flavoring, nutritional supplements, and pharmaceutical industries.

Stepan's innovation work is essential to serving our customers and maintaining our market leadership. Our global network of technical experts, based across 14 Research and Development (R&D) Centers, specializes in synthesis, product design and development, formulation development, and process technology and analysis. This team plays a critical role in developing solutions that address emerging issues and needs with products that are safer for people and the environment. Our product portfolio includes expanded options for biobased and lower impact products, solutions aimed at improving agricultural systems, products that support human health and sanitation, and products that promote the responsible use of resources.

Stepan's growth strategy is focused on increasing our ability to reach existing and new markets with our products, sustainable solutions, and services. In 2022, Stepan continued construction on our Pasadena, Texas, facility which will expand our alkoxylation capacity and enable growth opportunities in surfactant technologies that are core to agricultural, oilfield, construction, and household end-use markets. We also acquired the surfactant business and associated assets of PerformanX Specialty Chemicals, LLC, which strengthens our strategic position in specialty alkoxyates. We continued to invest in our Wilmington, North Carolina, manufacturing site, enabling increased and efficient production of our signature polyols used in building insulation. We also expanded capacity at multiple manufacturing facilities to serve the consumer and agricultural markets more effectively in the Latin America region. Our capabilities in fermentation technology increased through ongoing R&D investments and pilot-scale production in 2022. This work, in addition to the 2021 acquisition of our Lake Providence, Louisiana, facility, supports diversification into a variety of markets seeking biobased and biodegradable products. In response to regulatory limits on 1,4-Dioxane,

we made substantial investments at three manufacturing facilities in North America to produce low 1,4-Dioxane products. We expect these investments to position us to have the largest installed low 1,4-Dioxane production capacity for sale to the North American market.

As we expand our ability to deliver key products for today's challenges, we push for continuous improvement across our operations. We prioritize the safety of our employees and communities, and we work to conduct business according to the highest ethical standards. Our manufacturing teams seek opportunities to reduce our environmental impact and implement projects that conserve energy and resources. This includes work to convert to on-site solar power at our Salto, Brazil facility, and other projects aimed at reducing waste and water usage.

**At present, we employ more than 2,400 permanent full-time employees across 12 countries in which we operate: Brazil, China, Colombia, France, Germany, Mexico, the Netherlands, the Philippines, Poland, Singapore, the United Kingdom, and the United States. Our extensive network of 22 production facilities enables us to meet the manufacturing and technical requirements of our customers, expanding our capabilities and expertise to manage the evolving expectations of the global market.**

We plan to pursue diversification and growth opportunities that align with global environmental and societal needs including energy efficiency, resource conservation, health and sanitation, soil health, and circularity. We operate with an unwavering focus on responsibility and integrity, and we strive to establish ourselves as a preferred partner for our customers.

# STEPAN AT A GLANCE



# GOVERNANCE

GRI 2-12, 3-3

Stepan's [Code of Conduct](#) outlines our commitment to the highest standards of corporate governance, ethics, integrity, compliance, and equity. Our governance framework prioritizes delivery of long-term value and accountability to our shareholders, customers, and other stakeholders. At Stepan, a strong foundation of ethical business practices and responsible corporate citizenship is essential to achieving sustained success and growth as a Company.

Our Board of Directors is comprised of eight members, six of whom are independent. The Directors collectively oversee our global operations and execution of our strategic growth with a range of experiences, qualifications, skill sets, and perspectives. The nomination of Board members considers a candidate's expertise, business background, industry, and other demographics. Stepan's Board is made up of six men and two women, reflecting our commitment to gender diversity. Please read our published [Inclusion and Diversity Policy](#) on our website, also available in multiple languages.

Our [Corporate Governance Guidelines](#) outline our expectations for the Board and its four committees—Audit, Compliance, Human Capital and Compensation, and Nominating and Corporate Governance—and detail their respective responsibilities.

75%

of our Board members  
are independent



**At Stepan, a strong foundation of ethical business practices and responsible corporate citizenship is essential to achieving sustained success and growth as a Company.**



25%

of our Board  
members  
are women

## ESG Governance

Stepan recognizes that ESG-related issues could affect Company performance as well as our customer base, our value chain partners, and the environments in which we operate. We work to thoughtfully monitor these issues and to establish practices and processes that allow effective responses to opportunities and risks that may arise.

Our ESG Subcommittee, established in 2022, reports to the Executive Leadership team, and is charged with leading the advancement of the Company's current and future ESG priorities. By establishing this group, Stepan aims to capture multi-dimensional perspectives and facilitate decision-making on ESG-related issues with input from cross-functional leaders. The group meets on a bimonthly basis and provides oversight for the corporate ESG Steering Team, monitors progress made in implementing Stepan's ESG strategy, and regularly reports to the Board.

## Board of Directors



Top row, left to right: F. Quinn Stepan, Jr. (Chairman of the Board), Scott R. Behrens (President and CEO), Lorinda A. Burgess, Randall S. Dearth

Bottom row, left to right: Joaquin Delgado, Gregory E. Lawton, Jan Stern Reed, Edward J. Wehmer

## GOVERNANCE MODEL



The ESG Subcommittee oversees sustainability and climate issues related to Stepan's work. In 2022, this included guidance on the Company's commitment to align with the TCFD, completion of scenario analyses for climate-related physical and transition risk, development of water management plans, guidance on sustainable raw material sourcing, inputs regarding Stepan's sustainable growth strategy, operations management, and resource use management.

Stepan's ESG Steering Team has also grown as ESG-related responsibilities and opportunities increase. This reflects our commitment to ESG issues and their importance in driving business opportunities. In 2022, the Team was reorganized into two work groups to reflect key priorities for the Company and to facilitate their effective implementation. These two workgroups, the Sustainable Growth Team and the Environment and Resources Team, provide guidance and recommendations to manage and support our daily sustainability efforts and obligations.

Last year, Stepan created two new roles to drive progress related to Sustainable Growth—Head of Sustainable Growth and Senior Manager for Sustainable Raw Materials. As of early 2023, we've inaugurated Regional Supply Chain Sustainability Councils across each region of our operations to promote shared learning and to streamline our progress related to environmental performance, resource conservation, and safety across Stepan manufacturing sites. The leaders of each regional council are members of the ESG Steering Team. The ESG Steering Team's executive leader is Stepan's Chief Technology and Sustainability Officer (CTSO).

The CTSO reports to the President and CEO and directs the ESG Steering Team, which reports quarterly to the ESG Subcommittee of the Executive Leadership Team. The CTSO also oversees implementation of materiality assessments for the Company, communicating key findings to the executive leadership team and the Board.

The President and CEO has overall responsibility for and serves to provide approval, guidance, and/or review of identified needs and proposed actions required for the Company, including those concerning climate-related issues and opportunities. The President and CEO works with Board members to execute the following responsibilities:

- Strategic Planning;
- Risk management policies and processes;
- General oversight of the business;
- Review and approve significant corporate actions, and
- Oversee ESG and climate matters including:
  - Reviewing and evaluating Stepan's plans and practices;
  - Reviewing current trends and discussing such matters with management; and
  - Overseeing the development and use of measurement and tracking metrics.

The ESG Steering Team aims to embed a culture of sustainability across all business functions. The team works with our Human Resources business partners and enthusiastic leaders across our sites to guide social and community engagement.

Stepan understands that transparency, comprehensive disclosure, and reporting are crucial to establishing robust governance around ESG. To accomplish this, we align our reporting with broadly recognized ESG frameworks and disclosures.

Please visit the [Corporate Governance webpage](#) in the Investors section of our website to learn more about our governance structure, procedures and guidelines.





Stepan achieved top ranking in 2022 in the U.S. Chemical-Specialty sector and eighth position overall in the Investors' Business Daily's (IBD) 100 Best ESG Companies List.



# SUSTAINABILITY AT STEPAN

## Our Approach

GRI 2-12, 3-3

Stepan's sustainability journey continues to evolve as we identify opportunities to reduce the impact of our operations and to deliver products that address market needs. We integrate sustainability into our processes, evaluate suppliers on ESG performance, strengthen capabilities for product and process impact analysis, and share our commitment to upholding human and labor rights across our value chain. In 2022, we initiated development of a raw material strategy that can deliver exceptional solutions with reduced environmental impacts. This challenging work will continue as we partner with stakeholders across our value chain to succeed.

## Stakeholder Engagement and Materiality

GRI 2-29, 3-1

Stepan actively seeks input from a wide range of stakeholders, including employees, customers, suppliers, investors, and local communities. We engage with stakeholders on the issues that mutually matter most to our business, using their feedback to inform our planning and strategy, ensuring that we remain committed to our Values. Our stakeholder engagement process includes both formal and informal methods that enable us to identify and proactively address emerging ESG needs, risks, and opportunities. With the goal of fostering open and ongoing communication, we frequently engage our stakeholders in a variety of ways, including:

- **Employees:** Direct engagement, town halls, surveys, Site Safety Committees, email, Company portal, digital signage and social media, webcasts, and ethics hotline
- **Customers:** Email, surveys, client panels and meetings, site visits, virtual laboratory collaborations, tradeshow and events, website and live chat, online platforms, social media, and digital portals
- **Investors:** Annual shareholders meeting, quarterly earnings calls, U.S. Securities and Exchange Commission filings, website, conferences, engagement via email, telephone calls, and meetings
- **Suppliers:** Annual and periodic meetings with key suppliers and ESG-focused assessments
- **Local communities:** Volunteer support, philanthropic giving, and safety awareness activities and training, including with local first responders

Our initial 2021 materiality assessment, according to GRI recommendations, identified the top ESG topics for our business. These topics include Regulatory Compliance, Product Stewardship, Climate Change, Innovation, Energy, GHG Emissions, Diversity, Equity, and Inclusion, and Occupational Health and Safety. We will continue to drive actions based on the results of this materiality assessment and will revisit follow-up assessments in the future. We reviewed our ESG materiality assessment for the current year and concluded that our priority topics align with those identified in 2021.

## Sustainability Recognition

In 2022, Stepan was proud to achieve top ranking in the U.S. Chemical-Specialty sector and eighth position overall in the Investors' Business Daily's (IBD) 100 Best ESG Companies List. This recognition is based on IBD's review of Company performance on ESG rankings, fundamental and technical stock performance, and other performance criteria. Stepan will continue to develop opportunities that strengthen our ability to deliver sustainable solutions and responsible management of our operations.

## External Accountability Frameworks

Stepan takes an active role in collaborating with prominent corporate advocacy organizations and implements nationally and internationally recognized accountability frameworks and standards. Our engagement includes membership commitments, certifications, reporting, and external audits. By adhering to these established frameworks and standards, Stepan can meet the growing expectations of our stakeholders for accountability and transparency in corporate disclosures. Responsibility and accountability commitments include:

- American Chemistry Council Responsible Care® (ACC)
- American Cleaning Institute (ACI)
- Carbon Disclosure Project (CDP)
- EcoVadis
- European Federation for Cosmetic Ingredients
- International Organization Standardization (ISO Standards)
- Roundtable for Sustainable Palm Oil
- Supplier Ethical Data Exchange
- SEDEX Member Ethical Trade Audit (SMETA) Standards
- Task Force for Climate Related Financial Disclosures (TCFD)
- United Nations Global Compact (UNGC)



Engagement with external frameworks helps Stepan meet stakeholder expectations for accountability and transparency on sustainability topics.





## Impact Toward the U.N. Global Compact and Sustainable Development Goals

GRI 3-2

ESG PRIORITY TOPIC	GOAL	TARGET YEAR	2022 PROGRESS
<b>Responsible Practices</b>			
<b>Ethics and Compliance</b>	100% Employee participation in Ethics and Compliance trainings	Ongoing	100%
<b>Employee Safety</b>	A Total Recordable Incident Rate (TRIR) of less than 0.25 across all Stepan facilities	2025	0.42
<b>Environment, Resources, and Climate Impact</b>			
<b>Emissions Reduction</b>	Reduce Scope 1 and 2 GHG emissions (in metric tons) by 10% across all sites	2025	Achieved with 11% reduction
<b>Water Conservation</b>	Conduct water risk assessments for 100% of our sites and use results to develop risk management plans to strategically address key risks across our sites	2023	Water risk assessments completed for 100% of sites Water risk management plans under development
	Reduce global water usage by 40% from 2016 baseline	2025	35% across baseline sites
<b>Renewable Energy</b>	Source 20% of global electricity from renewable sources	2025	Achieved with 47% renewable
<b>Advantageous Products</b>			
<b>Sustainably Advantaged Products</b>	80% of our Research and Development investment toward sustainable processes and products	2023	In progress Tools and frameworks to evaluate our portfolio being refined

We recognize the importance of using these external frameworks to inform our decision-making. Stepan received a gold score in 2022 from the EcoVadis ESG platform based on our most recent performance evaluation, placing us in the top 4% of “manufacturers of other chemical goods.” Our gold ranking reflects Stepan’s ongoing efforts to identify areas for continuous improvement related to business ethics, human and labor rights, environmental practices, and sustainable procurement.

In addition to EcoVadis, our commitments to CDP and UNGC help guide our sustainability strategy. To build a more sustainable supply chain, we similarly ask our key supply chain partners to report according to the EcoVadis ESG criteria. EcoVadis helps us identify areas where our partners can improve and ensure that they share our Values and commitment to sustainability. In 2022, we evaluated 280 supply chain partners, which combined account for over \$1 billion of spend and a significant coverage of our raw materials and transportation expenditure in the regions that we serve. In 2023, we will move toward more qualitative goals on the sustainability performance expectations for our supply base and aim to embed sustainability into various procurement processes, from sourcing to business development angles.



# ABOUT THIS REPORT

GRI 2-3

Stepan's Sustainability Report for 2022 highlights our efforts and performance to date, unless indicated otherwise. This report provides an update to our 2021 Sustainability Report, which was released in May 2022. Stepan reports in accordance with the 2021 Universal GRI Standards for the period January 1, 2022, to December 31, 2022, and the Sustainability Accounting Standards Board (SASB) Chemicals Standard. As part of our commitment to TCFD, we are working to align our climate-related disclosures with recommendations from that organization.

Stepan invites you to read this Sustainability Report, which outlines our commitments to promoting ethical and responsible business practices, as well as social and environmental responsibility. We obtained external limited assurance of our 2022 Scope 1 and 2 emissions and energy usage data through our partnership with ERM CVS. We are building readiness for assurance of additional data, including water usage and waste, through a standardization of data collection and definitions for reporting. For additional information about Stepan, please visit our website at [stepan.com](https://www.stepan.com). If you have further questions or comments, please contact us at [sustainability@stepan.com](mailto:sustainability@stepan.com).

# RESPONSIBLE PRACTICES

## Our Commitment and Approach

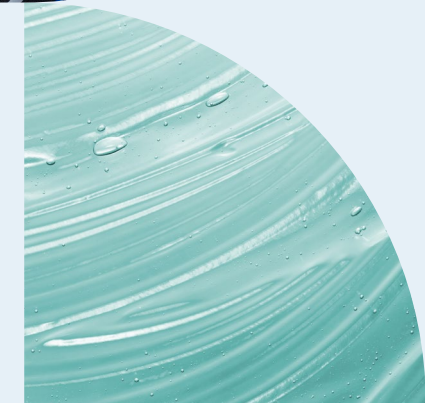
GRI 3-3

Stepan is a charter member of ACC, and the association's guiding principles continue to serve as a foundation for our focus on safety, stewardship, and ethical practices across our operations. Our goal is to be a trusted and valued partner to all our stakeholders in our management, manufacturing, and movement of materials and products. To achieve this, our first responsibility is the safety and well-being of our people and our communities. Stepan aims to foster close partnerships across our value chain by building on a safety-first mindset. We promote responsible and ethical practices from material sourcing and information management to risk management, product compliance, and sales into our diverse markets.

Stepan strives to rank in the top quartile in the chemical industry for employee health and safety and for process safety. We continue to drive improvements with heightened oversight through our governance structure and with ongoing implementation of key initiatives. Stepan's Environmental, Health, Safety, and Security (EHSS) team holds key responsibilities in this area.

100%

completion rate of Stepan's Life Saving Rules (LSR) safety awareness and hazard recognition training



100%

completion rate on quarterly compliance trainings



## Occupational Health and Safety

GRI 403-1, 403-2 (a.), 403-3, 403-4 (b.), 403-5b

Over the last several years, we have implemented a series of programs and procedures to help our employees, contractors, and other workforce partners meet safety standards throughout our operations. Stepan continues to utilize the SafeStart® and Safe Journey programs to promote safety awareness and hazard recognition. We also have an ongoing focus on the seven Life Saving Rules (LSR) program and completed training for 100% of our sites in 2022. Training resources are available in local languages to all Stepan workers worldwide. LSR identifies safety risks, including electrical safety, working at heights, confined space safety procedures, and more, to assist Stepan's safety performance. Stepan's strong safety culture was key to our excellent safety performance in 2022, finishing the year with a total recordable injury rate (TRIR) of 0.42, an improvement over the prior year of more than 20%. We still have work to do to reach our longer-term goal of a TRIR of 0.25 and will work to build on the successes of the prior year.

Stepan leaders hear directly from our employees and consult on a regular basis to track employee perceptions and to receive feedback that can help improve safety and reduce risks. Each location has a Site Safety Committee that regularly engages and shares information with employees. Our annual Employee Engagement Survey provides an opportunity to collect feedback that informs our management and operations. In 2022, our survey showed that 76% of employees agree that Stepan's leadership "shows genuine interest in the well-being of employees," and 84% feel that their "immediate supervisor/manager really cares about my well-being." Company leaders closely monitor the latest guidance and regulations related to employee health and safety, including those from the World Health Organization, the U.S. Centers for Disease Control and Prevention, and other local or regional organizations. Company health and safety protocols are informed by this guidance as Stepan works to protect the well-being of our employees globally. Stepan conducts the National Safety Council Safety Barometer survey every three years. Our 2022 results showed a ten-point improvement in overall performance compared to the prior assessment, placing Stepan in the top quartile out of more than 1,300 survey participants.

Performance related to management commitment, supervisor engagement, safety support, and other areas contributed to the overall improvement. Company EHSS leadership uses the results to guide planning and identify areas for further action. Leaders will work to address workload concerns and to deploy line manager training focused on employee engagement and in-person interactions in the coming year.

Stepan recognizes our employees and contractors who perform above and beyond to ensure individual and group safety is upheld daily. Our facility in Vlissingen, the Netherlands, recognized two contractors with the Vlissingen Contractor Safety Award for maintaining their long-term safety record and achieving zero recordable injuries in the last 10 years. Stepan's annual President's Safety Award recognizes sites that foster a robust safety culture throughout the year and achieve top performance related to recordable injuries, incidents, and additional safety and compliance criteria. In 2022, 11 of our manufacturing and R&D sites received the award, including our Singapore team, which earned the award for its ninth consecutive year. This level of focus on safety is essential for Stepan's success and for helping the Company reach our ambitions for top safety performance.

**"We are proud that seven of our R&D sites received the 2022 President's Award, including our site in Houston for the seventh year in a row, and have contributed to Stepan's record best safety performance last year. At five of our R&D Sites, there has never been a recordable injury amongst the R&D employees."**

**DIANA DARDUGNO, GLOBAL R&D EHS&S MANAGER**

For more information on Stepan's approach to employee health, safety, and well-being, please visit the [Valuing People and Communities](#) section of this report on page 29.





## Process Safety

GRI 403-7

Stepan's Process Safety team implements stringent measures to identify and mitigate potential incidents. Hazard assessments, risk management programs, process standardization, training, and emergency readiness programs, as well as external assurances, are key elements to Stepan's Process Safety Management program. Stepan's Management Systems and Procedures include standards for resource management and safe practices across all areas of our operations. As a member of the Center for Chemical Process Safety (CCPS) of the American Institute of Chemical Engineers, we

continue identifying opportunities for improvement and work to update our strategies for protecting employee and process safety. CCPS's Risk Based Process Safety management system is the basis for Stepan's process safety management strategy and an example of how Stepan uses industry best practices to go above and beyond regulatory requirements.

Stepan's tactical planning process helps to direct near- and long-term strategic planning and promote consistency and alignment across the diversity of our manufacturing facilities. This includes implementation of tools and resources, prioritization of projects to address identified needs, roll-out of new management systems, development of new technologies, training, and sharing of best practices across regions. Stepan is working to drive improvements through more disciplined and structured practices across our sites. Over the past several years, we have rolled out the Stepan Management System, or STEMS. STEMS is built on Responsible Care® and ISO14000 management system requirements, and it will help improve data collection for tracking, monitoring, and reporting on numerous safety, environmental, and other performance metrics. In 2022, we continued training employees and implementing this tool and worked to deploy digital and mobile tablets across our sites for recording STEMS data more efficiently. This enhancement works toward our goal of detailed tracking and monitoring to improve employee and process safety.

## Cybersecurity and Personal Data Protection

Stepan takes data protection seriously and maintains policies and procedures to ensure protection of its confidentiality, continuous availability, accuracy, consistency, and reliability from creation to destruction. Maintaining a safe and secure environment is critical to our organization as we rely on data integrity to deliver high-quality products and comply with legal and regulatory requirements.

We are committed to staying current with industry changes and having an effective strategy for managing cybersecurity risk. At the same time, we continue to advance our cybersecurity program according to the comprehensive and widely recognized set of guidelines developed by the National Institute of Standards and Technology through the Cybersecurity Framework. In 2022, we released a clear and comprehensive "Use of

Information Technology (IT) Policy" that we communicate to our global workforce. Ensuring everyone understands their role in safely using IT assets is crucial in maintaining a secure IT environment. This knowledge can help prevent accidental or intentional misuse of IT resources, which can compromise the confidentiality, integrity, and availability of sensitive data and systems. This year, we released a new set of IT Security Standards to help extend the layers of controls to our IT assets. These involve deploying multiple layers of security protection—such as firewalls, intrusion detection, and prevention systems—system hardening, advanced endpoint protection, email filtering, access controls, and encryption to provide multiple levels of defense against different threats.

**By using a defense-in-depth approach, we protect our organization and reduce the likelihood of successful cyberattacks.**

Our mandatory security awareness training helps us reduce the risk of security breaches by educating employees about cybersecurity risks. It also helps to establish a culture of security within our Company, where all individuals understand the importance of cybersecurity and work together to protect assets in our office and manufacturing facilities. We update our security awareness training program annually, with additional updates whenever changes to the threat landscape are detected, and as part of these trainings we test every employee on cybersecurity awareness. Regular testing helps us identify areas where employees may need additional training and support, thus reinforcing good security habits. For example, by testing employees' ability to detect malicious emails, we can take a critical step in protecting our Company against phishing attacks. This understanding is vital since phishing is one of the most common ways attackers can gain unauthorized access to a system.

Cybersecurity is an ongoing process, and it requires a combination of technology, policies, standards, procedures, and employee training to be effective. By providing regularly scheduled training, evaluating our employees, and periodically reviewing and updating our cybersecurity program to adapt to changing threats and technologies, Stepan can better protect against the constantly evolving threat landscape.



## ETHICS AMBASSADORS PROGRAM

In spring of 2022, Stepan initiated a new Ethics Ambassadors program. The goal of the program is to broaden the reach of our Corporate Ethics and Compliance team throughout our organization and to make ethics messaging relevant to all business units.

Our Ethics Ambassadors (EAs) help foster and sustain a strong culture of ethics and integrity through communication, training, and relationship-building aimed at promoting awareness and speaking up. Ambassadors are nominated and selected by senior leaders at the Company and work under the direction of Stepan's Chief Compliance Officer. This role provides EAs an opportunity to enrich their career experience, giving them greater visibility to the overall organization and the opportunity to voice questions raised by peers. The program was piloted in our Latin America and Mercosur regions at five plants and three central offices. The feedback from the local sites and EAs has been overwhelmingly positive, and we plan to extend the program globally as we continue our focus on maintaining our culture of high ethical standards and legal compliance.

## Ethics and Compliance

### GRI 3-3

Stepan's business practices are firmly rooted in our rigorous ethics and compliance program. We build enduring business success through an inclusive workplace that respects and values the diversity of our workforce and through a firm commitment to doing the right thing, every day. Stepan's Code of Conduct (the Code) clearly defines standards and expectations for our employees, executive leadership, and the Board. The Code and associated procedures and processes are built on the highest standards for business integrity, and we continue to strengthen our program with ongoing training and robust oversight.

The Code includes details on the laws and regulations that apply to our business, and it covers information on Stepan policies for anti-harassment, cybersecurity, data privacy, confidential information, anti-bribery and anti-corruption, anti-money laundering, third-party relationships, conflicts of interest, fair competition, antitrust compliance, gifts and entertainment, and insider trading.

Stepan employees receive regular training to recognize questionable or potentially unethical behavior and are supported with clear guidance and secure channels for communicating concerns.

**For the third consecutive year, we achieved 100% employee completion for our training on the Code of Conduct. In 2022, we also achieved an unprecedented 100% completion rate on our quarterly compliance trainings.**

All Stepan stakeholders are encouraged to speak-up and to reach out if they suspect potential violation of the Code. In compliance with all applicable local, state, and federal laws and regulations relating to business ethics, we promote policies and practices for reporting instances of non-compliance and implementing corrective actions that prevent a recurrence. We provide multiple channels for our stakeholders to express any concerns they may have, including communicating issues to a supervisor or through our 24-hour EthicsPoint® hotline. The hotline is available in 39 languages via web or phone; anonymous reporting is an option wherever the law permits.

## Enterprise Risk Management

Stepan uses principles of Enterprise Risk Management (ERM) to help identify, prevent, and mitigate potential risks. We base our ERM program on the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework. Individuals representing Stepan's global locations and functions contribute to our risk assessments at least annually through surveys and in-person interviews. Members are polled throughout the year on a quarterly basis to spot emerging risks and trends. This assessment approach identifies critical risks and highlights underlying themes that may substantially disrupt our future operations. Owners of enterprise risks are asked to consider emerging themes in their respective strategic and risk mitigation plans, which are then communicated across Stepan for increased awareness. This ensures that risks that could have cross-functional impacts are considered consistently and prioritized effectively.

An initiative to conduct an in-depth climate risk scenario analysis for physical and transitions risks was completed in 2022. The result of this work is a focus for integration into Stepan's Enterprise Risk Management program in 2023 to develop a long-term risk mitigation framework that informs near- and longer-term planning. Our Board of Directors and executive management teams support the development of ERM through evaluation, and we will continue our work to further align risk management principles and findings with Company processes and ESG initiatives in a manner that supports our enterprise objectives.





## Regulatory Compliance and Product Stewardship

GRI 3-3

Stepan's Product Safety and Compliance team works with our Research and Development team to monitor new and existing regulations as they pertain to our products. Our teams conduct product risk assessments on an ongoing basis to identify opportunities for improved safety and sustainability profiles.

To ensure that we remain compliant with all relevant regulations as we direct our portfolio development, Stepan uses in silico modeling tools to screen novel molecules and products. This enables evaluation of diverse scenarios through computer simulation at early stages of product development and is an essential step for review of potential human health and environmental impacts.

We leverage internal tools to monitor regulations and to facilitate efficient information exchange regarding regulations. Stepan also works with critical stakeholders in the chemical industry to promote information sharing and to identify opportunities for ongoing improvement. We continue to improve our practices for conducting internal Toxic Substances Control Act (TSCA) compliance audits and successfully carried them out throughout 2022. Stepan has also directed considerable effort and implemented new technologies in the last few years to comply with New York's 1,4-Dioxane regulations.

Stepan is driving progress on services to enable management of regulatory requirements across Europe, Asia, and Latin America. This includes new EU regulations for lower allowable concentrations of 1,4-Dioxane by the end of 2023, ongoing management of REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) requirements globally, and emerging regulations related to ESG reporting and deforestation-free products.

Stepan communicates transparently on the environmental, social, health, and safety impacts of our product portfolio. We provide Product Stewardship summaries for the 5% of our chemistries identified as being high priority, and we work to meet or exceed safety standards through adherence to applicable laws and regulations aimed at protecting the environment and public health. Using the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals, Stepan works to make key safety information readily available to our stakeholders through all stages of material handling and transport. Our memberships to the ACC, the European Chemical Industry Council (CEFIC), and related bodies help ensure alignment to best practices and recognized standards to promote responsible chemicals management and transparent communications.



## MODELING FOR PRODUCT SAFETY AND SUSTAINABILITY

Stepan's Product Safety team partnered with Collaborations Pharma to develop in silico modeling tools to evaluate environmental toxicity and degradation, as well as structural similarity across compounds. Stepan also used their MegaTox and Assay Central Platforms powered by machine learning and artificial intelligence for this work. With use of these tools, our Product Safety team is now able to conduct high throughput screening for physical and chemical properties, environmental fate, ecotoxicity, and human health for new and existing chemicals, which allows Stepan to flag risks, focus innovation, and reduce time to market. In the past year, Justin Moore, Regulatory and Compliance Manager, presented this work at the ACC Responsible Care and Sustainability Conference, and during a session on "Sustainable Chemistry: Innovating to Reduce Risk" as part of an ACC webinar series on Product Safety Innovation. Dieldrich Bermudez, Senior Toxicologist, will continue sharing this work in the coming year at the Asia-Pacific Economic Cooperation (APEC) Conference during a panel discussion on sustainable chemistry.

## THOUGHT LEADERSHIP AND COLLABORATION

Stepan has a long history as an active contributor to different organizations dedicated to promoting the chemical industry and the market sectors that we serve.

One such organization is the American Cleaning Institute (ACI), a group dedicated to growth and innovation of the U.S. cleaning products industry by advancing the health and quality of life of people and protection of the planet. ACI is committed to sound science and ethical practices, and Stepan is proud to have served in various leadership roles over the years. Currently, Stepan's Vice President and General Manager of Surfactants, Sean Moriarty, serves on ACI's Board of Directors.

ACI has been a particularly dedicated leader in the area of Sustainability for the industry. The objectives of the cleaning industry to promote hygiene, water safety, and health align with UN Sustainable Development Goals and have provided a basis for the ACI Sustainability Committee to become a leading forum in the space. Chris Hammond, Stepan's Director of Enterprise Risk Management, helped lead ACI's Sustainability efforts as Chair/Vice Chair from 2017 to 2022. In these roles, he helped guide the committee through pandemic messaging and response, and helped launch member and industry initiatives including the development of ACI's four sustainability pillars, guidance and a roadmap on Circular Packaging, the 1.5°C Climate Challenge, and ACI's Sustainable Feedstocks Initiative.

**Stepan remains committed to active engagement and leadership through outside organizations as we work on shared goals for our industry and sustainability priorities of our markets.**

## Public Policy Approach and Industry Associations

Stepan actively builds partnerships with diverse stakeholder groups—including peers in the chemical industry, trade associations, and other organizations—to discover solutions that advance our business objectives and provide added value for our partners. Our team members are committed to continuous education on important topics for the chemical industry including 1,4-Dioxane, revision of the OSHA HazCom Standard 2012, REACH developments related to microplastics, and the EU roadmap on Chemicals Strategy for Sustainability (CSS).

In addition to aforementioned organizations in the [External Accountability Frameworks](#) section of this report, Stepan is also a volunteer member of the following organizations:

- Action for Sustainable Derivatives
- CEFIC
- CESIO
- Ethics and Compliance Initiative
- Polyisocyanurate Insulation Manufacturers Association
- PU Europe
- Renewable Carbon Initiative
- Society of Corporate Compliance and Ethics

## Third Party Partnerships

GRI 308-2

We value and depend on our third-party partners for their contribution to the success of our business. We work to build relationships with partners that hold themselves to the same standards of business excellence and ethics as Stepan. Prior to vendor approval, Stepan's third-party partners undergo a careful screening to identify potential risks to our supply chain. Our [Third-Party Code of Conduct](#) communicates the ethical standards that we expect our supply chain partners to uphold. In addition, our palm material suppliers are expected to comply with our Responsible Sourcing Policy, which specifies responsibilities for avoiding development on peatlands, stopping deforestation, and upholding labor and human rights.

Over the past year, Stepan has implemented a detailed supplier assessment platform through our Partner for Sustainable Supply Program (PaSS). We utilize the EcoVadis assessment tool for evaluating across broad ESG criteria.

**Our goal is to promote continuous improvement for more sustainable supply chains, and the outputs from assessments will be used to inform procurement decisions across most impactful categories of spend.**



## PARTNER FOR SUSTAINABLE SUPPLY (PaSS) PROGRAM

As with many manufacturing companies, Scope 3 emissions, especially those from raw material sourcing, represent a large percentage of our overall GHG emissions footprint. This, combined with our attention to ethical supply chain practices, creates a great opportunity for focused engagement with our suppliers. Frederic Ruel, Stepan's Global Procurement Director–Europe Sustainability and Compliance, has guided development of Stepan's Partner for Sustainable Supply (PaSS) Program. Since the kick-off in 2021, he's directed work with selected suppliers across our markets to harmonize ESG performance management. Through PaSS, Stepan engages in sustainable business development focused on environmental, labor and human rights, ethics, and sustainable procurement topics. We collaborate closely with EcoVadis and onboard key suppliers for ESG performance review. In 2022, we evaluated our suppliers who collectively provide about 75% of our raw materials by spend. We also began assessing a subset of our packaging, transport, trade services, and waste management partners. Since initiating the program, we have assessed over 280 suppliers. We will continue to enhance our sustainable procurement processes, informed by quantitative inputs as well as qualitative inputs for supplier evaluation. Looking ahead, we anticipate further opportunities to engage our suppliers for product carbon footprint data and for raw material alternatives that support reduced GHG emissions.

## Sustainable Materials Use and Sourcing

Stepan uses diverse raw materials to deliver the performance characteristics of our products. Understanding that emissions from our raw materials represent a significant percentage of the Scope 3 footprint attributed to Stepan business, we look for different strategies to promote responsible and more sustainable supply chains.

Stepan is a member of the Roundtable for Sustainable Palm Oil (RSPO) and maintains supply chain certifications for responsible sourcing at our sites that handle palm material. We continue to collaborate with our customers and suppliers to support traceability goals and promote best practices related to palm oil. New regulations in the European Union that target specific commodities, including palm oil, aim to end trade of products associated with deforestation, and will require higher levels of supply chain verification and collaboration for compliance. Beginning in early 2023, Stepan joined Action for Sustainable Derivatives (ASD), an organization that is dedicated to partnering with members of the palm oil derivatives supply chain to drive progress for responsible and sustainable palm material production. Stepan is pleased to join this group of peer organizations working toward increased transparency, risk mitigation, and transformative change.

In addition to RSPO certification, we hold supply chain certifications related to use of organic, recycled, or other materials assessed for improved ESG performance characteristics.

**In 2022, Stepan evaluated new opportunities to deliver products based on more sustainable raw material solutions to the market, and it is a key priority for Stepan's Sustainable Growth team to build the partnerships and capabilities to deliver toward this goal.**



# ENVIRONMENT, RESOURCES, AND CLIMATE IMPACT

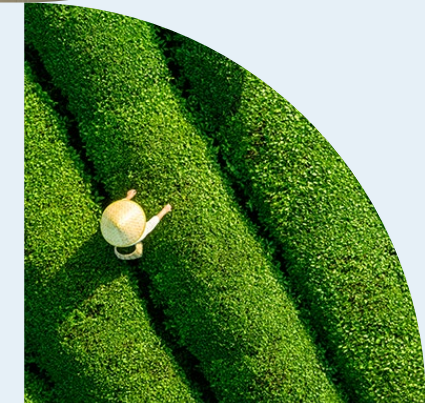
## Our Commitment and Approach

GRI 3-3

We are driven by the Company's vision for a cleaner, healthier, more energy efficient world and maintain a focus on using resources responsibly and reducing our manufacturing and product footprint. Cross-functional teams look for opportunities to drive emissions reduction, energy efficiency, water conservation, and waste reduction. We continue to enhance our management systems and improve our data management capabilities. Over the past few years, Stepan has conducted energy and water risk assessments, as well as scenario analyses to understand potential climate-related risk. We've evaluated opportunities to reduce waste and to promote reuse of our manufacturing by-products. This information is being used to develop longer-term management plans, to guide site investments, and to inform business strategy.



**We achieved an 11% reduction in our absolute Scope 1 and 2 emissions over a 2016 baseline, achieving our reduction goal ahead of the target year.**



Integrating sustainability criteria into operational procedures remains a priority and helps drive systematic and formalized strategy and planning. This can serve to strengthen our ability to reduce our environmental impact and can also support longer-term risk management. Our ESG Subcommittee and ESG Steering Team continue to guide us toward the fulfillment of these endeavors. For more information on Stepan's ESG teams, please visit the [Governance](#) section of this report on page 7.

The use of STEMS advances our ability to capture and utilize comprehensive site data on safety and environmental compliance. Our manufacturing locations are trained on STEMS and use e-dashboards to report on and track various KPIs. In 2022, we finalized development and deployment of our STEMS audit tools, giving us opportunities to perform internal compliance audits for the sites. STEMS aligns with key ISO criteria, and to demonstrate continuous improvement and a focus on best practices, we are working toward certification of additional sites according to ISO standards ISO50001, ISO14001 and ISO45001.

**Currently, one of our European manufacturing sites is ISO 50001 certified, and 20% of sites globally are ISO 14001 certified. In 2023 we will conduct gap assessments for our EU sites as we work toward increasing the number that are ISO 50001 certified.**

## Greenhouse Gas Emissions

GRI 305-5

Driving toward a more sustainable future and reducing air emissions are key priorities for Stepan and many of our stakeholders. Stepan continues to identify opportunities to reduce GHG emissions from our value chain activities. This includes focus on identification of raw material alternatives that deliver a lower emissions profile; product design and innovation to reduce emissions in manufacturing or in use; partnerships with logistics providers to reduce emissions during transport; investing toward renewable electricity; and work to optimize processes and equipment.

In 2022, we achieved our GHG emissions goals. While our manufacturing footprint has expanded over the past years, we have reduced our combined Scope 1 and Scope 2 emissions by approximately 11% over our 2016 baseline, achieving our goal of a 10% reduction ahead of time. We annually report our Scope 1 and 2 emissions to the ACC and to CDP, and this information, along with our energy consumption, is verified by an independent third party.

Stepan also completed a Scope 3 inventory to more fully understand the GHG emissions attributed to our business. Purchased goods and services contribute significantly to the overall emissions footprint, with raw materials having the largest impact in that category. This information is driving our discussions with customers and suppliers in exploring opportunities to deliver emissions reduction with drop-in solutions that offer the same exceptional performance.

In addition to GHG emissions, Stepan sites work to reduce other air emissions to improve air quality and reduce environmental impacts. In 2022, Stepan's Nanjing, China site invested in new processes for treatment of exhaust emissions from tanks and wastewater holding areas. Volatile organic compounds (VOCs) that were previously discharged to the atmosphere have been reduced by about 80% at the facility.

## Energy

Increasing our use of renewable energy across our operations while simultaneously managing energy costs is a priority for Stepan. Forty-seven percent of our global electricity procured in 2022 came from sources verified as renewable. This includes use of Renewable Energy Certificates (RECs) or Green Origin Certificates (GOs) for our Manizales, Colombia; Stalybridge, United Kingdom; and Elwood, Illinois (Millsdale) sites. Several of our sites also use on-site solar energy for non-manufacturing needs, such as lighting for locker rooms and outdoor spaces.



## ON-SITE SOLAR ENERGY GENERATION

In Spring 2022, Stepan initiated development of a renewable energy project for our site in Salto, Brazil. Beginning in the first half of 2023, the project began delivering solar generated electrical power that covers 100% of the sites' electricity usage. Prior to the project, the plant's electricity demand was met by a single public distributor of hydroelectric power. Due to severe water crises, the region is continuously at risk of suffering rationing or a collapse in the electricity supply from this hydropower source. To reduce demand on this stressed resource, the operations team evaluated alternative options for renewable energy and approved the solar project in spring 2022. By having on-site solar generation, energy supplies will be stabilized and bring about cost savings for the Company. The project has added benefits of diversifying the Brazilian energy grid and demonstrates Stepan's focus on sustainability and being a strong community partner.



## CAPTURING RUN-OFF TO REDUCE DEPENDENCE ON LOCAL WATER BODIES

Stepan's Manizales, Colombia, facility uses water from a nearby river to enable generation of steam, equipment cleaning, cooling, and as a raw material in finished products. To reduce dependence on river water, the site has installed a rainwater collection system that funnels water from building roofs to a storage tank. This water is used for site processes and then treated and discharged to the river in accordance with local regulations. This project, along with another implemented at the site, helps to reduce usage of river water and opens the opportunity for increasing production volumes while operating within existing permit boundaries for water usage.

Given the uncertainties in the European energy markets, combined with growing urgency to drive emissions reduction, the Company continues to evaluate investment in renewable energy. The Voreppe, France, facility signed Stepan's first Power Purchase Agreement in the Company's history in early 2023. The hydropower generated from this project will help green the regional grid and will be used to cover about 60% of the site's electricity requirements, with the remainder of electricity usage covered by Green Origin Certificates. These projects and others under evaluation contribute to Stepan's ongoing efforts to secure reliable and sustainable electricity.

As part of Stepan's effort to drive continuous improvement and sustainable practices across our operations, Regional Supply Chain Sustainability Councils have been created for each of our regions of operation. Each council is led by a member of Stepan's Supply Chain team, and through their roles, they work to promote dialogue and best practice sharing across sites and regions. In 2022, all regions found ways to use resources more responsibly. Our North American facilities conducted energy assessments and leak surveys to identify opportunities for improved energy efficiency, including heat and flue-gas recovery, right-sizing equipment, steam-trap repairs, equipment upgrades, and reduction or reuse of by-products with associated energy and resource savings. Beginning in 2023, these sites will participate in the U.S. Department of Energy Better Plants Program, which helps companies drive progress toward energy and emissions reduction goals.

### Water Use

GRI 3-3, 303-1

Stepan uses water throughout our manufacturing processes. Ongoing efforts related to improved efficiency and optimizing processes allow us to use water more responsibly. This is important for the communities where we operate, with shared resources that can be stressed due to regional weather patterns, over-development, over-use, or impacts from climate change. It is also important for Stepan, as we work to protect our ability to operate over the long term by taking steps to ensure access to essential resources.

Stepan depends on freshwater systems for our production, which includes small volumes of water used in finished products and significant volumes of water required for cooling processes, generation of steam, cleaning, and other site activity. We source municipal water, groundwater, and surface water depending on our areas of operation. Stepan has taken numerous steps to decrease our dependence on and impact to local bodies of water through process optimization, capital investments to eliminate water-dependent cooling, rainwater capture and reuse, and other actions. The Company also undertook a comprehensive water risk assessment of our global operations in 2021 through 2022. The process involved a review of risks related to water quality and quantity, identifying risks to Stepan operations, a review of possible risks to local communities and bodies of water, and identifying the connections to regulatory and reputational risks. The review was conducted using WRI Aqueduct tool and internal surveys of key stakeholders at each site.

**Stepan aims to reduce its water use by 40% by 2025, and from 2016 to 2022 reduced usage by about 35% at our baseline sites.**

However, with the acquisition of two new facilities that are now fully operational, our water usage has increased. If we exclude these two new facilities and track water usage across the originally baselined sites, we have reduced water usage by more than 35%. This is driven by ongoing savings at our Maywood, New Jersey facility, historically Stepan's largest water user, as well as other projects to capture and reuse water. We will continue evaluating water use across all of our sites to find further reduction opportunities. Additionally, we'll continue work to develop water management plans for all our sites by the end of 2023, using the results from our water risk assessments.

## Waste Reduction

GRI 3-3

Stepan's waste reduction efforts can deliver multiple benefits including promoting a circular economy, enabling more responsible use of resources, and reducing cost for waste management. We monitor waste generation and treatment in the STEMS, and our facilities work to identify opportunities for reduction based on the site manufacturing processes and by-products, industry park partners, and other factors. Across our operations, Stepan has initiated projects to reduce waste, including capture and reuse of condensate and gases; reuse or sale of by-products; capture and use of heat generated in exothermic reactions; and work with nearby industry partners to exchange heating and cooling.

Stepan's Batangas, Philippines, site implemented new on-site waste treatment practices that reduce the mass of waste shipped out for treatment, contributing to reduced transport emissions and to cost savings. Our facility in Fieldsboro, New Jersey, identified an opportunity to reduce wastewater generation and promote material reuse. The team installed a condensate collection system that increases the condensate return rate to near 90%, reducing wastewater generation and resulting in annual cost savings. Stepan's Vespasiano, Brazil team installed a rainwater separation system that reduces wastewater generation by over 10% and promotes cost savings. Sites also work to reuse and recycle workplace and construction-related waste materials. In 2022, Stepan's Ecatepec, Mexico, team established new waste management partnerships to reuse and recycle glass, wood, metals, drums, paper, and organic material, resulting in diversion of over 50 metric tons of material from waste streams.

Stepan has on-site waste treatment capabilities at some facilities and depends upon third-party providers for other sites or services. Stepan's Waste Facility Assessment Program includes audits of our waste management partners for proper handling and treatment in accordance with our safety standards and in compliance with all relevant regulations. If necessary, Stepan will cease business with vendors that present a potential risk to surrounding communities through non-compliant activities.

~90%

condensate return rate at Stepan's Fieldsboro, New Jersey facility



## ELIMINATING PROCESS-RELATED WASTEWATER

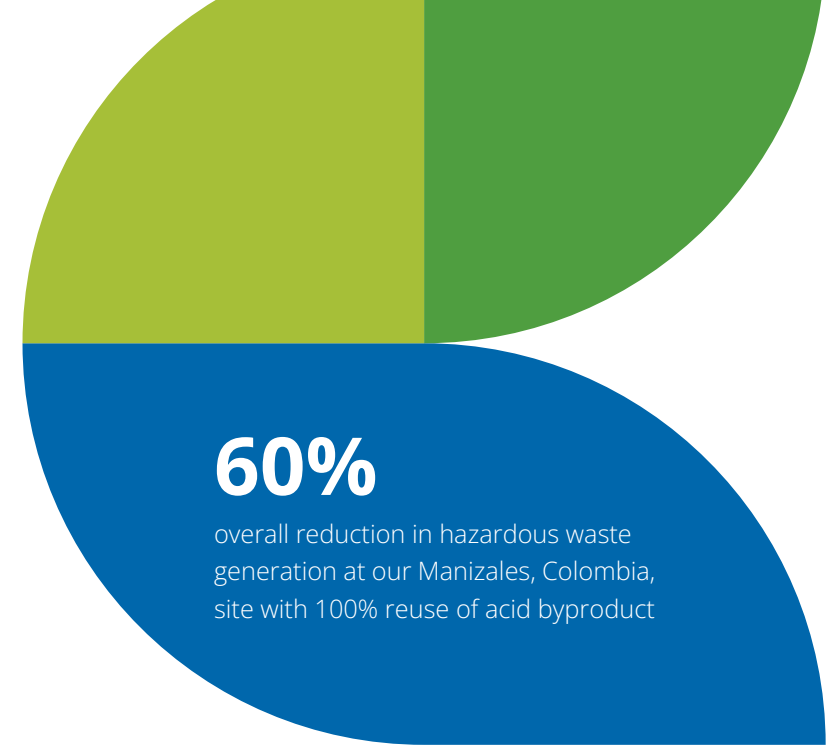
Stepan's Wesseling, Germany, facility completed work in 2022 to meet new emission regulations, with numerous additional sustainability benefits. The site has eliminated all their process-related wastewater, about 4,000 metric tons per year, as well as the majority of their process waste, amounting to about 400 metric tons avoided annually. The site will recognize about 90MWh per year of electricity savings along with significant reduction in steam usage.



## Climate Change

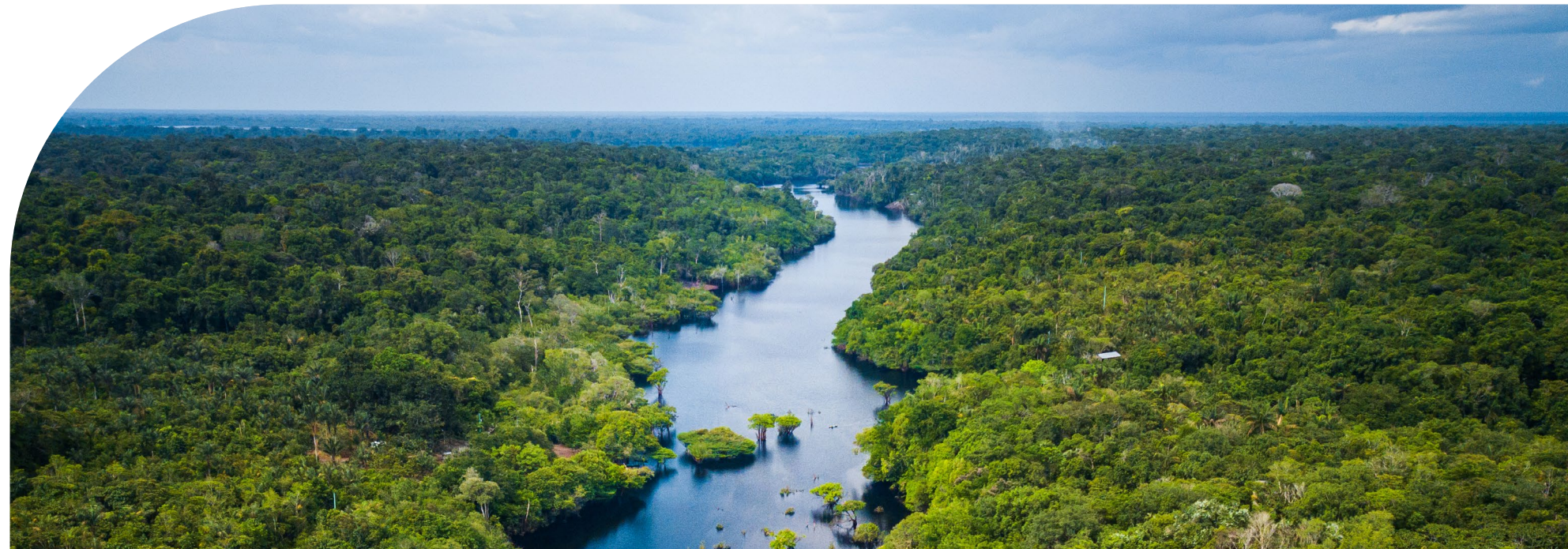
As a global Company, Stepan facilities can encounter a wide range of weather- and climate-related events based on their locations. Extreme storms, extended high or low temperatures, drought, and other conditions could interfere with our ability to receive materials and resources, operate our facilities, or deliver to our customers. With these potential impacts to our supply chain and our facilities in mind, we conduct regular reviews of our operations and our procurement strategy.

Stepan continues to work toward alignment with the TCFD. In 2022, we completed climate-related physical risk and transition risk assessments. The outputs of this work, combined with Stepan's Enterprise Risk Management process and other efforts will inform longer-term planning for our sites, with consideration of possible climate-related shifts that could affect each site's operations. Our goal with climate risk mitigation and long-term planning is to position Stepan to be resilient in the face of possible change or extreme conditions.



## CIRCULAR ECONOMY INITIATIVES

Our Manizales, Colombia, site produces sulfonated products, which generate byproducts that are treated as hazardous waste. As a result of engineering analysis followed by quality assurance testing, the Manizales team identified a process for reusing 100% of an acid by-product. This change enables elimination of 8-9 metric tons of hazardous waste each month, with about 108 metric tons of waste reduction in 2022. Stepan also benefits by eliminating the need for external disposal and treatment. The project reduces hazardous waste generation at the site by about 60% overall and supports our goals to build more circular processes. Initiatives like this help reduce our environmental footprint while providing the Company cost savings benefits. This project builds on prior work to drive circularity. The site continues to maintain an exhaust gas return system, reducing 86% of water consumption in the exhaust gas cleaning system, as well as 52% of wastewater generated, compared to a 2020 baseline. For more information on our commitment to circularity, please visit our [Products and Services for ESG Benefit](#) section in the Advantageous Products chapter of this report on page 26.







In 2022, Stepan formalized a focus on sustainable raw materials as a key factor in our product design and innovation strategy.



14

new products for fertilizer and plant nutrition applications



# ADVANTAGEOUS PRODUCTS

## Our Commitment and Approach

GRI 3-3

Stepan is proud to deliver products and services that address key global priorities across diverse markets. Food security, health and sanitation, resource conservation, and GHG emissions mitigation have all become increasingly urgent challenges. Stepan is responding with products and technological capabilities that provide benefits based on purposeful decisions starting from raw material procurement through product design, manufacturing, and transport.

Stepan concentrates investment and innovation efforts on current and emerging market demands through planned growth into new technologies and markets, as well as expansion of our existing capabilities. Our strategic investments in manufacturing and fermentation technologies enable growth in products generated from biological processes, with market expansion anticipated for this area in the coming years. We are also positioned to increase delivery of polymers going into building insulation, with greater production capacity from our Wilmington, North Carolina, facility. Significant investments to strengthen our specialty alkoxyates business should open growth opportunities in agriculture, construction, and household end use markets.



## Products and Services for ESG Benefit

GRI 3-3, 306-1, 306-2 (a, b.)

Stepan's R&D team works in partnership with our customers, our suppliers, industry organizations, and our internal stakeholders to inform product design and innovation. Significant attention is dedicated to building our expertise, navigating regulatory requirements, managing technological challenges, and aligning value chain capabilities with market needs to deliver high-performing products with ESG benefits. By the end of 2023, our goal is to direct 80% of R&D investments toward sustainable products and processes, as we continue to diversify our portfolio of offerings. With a focus on Stepan's Polymers and Surfactants innovation programs, we will drive investments that enable growth in products and services addressing global goals. This includes more sustainable food production, health and sanitation, energy efficiency, and responsible use of resources.

We maintain focus on differentiating ourselves by delivering exceptional performance across our markets with a portfolio of sustainably advantaged products and services that address key Sustainable Development Goals defined by the United Nations.

In 2022, Stepan formally launched Advanced Formulation Services (AFS). The AFS team partners with customers to navigate agricultural formulations with consideration of market goals, regional requirements, and the spectrum of regulations. The team's technical capabilities and formulating expertise help streamline product development for our agriculture customers globally, with finished products aimed at increasing crop production while minimizing impact to the environment and using resources responsibly. The AFS team has supported development of leading technologies and bio-fertilizers that contribute to more sustainable agricultural practices. Over the last year, we also launched 14 new products for fertilizer and plant nutrition applications.

Stepan's substantial investments over the past few years to develop fermentation technology and manufacturing capabilities represent a key growth priority. Biosurfactants are naturally occurring, have low toxicity, and are readily biodegradable, and we are pursuing opportunities for use of these chemistries in agrochemical and consumer markets. Additional market prospects exist in the consumer goods space, including fabric care, sanitation, cleaning, and personal care.

Stepan polymers enter diverse markets and support needs for building insulation, fire retardancy, improved safety, and product longevity. Low VOC polyols, such as those produced in our Nanjing, China plant, offer key automobile safety benefits aimed at protecting passengers, while also delivering reduced odor, chemical exposure, and windshield fogging.

To advance a circular economy throughout our impact areas, we partner with customers to create high-performing polyisocyanurate insulating foams, C.A.S.E. products and one-component foam applications using recycled polyethylene terephthalate (rPET). Inclusion of pre- and post-consumer recycled content is a feature of several of the insulation solutions we offer to customers. All STEPANPOL® rigid polyols in North America are UL 2809 certified® for having at least 45% post-industrial recycled content. Our European STEPANPOL® and TERATE® products carry UL certification for 45% or more post-industrial recycled content. Stepan also offers options for polyester polyols containing biobased raw material feeds, and we work with customers to map out opportunities to reduce the carbon footprint of the finished product with biobased raw material substitutes.

Stepan has introduced an innovative processing technology named "Smart Laydown" within our Technical Service team, which aims to assist customers in optimizing their production processes and minimizing waste in their manufacturing operations. By incorporating advanced diagnostic capabilities, our service is designed to enhance customer experience and contribute to our long-term strategy of integrating further digital solutions, remote technical service, and automation.

**To further promote circularity in the building insulation market, Stepan's R&D team is exploring options for end-of-life deconstruction and material reuse. Overcoming design, technology, and management challenges requires novel partnerships and solutions.**

## ROADMAP TO SUSTAINABILITY

In 2022, our Polymers team went through a road-mapping process to chart future technology goals and business imperatives required to achieve specified sustainability goals that have emerged for the chemical industry. This roadmap is a multi-year view that works to align Stepan's product development projects to customer needs and create new growth opportunities. The framework prioritizes projects important to our customers, helps define resourcing needs, and promotes dialogue around our circularity objectives.

## ESG Focused Product Design and Impact Assessment

GRI 3-3

With growing interest from our customers in the carbon footprint of their purchased materials, we continue to identify approaches to reduce the Scope 1, 2, and 3 GHG emissions associated with Stepan products. In 2022, Stepan formalized a focus on sustainable raw materials as a key factor in our product design and innovation strategy. Because activities associated with raw materials are the largest contributor to Scope 3 emissions, finding drop-in alternatives with a lower footprint is essential to reducing those emissions. This can include the use of biobased or circular raw materials, or raw materials produced with renewable energy. In 2023, we will begin work to gain key certifications to support customer requirements for products delivering sustainability benefits. Please refer to the [Sustainable Materials](#) section on page 19 for more details.

Over the past year, Stepan built our process to quantify the Product Carbon Footprint (PCF) of our finished goods, and we are working to align our methodology with recognized standards. There are still challenges in obtaining the necessary data for many of the materials that Stepan uses, but we continue to strengthen our process, which can provide insights that inform portfolio development and raw material procurement. Looking ahead, our goal is to develop PCF data for the majority of our commercial products and to shift from using secondary data to quality primary data. The PCF work complements another tool that Stepan developed and uses to evaluate our products based on their sustainability and safety characteristics. This product assessment tool considers broad criteria related to product safety for human health and the environment, as well as eco-claims and other benefits.

Building on our ongoing product innovation and assessment work, Stepan initiated a project in early 2023 with an external partner to develop a product design framework focused on safety and sustainability. Led by the Innovation and R&D teams, this undertaking recognizes that sustainability and climate risk are important elements we must incorporate into our product development process, in addition to our priorities for safety and performance.

Collectively, these efforts aim to support customer goals for products with stronger sustainability profiles, lower carbon footprints, and superior performance.

## Biodiversity and Ecosystems

Healthy ecosystems are essential for societal well-being, for securing resources we all depend upon, and for mitigating the risks of climate change. Stepan aims to do our part to be responsible stewards of the environment, and through our work we strive to conduct our business in a manner that minimizes our footprint. Across our value chain activities, we continue to explore opportunities to conserve resources, reduce waste and emissions, and deliver products that further these same goals.

We continue to promote responsible and sustainable sourcing of our biobased raw materials through supply chain certifications and our Responsible Sourcing Policy. In addition, with our membership to Action for Sustainable Derivatives, we aim to gain stronger insights into our palm material supply chain to understand the risks of deforestation and to support transformative change. As Stepan progresses our ambitions to expand into agricultural markets, there are opportunities to provide market solutions that support soil health and that help reduce unwanted impacts to ecosystems. Our work to lower operational impacts by decreasing water consumption, waste generation, energy usage, and emissions is an important step to protect ecosystem health, as we shift toward more sustainable manufacturing practices.

**Stepan recognizes the interconnections between biodiversity, healthy ecosystems, climate risk, and community wellness, and we will continue to drive actions aimed at being a responsible, valued, and sustainable community partner.**



Stepan's work to quantify product carbon footprints continues to evolve and can provide insights that inform portfolio development and raw material procurement.





## Partnerships and Collaborations

GRI 3-3

Stepan engages with many organizations to foster new ideas, explore solutions to challenging issues, provide thought leadership, pursue new technologies, and inform strategies to help deliver beneficial impacts. This includes active participation in multiple industry organizations, engagement with academic and government organizations, and work with trade associations globally.



ASD

New memberships over the past year include our participation in the Renewable Carbon Initiative, the CO<sub>2</sub> Value Europe Association, and Action for Sustainable Derivatives.



## SCIENCE GROUP CTO FORUM

In 2022, Stepan participated in a collaboration with the Science Group CTO Forum to develop “The Net Zero Playbook.” The Science Group is an international, science-led services and product development organization that provides thought leadership on issues affecting diverse industries. Stepan’s Chief Technology and Sustainability Officer, Jason Keiper, joined six other global senior executives to facilitate an interactive knowledge exchange, sharing best practices in the sustainability space among sectors. The Forum resulted in the formation of actionable tools, techniques, and conclusions that participants can implement to help their companies reduce carbon emissions.

# VALUING PEOPLE AND COMMUNITIES

## Our Commitment and Approach

The dedication and commitment of Stepan employees is key to our success and the foundation of our work. Stepan commits to cultivating talent through training and development programs that enable team members to grow professionally. We provide individualized support to each employee so they can build a fulfilling and successful career at Stepan. We strive to create a culture that places the highest priority on the overall well-being of our employees and that benefits from an engaged, talented, and passionate workforce.

This commitment carries through to the communities where we operate. Stepan offers rewarding career paths in science, engineering, human resources, sales, finance, and more. Stepan employees take pride in serving as mentors to young people interested in science, technology, engineering, and math (STEM) careers. Additionally, we actively seek ways to give back to our local communities through philanthropy, volunteerism, and partnerships with organizations that address societal needs.

74%

participation rate in annual employee engagement survey, exceeding industry benchmark



Stepan works to create an environment where employees find rewarding professional opportunities as well as a sense of inclusion.



## Talent Attraction and Retention

GRI 3-3

Stepan works to create an environment where employees find rewarding professional opportunities as well as a sense of inclusion. To attract and retain top talent and build a workforce that can thrive into the future, Stepan has developed a robust rewards package with carefully selected compensation and benefits based on local practices, employee preferences, and relevant regulations. Stepan's rewards program goes beyond the workplace to support the personal pursuits and well-being of our employees.

**In addition to Stepan's Total Rewards Program, about 85% of Stepan employees globally are eligible for either the Company's sponsored or statutory profit-sharing contribution. These contributions ensure that employees are financially rewarded in a manner that is aligned with the Company's profitable growth.**

Stepan's total rewards program includes:

- Learning and Development
- Family and Community Support
- Recognition Program
- Insurance Coverage
- Competitive Compensation
- Retirement Savings
- Tuition Assistance

Stepan has in place a Tuition Assistance Program as a valuable employee benefit, enabling individuals to receive financial support for the pursuit of undergraduate or graduate education. This initiative promotes employee growth and strengthens our talent pipeline. Stepan actively fosters career development opportunities and recognizes exceptional performance.

We continue to provide greater flexibility for our employees as expectations related to working arrangements evolve.

## Employee Engagement

Stepan engages with employees across the enterprise as a mechanism for monitoring and responding to the needs of our workforce and the organization. Throughout the year, we utilize various communication channels such as our intranet, staff meetings, and email. We conduct employee satisfaction and pulse surveys to obtain feedback annually from our employees. We use the feedback we receive from these surveys to continuously enhance our development plans, improve our leadership approach, and promote open communication.

In our 2022 annual employee engagement survey, Stepan demonstrated a 74% participation rate, exceeding the industry benchmark in all areas evaluated. The survey revealed 79% of employees feel their contributions are valued, 82% of employees have a sense of belonging at Stepan, and 84% percent believe the Company has an outstanding future. The survey also highlighted key indices and enablers of employee engagement, which include future vision, manager effectiveness, and change management. To enhance these crucial factors, Stepan has implemented a standard change management framework and launched training to upskill our leaders in this area.

We are committed to ongoing improvement, and by leveraging the insights gained from the survey, we are prioritizing certain groups within our talent pool to sharpen their workplace and job-specific skills.





## Employee Training and Development

GRI 3-3, 404-2

Investment in our employees' professional development is critical to their job satisfaction, career success, and overall growth. Stepan's Learning Governance Committee oversees management, development, and oversight of a program strategy that addresses the diverse technical, functional, and soft-skill development needs of our workplace. Clear governance, frameworks, and processes have been established by this Committee to drive alignment of all our Learning and Development initiatives with best practices in the industry. Programs are designed to enable employees to expand and strengthen the skills they need to meet the changing demands of their work and to grow in areas of interest. Stepan views these initiatives as valuable not only for the success of the business, but also because they prioritize the personal and professional growth ambitions of our employees.

In 2022, our Success Factors platform training and performance management programs were fully implemented for all global employees. To ensure our employees stay up to date on important topics, such as health and safety, equity and inclusion, anti-harassment, compliance, and cybersecurity, they are required to complete annual training on key topics. Additionally, employees have access to a variety of training and development resources that can be customized according to their professional goals. The platform helps employees to track their goals and allows leaders to manage talent by providing real-time data on employee performance and identifying potential skill gaps. The platform is available in the local languages where our employees work and is accessible on demand, supporting the goal of standardizing job-specific training and knowledge and making it readily available.

Stepan continuously works to develop the leadership skills we need for our existing organizational requirements and with an eye toward the future. We have programs that foster development of the skills required at different stages of our employees' leadership journey. Our Leading at Stepan program was developed to cultivate leadership in front-line and operations roles, as well as providing skills to new leaders joining our Company.

With global situations that have created additional stressors for employees across our sites, Stepan piloted an Empathetic Leadership program in 2022. The purpose of this program is to help leaders understand how employees might see the world differently and to help introduce an empathetic approach toward leadership and employee engagement.

To further support our leadership efforts, we have implemented the Mentor Match program. This program, now in its third year, pairs experienced leaders at the Company with newer leaders to help them develop the skills they need to take on more responsibility. This year, we have expanded the program to include panel-level mentoring, giving employees the opportunity to learn from and more closely connect with a range of senior leaders.

We encourage individual Stepan sites to identify and nurture leadership candidates. To promote ongoing career development, we offer all employees a wide range of internet-based courses that are tailored to their professional and skill-specific needs. Our leadership development programs are all about promoting new approaches to leadership that will help us thrive in the future.

## Employee Well-Being

GRI 403-6

We prioritize the well-being of our employees, as it is a critical component of Stepan's long-term success. We provide our employees with comprehensive support to maintain their emotional and mental health. Understanding the significance of well-being, our goal is to provide employees with the necessary resources and support mechanisms so they can come to work equipped to make meaningful contributions.

Stepan communicates regularly to keep focus on employee health and safety both at and away from work. We offer various support programs and resources, including smoking cessation, nutrition, exercise, and stress reduction. We strive to create comfortable and respectful workspaces, and by prioritizing the health and well-being of our employees, we aim to reduce absenteeism, increase productivity, and improve morale throughout the Company.

**Stepan seeks to build a sense of community and connection to recognize efforts and successes. To achieve this, we have the Reactions platform, which is now in its third year, empowering employees to acknowledge and appreciate each other for their positive contributions and accomplishments.**

In addition, town hall meetings have been an important means of engaging employees regarding their well-being. Throughout 2022, Stepan saw an increase in organized gatherings to recognize significant events for the Company and for our employees. These offer an opportunity to celebrate what being part of the Stepan community means and serve to reinforce a Company Value of belonging and well-being.

## Diversity, Equity, and Inclusion

Stepan seeks to foster a diverse, equitable, and inclusive global culture. We value the unique perspectives and talents of each employee, and we know that such diversity is a core component of our success. Through a Company culture that reflects this belief, as well as through our Values, Policies, and Code of Conduct, we work every day to create a safe and inclusive workplace where all employees are respected and supported.

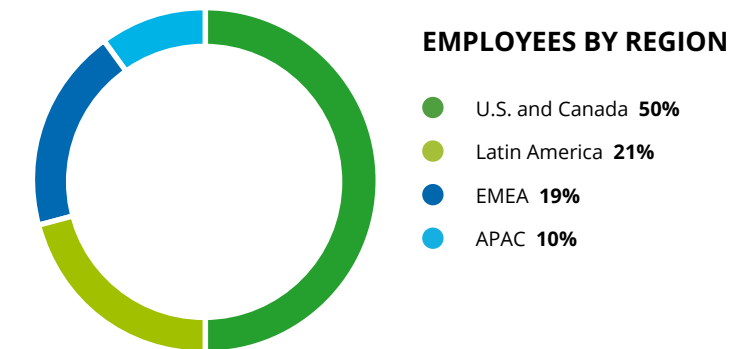
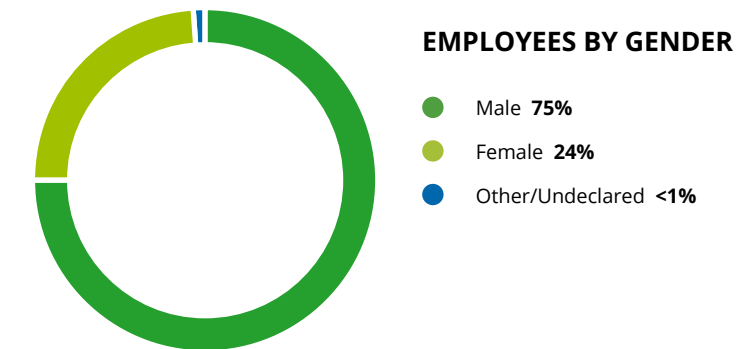
We strive to promote opportunities for open dialogue, increased awareness on key issues, and to build a strong sense of community around shared experiences. In 2022, we established the Women's Network, an Employee Resource Group (ERG) that works to promote Company Values around diversity, equity, and inclusion. The group also focuses on helping attract and develop talented women to drive business outcomes and strengthen Company culture. Finally, they engage externally with a goal of promoting science education and chemical industry opportunities for women. In 2023 we will launch a Black Employees Network, which will further our commitment to create an inclusive and welcoming workplace culture that values diversity and promotes equal opportunities for all employees. We will continue to support new ERGs that help to foster this outcome.

Stepan's Inclusion and Diversity Policy affirms our commitments in this area. Our focus is on recruiting diverse talent, ensuring fair hiring, and promoting a harassment-free work environment. We strive for equitable pay and treatment for all employees, regardless of characteristics such as race, ethnicity, color, nationality, gender, gender identity, sexual orientation, age, language, religion, creed, social status, disability, or any other legally protected class. We also expect our suppliers and business partners to adhere to the same standards.

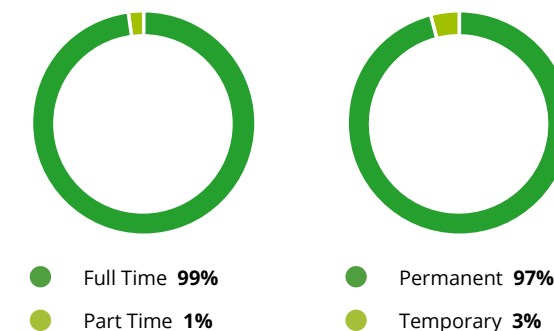
Stepan's commitment to creating a diverse and inclusive workplace is reflected in the results of our annual employee engagement survey. The 2022 survey showed that 88% of respondents felt that they were treated with dignity and respect, while 87% reported feeling comfortable being their authentic selves at work. We recognize that there are opportunities for improvement, and we remain committed to ensuring that every Stepan employee feels valued and included in our workplace community.

## Employee Diversity

GRI 2-8 (d.), 3-3, 405-1



### EMPLOYEES BY CONTRACT TYPE





## MEET YOUR FUTURE: WORKPLACE SAFARI PROGRAM

The team at Stepan's Stalybridge, U.K., facility participated in the Meet Your Future: Workplace Safari program that showcases local career opportunities to high school students in the greater Manchester area. The program aims to demystify the workplace and breakdown stereotypes through engagement with employees from businesses across the region. As a partner in the program, Stepan hosts groups of students with the aim of showcasing the variety of job opportunities available, as well as highlighting key skills that can help lead to success.

Viv Denis, HR Manager at the site, serves as an Enterprise Advisor, volunteering to help coordinate the monthly Workplace Safari experiences at Stepan. Employees from different functions at the Company take time to talk with students about their work and provide tours. Employees help drive home the value of chemistry and provide connections between chemistry, manufacturing, and the school curriculum. As a global manufacturing Company, the Stepan team also highlights the value of geography, communications, of knowing multiple languages, and even art!

**This partnership provides an important connection to young people in the area, building awareness of opportunities, and hopefully inspiring them to be excited about a future at Stepan.**

## Community Connections

GRI 3-3

Stepan teams work to cultivate strong relationships across our workforce and to be a valued community partner in our places of operation. Organized activities and celebrations give employees a chance to share their interests. Whether through bike-to-work and mobility challenges, gardening groups, fitness initiatives, or lunch-n-learns about personal hobbies, employees find ways to share, connect, and learn with one another.

Stepan finds ways to give back and connect with our communities through philanthropy, volunteerism, and partnerships with organizations that support social causes. We also actively support local communities through capital investments, employment, local procurement, corporate philanthropy, contracts with local and diverse companies, community engagement, and stakeholder partnerships that stimulate economic prosperity. Our employees actively engage in various charitable and community initiatives in our areas of operation. Employees organize donations of food, clothing, school supplies, and other resources. For example, Stepan's Millsdale team provided quantities of soap, sanitizer, and laundry detergents to a local pantry to support area residents. Our employees also look for opportunities to participate in environmental clean-up and restoration work to help protect and preserve the environment.

One of our core responsibilities to local communities is to operate in a manner that promotes safety and environmental responsibility. We also work to raise understanding and awareness for health and sanitation, STEM education, and career opportunities in the communities where we operate. Stepan's Philippines team has had a long-term commitment to local kindergarten programs to promote awareness of proper handwashing and to provide hygiene supplies. They have also supported the Brigada Eskwela program since 1999 by providing essential supplies to local schools.

In 2022, Stepan reaffirmed our commitment to supporting the Future of STEM Scholars Initiative (FOSSI), which enables talented U.S. students pursuing degrees in STEM subjects at historically black colleges and universities to access scholarships and other opportunities. We take pride in collaborating with global organizations to promote health, well-being, and science learning opportunities.



# APPENDIX

## Global Reporting Initiative (GRI) Index

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION/RESPONSE	OMISSION		
			Requirement(s) Omitted	Reason	Explanation
<b>General Disclosures</b>					
	2-1 Organizational details	<a href="#">Stepan 2022 10-K, p.1</a> Stepan Company Stepan Website: Locations <a href="#">About Stepan</a>			
	2-2 Entities included in the organization's sustainability reporting	<a href="#">Stepan 2022 10-K, p. 21</a>			
	2-3 Reporting period, frequency, and contact point	<a href="#">Stepan 2022 10-K, p. 21</a> <a href="#">About This Report</a>			
<b>GRI 2: General Disclosures 2021</b>	2-4 Restatements of information	Percent of energy from grid electricity: restated in 2020 to align with GRI reporting guidance  Percent of purchased palm derived material certified under RSPO: restated for 2019 and 2020 for consistency in calculation methodology			
	2-5 External Assurance	<a href="#">Assurance Statement</a>			
	2-6 Activities, value chain, and other business relationships	Stepan Responsible Sourcing Policy <a href="#">About This Report</a>			
	2-7 Employees	<a href="#">Analyst Download</a>			
	2-8 Workers who are not employees	<a href="#">Diversity, Equity, and Inclusion</a>			
	2-9 Governance structure and composition	<a href="#">Stepan Corporate Governance Guidelines; Governance</a>			
	2-10 Nomination and selection of the highest governance body	Stepan Website: Nominating and Corporate Governance Committee Charter; <a href="#">Stepan Corporate Governance Guidelines</a>			

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION/RESPONSE	OMISSION		
			Requirement(s) Omitted	Reason	Explanation
<b>General Disclosures</b>					
	2-11 Chair of the highest governance body	<a href="#">Stepan Board of Directors</a>			
	2-12 Role of the highest governance body in overseeing the management of impacts	<a href="#">Governance</a>			
	2-13 Delegation of Responsibility for managing impacts	<a href="#">Sustainability at Stepan</a>			
	2-14 Role of the highest governance body in sustainability reporting	<a href="#">Sustainability at Stepan</a>			
	2-15 Conflicts of interest	<a href="#">Stepan Corporate Governance Guidelines</a>			
	2-16 Communication of critical concerns	<a href="#">Stepan Code of Conduct</a>			
	2-17 Collective knowledge of the highest governance body	<a href="#">Sustainability at Stepan</a>			
<b>GRI 2: General Disclosures 2021</b>	2-18 Evaluation of the performance of the highest governance body	<a href="#">Stepan Corporate Governance Guidelines</a>			
	2-19 Remuneration policies	<a href="#">Stepan Proxy 2022, p. 17</a>			
	2-20 Process to determine remuneration	<a href="#">Stepan Proxy 2022, p. 17</a>			
	2-21 Annual total compensation ratio	<a href="#">Stepan Proxy 2022</a>			
	2-22 Statement on sustainable development strategy	<a href="#">Products and Services for ESG Benefit</a>			
	2-23 Policy Commitments	<a href="#">About: Stepan Website</a> <a href="#">Stepan Code of Conduct</a> <a href="#">Stepan Human Rights Policy</a>			
	2-24 Embedding policy commitments	<a href="#">Stepan Code of Conduct</a>			

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION/RESPONSE	OMISSION		
			Requirement(s) Omitted	Reason	Explanation
<b>General Disclosures</b>					
<b>GRI 2: General Disclosures 2021</b>	2-25 Processes to remediate negative impacts	<a href="#">Stepan Corporate Guidelines</a> <a href="#">Enterprise Risk Management</a> <a href="#">Ethics and Compliance</a>			
	2-26 Mechanisms for seeking advice and raising concerns	<a href="#">Ethics Point Hotline</a>			
	2-27 Compliance with laws and regulations	<a href="#">Stepan 2022 10-K, p. 16</a>			
	2-28 Membership associations	<a href="#">Responsible Practices</a>			
	2-29 Approach to stakeholder engagement	<a href="#">Stakeholder Engagement and Materiality</a>			
	2-30 Collective bargaining agreements	<a href="#">Analyst Download</a> When Collective bargaining agreements (CBAs) are not in place, they still serve as the basis for our benefits as we leverage local economics.			
<b>Material Topics</b>					
<b>GRI 3: Material Topics 2021</b>	3-1 Process to determine material topics	<a href="#">Stakeholder Engagement and Materiality</a>			
	3-2 List of material topics	<a href="#">Stakeholder Engagement and Materiality</a>			
<b>Delivering Superior Customer Experience</b>					
Climate Change, Energy and GHG Emissions					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Analyst Download</a> <a href="#">Energy</a>			
	302-1 Energy consumption within the organization	<a href="#">Analyst Download</a>			
<b>GRI 302: Energy 2016</b>	302-2 Energy consumption outside of the organization		302-2	Information unavailable	Stepan does not currently track this information.

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION/RESPONSE	OMISSION		
			Requirement(s) Omitted	Reason	Explanation
<b>Delivering Superior Customer Experience</b>					
Climate Change, Energy and GHG Emissions					
<b>GRI 302: Energy 2016</b>	302-3 Energy intensity	<a href="#">Analyst Download</a>			
	302-4 Reduction of energy consumption		302-4	Information unavailable	Energy consumption has increased with our expanded manufacturing footprint. Numerous initiatives across our sites are contributing the greater efficiency; however, details required for fulfilling this reporting requirement are not currently available.
	302-5 Reductions in energy requirements of products and services		302-5	Information unavailable	Stepan does not currently track this information.
<b>GRI 305: Emissions 2016</b>	305-1 Direct (Scope 1) GHG emissions	<a href="#">Analyst Download</a>			
	305-2 Energy indirect (Scope 2) GHG emissions	<a href="#">Analyst Download</a>			
	305-3 Other indirect (Scope 3) GHG emissions		305-3	Information unavailable	Stepan is currently working to build our capacity to track and manage Scope 3 emissions, and we plan to disclose this information in the future.
	305-4 GHG emissions intensity	<a href="#">Analyst Download</a>			
	305-5 Reduction of GHG emissions	<a href="#">Energy</a>			
	305-6 Emissions of ozone-depleting substances (ODS)	<a href="#">Analyst Download</a>			
	305-7 Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ), and other significant air emissions	<a href="#">Analyst Download</a>			
<b>Waste Reduction and Water Use</b>					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Water Use</a>			
<b>GRI 303 Water and Effluents 2018</b>	303-1 Interactions with water as a shared resource	<a href="#">Water Use</a>			

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION/RESPONSE	OMISSION		
			Requirement(s) Omitted	Reason	Explanation
<b>Delivering Superior Customer Experience</b>					
Waste Reduction and Water Use					
<b>GRI 303 Water and Effluents 2018</b>	303-2 Management of water discharge-related impacts	<a href="#">Environmental Protection Agency</a>			
	303-3 Water withdrawal	<a href="#">Analyst Download</a>			
	303-4 Water discharge	<a href="#">Analyst Download</a>			
	303-5 Water consumption	<a href="#">Analyst Download</a>			
<b>GRI 306: Waste 2020</b>	306-1 Waste generation and significant waste related impacts	<a href="#">Waste Reduction; Products and Services for ESG Benefit</a>			
	306-2 Management of significant waste-related impacts	<a href="#">Waste Reduction; Products and Services for ESG Benefit</a>			
	306-3 Waste generated	<a href="#">Analyst Download</a>			
	306-4 Waste diverted from disposal	<a href="#">Analyst Download</a>			
	306-5 Waste directed to disposal	<a href="#">Analyst Download</a>			
<b>Talent Attraction, Engagement, and Retention</b>					
Employee Learning and Development					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Employee Training and Development</a>			
	404-1 Average hours of training per year per employee	<a href="#">Analyst Download</a>			
<b>GRI 404: Training and Education 2016</b>	404-2 Programs for upgrading employee skills and transition assistance programs	<a href="#">Employee Training and Development</a>			
	404-3 Percentage of employees receiving regular performance and career development reviews	<a href="#">Analyst Download</a>			

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION/RESPONSE	OMISSION		
			Requirement(s) Omitted	Reason	Explanation
<b>Talent Attraction, Engagement, and Retention</b>					
Diversity, Equity, and Inclusion					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Diversity, Equity and Inclusion</a>			
<b>GRI 405: Diversity and Equal Opportunity 2016</b>	405-1 Diversity of governance bodies and employees	<a href="#">Diversity, Equity and Inclusion</a> <a href="#">Analyst Download</a>			
	405-2 Ratio of basic salary and remuneration of women to men		405-2	Information unavailable	Stepan does not disclose this information publicly.
<b>Occupational Health, Safety and Wellbeing</b>					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Occupational Health and Safety</a>			
<b>GRI 403: Occupational Health and Safety (2018)</b>	403-1 Occupational health and safety management system	<a href="#">Occupational Health and Safety</a>			
	403-2 Hazard identification, risk assessment, and incident investigation	<a href="#">Occupational Health and Safety</a>			
	403-3 Occupational health services	<a href="#">Occupational Health and Safety</a>			
	403-4 Worker participation, consultation, and communication on occupational health and safety	<a href="#">Occupational Health and Safety</a>			
	403-5 Worker training on occupational health and safety	<a href="#">Occupational Health and Safety</a>			
	403-6 Promotion of worker health	<a href="#">Employee Well-Being</a>			
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	<a href="#">Occupational Health and Safety</a>			
	403-8 Workers covered by an occupational health and safety management system			403-8	Information unavailable

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION/RESPONSE	OMISSION		
			Requirement(s) Omitted	Reason	Explanation
<b>Talent Attraction, Engagement, and Retention</b>					
<b>GRI 403: Occupational Health and Safety (2018)</b>	403-9 Work-related injuries	<a href="#">Analyst Download</a> <a href="#">Occupational Health and Safety; Message from the CEO</a>			
	403-10 Work-related ill health	<a href="#">Analyst Download</a>			
Customer Experience					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Community Connections</a>			
	413-1 Operations with local community engagement, impact assessments, and development programs	<a href="#">Community Connections</a>			
<b>GRI 413: Local Communities 2016</b>	413-2 Operations with significant actual and potential negative impacts on local communities	<a href="#">Community Connections</a>			
Regulatory Compliance					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Products and Services for ESG Benefit; Regulatory Compliance and Product Stewardship</a>			
<b>GRI 416: Customer Health and Safety 2016</b>	416-1 Assessment of the health and safety impacts of product and service categories	<a href="#">Analyst Download</a>			
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	<a href="#">Analyst Download</a>			
Innovation					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Advantageous Products</a>			
Product Stewardship					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Advantageous Products</a>			



GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION/RESPONSE	OMISSION		
			Requirement(s) Omitted	Reason	Explanation
<b>Talent Attraction, Engagement, and Retention</b>					
Corporate Governance					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Governance</a>			
	3-3 Management of material topics	<a href="#">Code of Conduct</a>			
<b>GRI 205: Anti-corruption 2016</b>	205-1 Operations assessed for risks related to corruption	<a href="#">Analyst Download</a>			
	205-2 Communication and training about anti-corruption policies and procedures	<a href="#">Stepan Third Party Code of Conduct</a>			
		<a href="#">Stepan Code of Conduct</a>			
		<a href="#">Analyst Download</a>			
	<a href="#">Ethics and Compliance</a>				
	205-3 Confirmed incidents of corruption and actions taken		205-3	Information unavailable	Stepan does not currently disclose this information publicly.
<b>Promoting a Circular Economy</b>					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Products and Services for ESG Benefit</a>			
		<a href="#">Stepan Third Party Code of Conduct</a>			
		<a href="#">Responsible Sourcing Policy</a>			
<b>GRI 308: Supplier Environmental Assessment 2016</b>	308-1 New suppliers that were screened using environmental criteria	<a href="#">Analyst Download</a>			
	308-2 Negative environmental impacts in the supply chain and actions taken	<a href="#">Sustainable Materials Use and Sourcing</a> <a href="#">Analyst Download</a>			
<b>Partnerships and Collaborations</b>					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	<a href="#">Third Party Partnerships</a>			

## Sustainability Accounting Standards Board (SASB) Index

TOPIC	ACCOUNTING METRIC	CODE	LOCATION OR DIRECT ANSWER
<b>GHG Emissions</b>	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulation (Metric tons (t) CO <sub>2</sub> e, Percentage (%))	RT-CH-110a.1	<a href="#">Analyst Download</a>
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	RT-CH-110a.2	Impact Toward the U.N. Global Compact and Sustainable Development Goals <a href="#">Greenhouse Gas Emissions</a> Stepan conforms to the ACC Responsible Care Management System, and additionally continues to implement a Stepan Management System, which incorporates criteria from ISO 14001 (environmental management) and ISO 50001 (energy management). We track energy and emissions data against our baseline across our global facilities. We have defined energy use and emissions reduction targets and have implemented projects across our sites that enable energy efficiency.
<b>Air Quality</b>	Air emissions of the following pollutants: (1) NO <sub>x</sub> (excluding N <sub>2</sub> O), (2) SO <sub>x</sub> , (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs) (metric tons)	RT-CH-120a.1	<a href="#">Analyst Download</a>
<b>Energy Management</b>	Percentage of energy that is grid electricity, renewable, and self-generated (GJ and %)	RT-CH-130a.1	<a href="#">Analyst Download</a>
<b>Water Management</b>	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress (Thousand cubic meters (m <sup>3</sup> ), Percentage (%))	RT-CH-140a.1	<a href="#">Analyst Download</a>
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	RT-CH-140a.2	<a href="#">Analyst Download</a>
	Description of water management risks and discussion of strategies and practices to mitigate those risks	RT-CH-140a.3	<a href="#">Environment, Resources, and Climate Impact—Our Approach and Commitments; Water Use</a>
<b>Hazardous Waste Management</b>	Amount of hazardous waste generated, percentage recycled	RT-CH-150a.1	<a href="#">Analyst Download</a>
<b>Community Relations</b>	Discussion of engagement processes to manage risks and opportunities associated with community interests	RT-CH-210a.1	<a href="#">Valuing People and Communities; Community Connections; Environment, Resources, and Climate Impact—Our Approach and Commitments; Water Use</a>
<b>Workforce Health and Safety</b>	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	RT-CH-320a.1	<a href="#">Analyst Download</a>
	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	RT-CH-320a.2	<a href="#">Responsible Practices—Our Commitment and Approach; Occupational Health and Safety</a> All sites have a hazard communication program and personal protective equipment programs. In addition, we have done a qualitative industrial hygiene risk assessment at our global sites using a 3rd party to identify potential exposures, identify applicable occupational exposure limits, and risk rank the activities. Using this evaluation, sites then perform employee exposure monitoring as required. Depending upon results of monitoring, controls are evaluated and implemented.

TOPIC	ACCOUNTING METRIC	CODE	LOCATION OR DIRECT ANSWER
<b>Product Design for Use-Phase Efficiency</b>	Revenue from products designed for use phase resource efficiency	RT-CH-410a.1	Omission: Stepan does not currently track this metric but plans to disclose in future reporting.
	(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment	RT-CH-410b.1	<a href="#">Analyst Download</a> 5.4% of Stepan chemicals are classified as 'high-priority' chemicals according to GHS and other national and international standards. 100% of Stepan's 'high-priority' chemicals have Product Stewardship summaries prepared and publicly available on the Company website. <a href="#">Responsible Practices; Regulatory Compliance and Product Stewardship</a> <a href="#">Advantageous Products</a>
<b>Safety and Environmental Stewardship of Chemicals</b>	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	RT-CH-410b.2	<a href="#">Regulatory Compliance and Product Stewardship</a> <a href="#">Advantageous Products; Products and Services for ESG Benefit</a> As members of American Chemistry Council (ACC), Stepan is actively engaged with the Global Product Strategy (GPS) initiative. GPS, which is designed to meet United Nation's Strategic Approach to Chemicals Management, aims to improve product stewardship within the chemical industry and with suppliers and customers throughout the chain of commerce. Additionally, Stepan has implemented the Product Safety Code which contains 11 management practices to focus on the knowledge, management, and communication of the health and environmental impacts of chemical products. Stepan has prioritized the chemicals we manufacture and is using a tiered approach to create our product stewardship summaries. Product stewardship summaries have been completed for those chemicals identified as being a high priority according to national and/or international regulation.
	Percentage of products by revenue that contain genetically modified organisms (GMOs)	RT-CH-410c.1	Omission: This disclosure topic does not apply to Stepan business model, metrics are omitted based on the lack of applicability.
<b>Management of the Legal and Regulatory Environment</b>	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	RT-CH-530a.1	<a href="#">Responsible Practices</a> <a href="#">Environment, Resources, and Climate Impact</a> <a href="#">Advantageous Products</a> <a href="#">Stepan 2022 Form 10-K (Item 1A)</a>
<b>Operational Safety, Emergency Preparedness and Response</b>	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	RT-CH-540a.1	<a href="#">Analyst Download</a>
	Number of transport incidents	RT-CH-540a.2	<a href="#">Analyst Download</a>
<b>Activity Metric</b>	Production by reportable segment	RT-CH-000.A	<a href="#">Analyst Download</a>

# PHOTO ATTRIBUTIONS

## COVER PAGE

**Top image:** Thach Bao Tran, Senior Microbiologist and Jay Weiland, Senior Functional Chemist, Northfield, Illinois

**Lower image:** Sibele Cruz, Salto, Brazil

## PAGE 2

Liban Jirmo, Senior Technical Services Representative, Northbrook, Illinois

## PAGE 4

**Top image:** Todd Baker, Senior Product Manager and Kevin Wheelock, Market Growth Manager, Alkoxylation, Northbrook, Illinois

**Lower image:** Cherina Coopwood, Accounts Payable and Payroll Manager; Tom Giese, VP Surfactant Commercial Development; Muhammad Sanaullah, Senior SAP Business Analyst, Northbrook, Illinois

## PAGE 6

Willains Dias, Production Assistant, Salto Brazil

## PAGE 7

**Top image:** Jaclyn Filipovic, Global Marketing Communication Specialist; Scott Brosnan, NA Customer Care Representative; and Justyna Zucker, Sales Analyst, Northbrook, IL

**Lower image (left to right):** Stepan Board Members: Joaquin Delgado, PhD; Randall S. Dearth; Jan Stern Reed; Scott R. Behrens; Lorinda Burgess; Gregory E., Lawton; F. Quinn Stepan, Jr.; Edward J. Wehmer

## PAGE 9

Pia Amora Sr. Research Manager, Northfield, Illinois

## PAGE 10

Ansley Almond-Garcia, Agricultural Biologist, Winder, Georgia

## PAGE 11

Ron Masters, Research Fellow, HII, Northfield, Illinois

## PAGE 12

Helio Levra, Plant Manager, Salto, Brazil

## PAGE 13

**Top image:** Doug Francis, EHS&S System & Data Management Specialist and Brian Rehor, Production Shift Leader, Millsdale, Illinois

**Lower image:** Dawn Friesen, Senior Research Chemist and Alhad Phatak, Product Development Manager, Houston, Texas

## PAGE 14

Marcelo Rubio, Director Manizales, Colombia and Luan Castro, Maintenance and Project Manager, Salto, Brazil

## PAGE 15

Alexis Bender, Microbiologist I and Alexander Nikoloff, Microbiologist II, Northfield, Illinois

## PAGE 16

**Bottom row from left:** Andres Espinoza, Process Engineer; Tatiana Vasconcellos, Quality Manager; Claudia Benevides, HR Manager; Adriano Rocha, Production Coordinator; Giorgia Rodrigues, Customer Service Coordinator; Juliana Fanchini, Customer Service Coordinator; Thais Caires, Finance Coordinator. Top row from left: Gabriela Silva, HR Analyst; Tiago Oliveira, EHS Technician; David Mattingly, Chief Compliance & Risk Officer; Helio Levra, Plant Manager; Luan Castro, Maintenance & Project Manager and Salto Ethics Ambassador; Guilherme Capello, IT Help Desk, Salto, Brazil

## PAGE 17

**Top left image:** Laura Olson, Business Manager-Agricultural Products, Northbrook, Illinois; Jessica Winkler, Laboratory Technician, Winder, Georgia; Brian Holland, Technical Director-Advanced Formulation Services, Northfield, Illinois

**Image on top right:** Renata Butikas, R&D Group Leader, Personal Care; Cyril Bajracharya Research Chemist Consumer Products; and Kelly Strout, Senior Research Chemist Consumer Products, Northfield, Illinois

## PAGE 19

Elton Araujo, Dispatch Assistant, Salto, Brazil

## PAGE 20

Wei Xin Soon, Agricultural Chemist, Singapore

## PAGE 21

Matheus Vinícius P. dos Santos, Contractor at Stepan Salto facility

## PAGE 25

**Top image:** Wei Xin Soon, Agricultural Chemist, Singapore

**Lower image:** Chen Shyan Wong, Agricultural Scientist; Shrikant Aherkar, Lead Agricultural Scientist, Singapore

## PAGE 26

Mike Coogan, Commercial Director, Rigid Polyol-The Americas, Northbrook, Illinois; Carl Liskey, Sr. Research Chemist, Northfield, Illinois; Jeff Varghese, Director-Polymer Innovation Program, Northbrook, Illinois

## PAGE 27

Faith Savanhu, Business Development Manager, Northfield, Illinois

## PAGE 28

Faye Rice, Executive Business Partner to the President & CEO, Northbrook, Illinois; Charlotte Bryant, Global Sustainability Leader, Northfield, Illinois; Didier Ray, Head of Sustainable Growth, Voreppe, France

## PAGE 29

**Top image:** Ling Liu, Engineering Project Manager; Jessica Wang, Accountant; Lisa Cao, Human Resources Manager; Linda Shen, Senior Human Resource Specialist; Peggy Chen, Communications Manager, Nanjing, China

**Middle image:** Prabhakar Nithila, Technical Director Asia-Pacific Surfactants R&D, Singapore

**Bottom image:** Faye Rice, Executive Business Partner to the President & CEO, Northbrook, IL, Sangeeta Ganguly-Mink, R&D Technical Director, Northfield, IL

## PAGE 30

**Top image (left to right):** Didier Ray, Head of Sustainable Growth, Voreppe, France; Stefan Svensson, VP Global Environment, Health, Safety & Security, Northbrook, Illinois

**Bottom image:** Ederson Silva, MPR Leader, Salto, Brazil

## PAGE 31

Parker Stockman, Global Internal Communication Manager, Northbrook, IL; Diana Dardugno, Global R&D EHS&S Manager, Northfield, IL; Akiko Yamamoto-Grieger, Program Manager, Northbrook, Illinois

## PAGE 33

**Top photo:** Team of volunteers at Voreppe, France facility

**Bottom photo:** Nonie Cordero, Human Resource Specialist and Norlan Marquez, Production Team Leader, Batangas, the Philippines

# ASSURANCE STATEMENT

## Independent Limited Assurance Statement to Stepan Company

ERM Certification & Verification Services Incorporated (“ERM CVS”) was engaged by Stepan Company (“Stepan”) to provide limited assurance in relation to the selected 2022 disclosures set out below and presented in its 2022 Sustainability Report & ESG Analyst Download (the “Report”).

Engagement summary											
Scope of our assurance engagement	Whether the 2022 data for the following selected disclosures, as indicated on page 2 of the ESG Analyst Download are fairly presented in all material respects, in accordance with the reporting criteria.										
	<table border="1"> <thead> <tr> <th>Disclosure</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Scope 1 GHG Emissions</td> <td>kilotons CO<sub>2</sub>e</td> </tr> <tr> <td>Scope 2 GHG Emissions (location-based)</td> <td>kilotons CO<sub>2</sub>e</td> </tr> <tr> <td>Scope 2 GHG Emissions (market-based)</td> <td>kilotons CO<sub>2</sub>e</td> </tr> <tr> <td>Total Energy Consumed</td> <td>1000 x Terajoules</td> </tr> </tbody> </table>	Disclosure	Unit	Scope 1 GHG Emissions	kilotons CO <sub>2</sub> e	Scope 2 GHG Emissions (location-based)	kilotons CO <sub>2</sub> e	Scope 2 GHG Emissions (market-based)	kilotons CO <sub>2</sub> e	Total Energy Consumed	1000 x Terajoules
	Disclosure	Unit									
	Scope 1 GHG Emissions	kilotons CO <sub>2</sub> e									
	Scope 2 GHG Emissions (location-based)	kilotons CO <sub>2</sub> e									
Scope 2 GHG Emissions (market-based)	kilotons CO <sub>2</sub> e										
Total Energy Consumed	1000 x Terajoules										
Our assurance engagement does not extend to information in respect of earlier periods or to any other information included in the Report.											
Reporting period	1 January 2022 - 31 December 2022										
Reporting criteria	<ul style="list-style-type: none"> <li>WBCSD/WRI GHG Protocol (2004, as updated January 2015) for the Scope 1 and 2 GHG emissions.</li> <li>Stepan’s Energy and Emissions Data Collection and Management Methodology</li> </ul>										
Assurance standard and level of assurance	<p>We performed a limited assurance engagement, in accordance with the International Standard on Assurance Engagements ISAE 3000 (Revised) ‘Assurance Engagements other than Audits or Reviews of Historical Financial Information’ issued by the International Auditing and Standards Board.</p> <p>The procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement and consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.</p>										
Respective responsibilities	<p>Stepan is responsible for preparing the Report and for the collection and presentation of the information within it, and for the designing, implementing, and maintaining of internal controls relevant to the preparation and presentation of the Report.</p> <p>ERM CVS’ responsibility is to provide conclusions to Stepan on the agreed scope based on our engagement terms with Stepan, the assurance activities performed and exercising our professional judgement. We accept no responsibility, and deny any liability, to any party other than Stepan for the conclusions we have reached.</p>										

### Our conclusion

Based on our activities, as described below, nothing has come to our attention to indicate that the 2022 data and information for the disclosures listed under ‘Scope’ above are not fairly presented in the Report, in all material respects, in accordance with the reporting criteria.

### Our assurance activities

Considering the level of assurance and our assessment of the risk of material misstatement of the Selected Information, a multi-disciplinary team of sustainability and assurance specialists performed a range of procedures that included, but was not restricted to, the following:

- Assessing the appropriateness of the reporting criteria for the selected disclosures.
- Interviews with management representatives responsible for managing the selected disclosures.
- Interviews with relevant staff to understand and evaluate the relevant management systems and processes (including internal review and control processes) used for collecting and reporting the selected disclosures.
- A review at corporate level of a sample of qualitative and quantitative evidence supporting the reported information. This included a detailed review of the process emissions and associated calculations & supporting evidence for the Millsdale site.
- An analytical review of the year-end data submitted by all locations included in the consolidated 2022 group data for the selected disclosures which included testing the completeness and mathematical accuracy of conversions and calculations, and consolidation in line with the stated reporting boundary.
- Site visits were conducted at Stepan facilities to review source data and local reporting systems and controls. Both an in-person visit to a facility in Wilmington, North Carolina, and a virtual site visit to a facility in Matamoros, Mexico were carried out.
- Confirming conversion and emission factors and assumptions used.
- Reviewing the presentation of information relevant to the scope of our work in the Report to ensure consistency with our findings.

### The limitations of our engagement

The reliability of the assured information is subject to inherent uncertainties, given the available methods for determining, calculating, or estimating the underlying information. It is important to understand our assurance conclusions in this context.

### Our independence, integrity, and quality control

ERM CVS is an independent certification and verification body accredited by UKAS to ISO 17021:2015. Accordingly, we maintain a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements. Our quality management system is at least as demanding as the relevant sections of ISQM-1 and ISQM-2 (2022).

ERM CVS applies a Code of Conduct and related policies to ensure that its employees maintain integrity, objectivity, professional competence, and high ethical standards in their work. Our processes are designed and implemented to ensure that the work we undertake is objective, impartial and free from bias and conflict of interest. Our certified management system covers independence and ethical requirements that are at least as demanding as the relevant sections of Parts A & B of the IESBA Code relating to assurance engagements.

The team that has undertaken this assurance engagement has extensive experience in conducting assurance on environmental, social, ethical and health and safety information, systems and processes, and provides no consultancy related services to Stepan in any respect.

*Beth C. B. Wyke*

Beth Wyke  
Head of Corporate Assurance Services  
Malvern, PA

June 14, 2023

ERM Certification & Verification Services Incorporated  
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**Stepan**

