

2022 ESG report



contents



environment

7 sustainable sourcing

- 8 EcoVadis
- supplier engagement
- 9 sustainable guar and puraloe™ aloe vera

10 sustainable operations

- 11 Science Based Targets initiative (SBTi)
- 12 environmental performance
- 13 Responsible Care® EHS performance
- 14 process safety performance
- transport safety
- 15 plant projects – Ashland Production System (APS)
- 16 external recognition
- 17 ESG innovations

18 sustainable solutions

- 19 life sciences
- 21 personal care
- 22 specialty additives
- 23 biodegradability
- 24 PCHH portfolio biodegradability
- 25 upcycling
- 26 ISO 16128
- 27 sustainable forest management

28 biodiversity



social

30 inclusion & diversity (I&D)

- 32 employee resource groups
- 33 AWIN recipients
- 34 I&D programs

35 STEM

- 35 global STEM programs
- 36 regional STEM program highlights
- 37 STEM and sustainable guar farming



governance

- 39 governance overview
- 41 governance cybersecurity
- 42 global code of conduct, ethics ambassadors

leadership

- 43 2022 global footprint
- 44 board of directors, executive leadership

responsibly solving
for a better world



download a printable
PDF of this report

We encourage you to download and review the digital copy of this report. If you must print a copy, we recommend printing only one copy for personal use.

chair and CEO message

When it comes to environment, social, and governance (ESG), Ashland is investing and delivering in ways that our customers and consumers demand and aligning our strategy to the United Nations Sustainable Development Goals (SDGs).



In 2022, Ashland demonstrated the power of a purpose-driven organization to both deliver shareholder value and positively impact the way business is conducted. With aligned resources, fierce customer and consumer focus, and an environmentally conscious approach to business, we understand that collaborations between industries and individuals are required to reshape our world.

Whether it is rethinking coatings formulations to use less water, innovating pharmaceutical technologies to help make medicine more readily available in far-reaching corners of the world, or finding new and dynamic ways to harvest and upcycle natural ingredients for personal care, companies today must make a concerted decision to respond to their stakeholders' requirements for sustainable sourcing, operations and solutions, and transparent information.

Ashland's 2022 ESG report charts the progression of our activities through most material ESG focus areas. With clearly defined subjects, concise metrics, detailed disciplines, and a transparent governance process, we're focused on ensuring our stakeholders understand how we conduct business; manage our relationships; and invent, manufacture, and distribute the full range of our innovative portfolio of products and services.

Ashland's materiality assessment provides three primary lenses through which stakeholders can view the importance and significance of our plans, actions, and impacts. Year-over-year progress with hard metrics shine a spotlight on what we say we will do and how we do it. Improvements in the efficiency of energy use, emissions and water usage tell the story of a day-to-day commitment of our nearly 4,000 employees across more than 100 countries, each bringing their unique expertise and

problem-solving ability to bear on issues that impact our facilities, customers, communities, and planet.

At the same time, our bottoms-up approach to problem-solving, where local employees bring solutions in their specific regions, has enabled Ashland to accelerate its implementation of energy-saving programs, water management, procurement practices, and downstream management of our productions.

In the pages of this report, you will find highlights of our projects and programs staffed and led by problem-solvers at every level of our company. Their solutions are shaped by ESG. Their insights, passion, and creativity thrive, often out of the spotlight of others. Their successes, while celebrated locally, are often seen as part of a cumulative improvement that Ashland posts in the aggregate, and these results are the fruits of their labors, their insights, and their commitment to responsibly solving for a better world.

Looking forward, Ashland has submitted science based targets aligned with 1.5C and we will release them following approval by SBTi. We believe that our contributions to this important global initiative support a brighter future. I look forward to continuing communications about reshaping business practices; innovation pipelines; and the value chains we support, shape, and shepherd for years to come.

Guillermo Novo
Chair and Chief Executive Officer
Ashland

performance at a glance

FY 2020**
FY 2021**
FY 2022
sustainable development goals

energy

total energy consumption (GJ)	8,180,046.3	8,782,033.3	9,087,196.9
electricity (GJ)	1,645,260.3	1,689,403.5	1,788,673.9
% grid electricity	20.1%	19.2%	19.7%
natural gas (GJ)	4,272,056.3	4,288,176.4	4,656,677.5
other fuels (GJ)	2,262,729.7	2,804,453.4	2,641,845.5



GHG emissions

scope 1 emissions (MT CO ₂ eq. emitted)	313,280.7	317,152.7	331,192.0
scope 2 emissions (MT CO ₂ eq. emitted)	247,089.9	242,188.2	243,752.8
scope 3 emissions (MT CO ₂ eq. emitted)***	682,232.0	626,295.0	705,365.0



employee safety

employees at year-end*	4,147	3,757	3,847
employee recordable injury rate	0.73	0.71	0.58
employee lost-time incident rate	0.32	0.27	0.24
employee fatalities	0	0	0
indirect contractors' recordable injury rate	0.57	0.75	1.6
indirect contractors' lost-time incident rate	0.38	0.19	0.2
indirect contractors' fatalities	0	0	0
indirect contractors' hours	1,051,737	1,069,665	998,536



water

water withdrawal (m ³)	16,026,526	15,416,403	15,686,851
------------------------------------	------------	------------	-------------------



incidents, spills, waste, and releases

toxic release inventory (million pounds)	18.48	19.66	18.18
hazardous waste disposal (MT)	2,874	3,213	3,239

community engagement

cash and in-kind donations (USD)	269,928	401,021	355,536
----------------------------------	---------	---------	----------------



* Employee headcount based on headcount reports at the end of FY 2020, 2021, and 2022 (adjusted for acquisitions and divestitures)

** FY 2020 and 2021 have been adjusted to reflect Ashland's footprint as of 9/30/22 including the divestiture of adhesives and acquisition of Schulke.

*** Scope 3 data estimation methodology was refined for 2020 and 2021 data to be consistent with estimation used for 2022 data. Numbers in this report look significantly different from numbers in previous reports, due to the change in estimation tool.

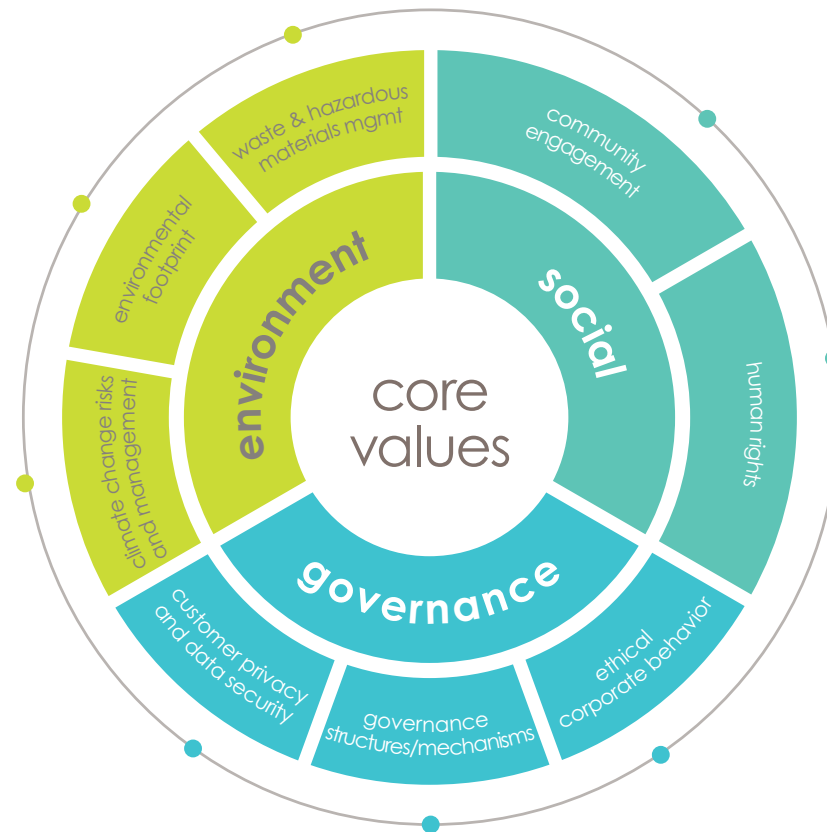
Employees include directly supervised contractors: these are employees defined as those employees on the entity's payroll, whether they are full-time, part-time, executive, labor, salary, hourly, or seasonal employees.

Contract employees are defined as those who are not on the entity's payroll, but who are supervised by the entity on a day-to-day basis, including independent contractors and those employed by third parties (e.g., temp agencies and labor brokers).

ESG materiality assessment

Our materiality assessment shows the positioning of our most material ESG topics, based on both internal and external significance. This is a portion of a larger assessment which includes many other ESG areas that are lower risk or limited impact to us in the next several years.

To perform this assessment, we used Datamaran, a data-driven approach to collecting, identifying, and assessing material ESG topics. In future iterations of this assessment, we will expand the assessment to incorporate more detailed stakeholder feedback to continue to strengthen this assessment.





environment



sustainable sourcing



**Obtained
RSPO-MB
Certification
for palm-based
products at
Freetown, MA,
facility¹**

**FSC Chain of
Custody
Certification for all
cellulosics sites**

**Fair for Life
Certification
for select
aloe products**

targets	deadline
EcoVadis assessment of 100% of key direct material suppliers	2024
expand RSPO supply chain mass balance certification ²	2023
maintain FSC and PEFC chain of custody certification	2023
continue responsible guar and expand scope	2025
25% renewable energy ² procurement	2025



¹ Freetown, MA, location 2022, expanding to additional sites in 2023

² goal is to source target percent renewable energy and/or equivalent renewable energy credits

EcoVadis

Ashland has partnered with EcoVadis for third-party verification of supplier sustainability assessments to ensure they meet their commitments to environmental, social, and ethical practices and behavior. The assessment focuses on environment, labor and human rights, ethics, and sustainable procurement.

In 2022, the average score of Ashland's suppliers was 58.89 (out of 100) vs. the total average score of 45.2 in 2022 of all assessed companies on the EcoVadis platform.

Ashland is working with suppliers that have performance scores below 45 so they understand the factors affecting their score and can improve and develop their sustainability programs.

Ashland's goal is to achieve 100% key supplier assessment on the EcoVadis platform by the end of fiscal year 2024.

FY 2021

188 raw material suppliers onboarded, representing over

82%

of our raw material spend

FY 2022

230 raw material suppliers onboarded, representing over

96%

of our raw material spend

YTD 2023

As of 2023, Ashland has received signatures/ responses on the supplier code of conduct from

100%

of our key raw and packaging material suppliers.*

*key materials cover 80% of the spend.



supplier engagement investigation

Ashland's suppliers are required to adhere to the legal and ethical rules and principles as set forth in our Supplier Code of Conduct. Suppliers are expected to implement work practices that minimize environmental impact and prevent personal injury or property loss. This includes responsibly cultivating and harvesting raw materials that are sourced from nature.

Our procurement team is working actively toward establishing new targets and programs, including:

- supplier diversity targets to ensure we support inclusion across our supply chain
- additional supplier engagement on emissions reduction goals to reduce our scope 3 emissions
- expanding upon our successful pilot of the Responsible Guar Sourcing Program
- expanding and maintaining our supply chain certifications for palm- and wood-based products

sustainable guar and puraloe™ aloe vera

Ashland sustainable guar and puraloe™ aloe vera programs are two unique examples of innovative local supplier partnerships that power sustainable, profitable growth for local farmers and small villages in India and Mexico.



puraloe™

Ashland's puraloe™ is an excellent example of a reliable field-to-market model that takes into account local community needs and customer and consumer preferences for quality and socially conscious sourcing.

Our purealoe™ products are organic, Fair for Life, kosher, and halal. Our work upgrading farm facilities and infrastructure improved conditions for community harvesters of puraloe™ aloe vera across Jaumave Tamaulipas, Mexico. Investment in school computers and water irrigation systems, classroom modernization, and air conditioning further underscores Ashland's commitment to communities where our suppliers and their families live, work, and play.

learn more online >



¹Guar product portfolio has varying degrees of naturality and sustainability attributes. For more information, view our sustainability brochure.

^{††}vegan

^{†††}kosher

^{††††}halal

[†]nature-derived: meets ISO 16128-2:2017 50% - 99% natural origin content standard

²Biodegradable: has attained a sufficient level of biodegradation that meets the requirements for 'ready' or 'inherent' according to OECD or related methods such as 301, 302, or 306. Or product has been assessed as being biodegradable based on a read-across to a chemical with similar structure or the product components have been analyzed for biodegradation potential.

guar

Ashland's sustainable guar program offers a unique example of economic development, STEM education, and public-private partnerships designed to support commercial growth while protecting supplier and community interests.

Our program was established with the goal of increasing farmers' yield and income, lowering production costs, expanding local economies, and positively impacting the environment. Modern farming techniques and science, technology, engineering, and math (STEM) training of male and female farmers in the Sri Ganganagar district of Rajasthan, India, led to a 35 percent increase in crop yield, helping boost local economies. Educating the female population empowers them, improves their technical knowledge and skills, and helps elevate their standard of living. To read more about the families impacted by this initiative, see page 37 of this report.

learn more online >



Both programs demonstrate Ashland's continued commitment to an environment, social, and governance (ESG) strategy that respects and supports our upstream and downstream partners and communities around the world.

sustainable operations



**our 2022
EcoVadis score:**
 gold
 91st percentile

**continued
CDP disclosures
in 2022:**
 Forests: C
 Water: C
 Climate: C

**submitted SBTi
targets for review:**
 January 2023

**completed
additional SMETA
audits at 3 Ashland
locations in 2022**

targets	deadline
publish approved science based targets for greenhouse gas (GHG) emissions	2024
reduction in intensity-based energy use – 2% per year	2025
reduction in intensity-based GHG emissions – 2% per year	2025
reduction in intensity-based hazardous waste generation – 10%	2025
reduction in intensity-based water withdrawal – 2% per year	2025
product lifecycle assessments (LCA) for 60 key products	2025

Science Based Targets initiative (SBTi)

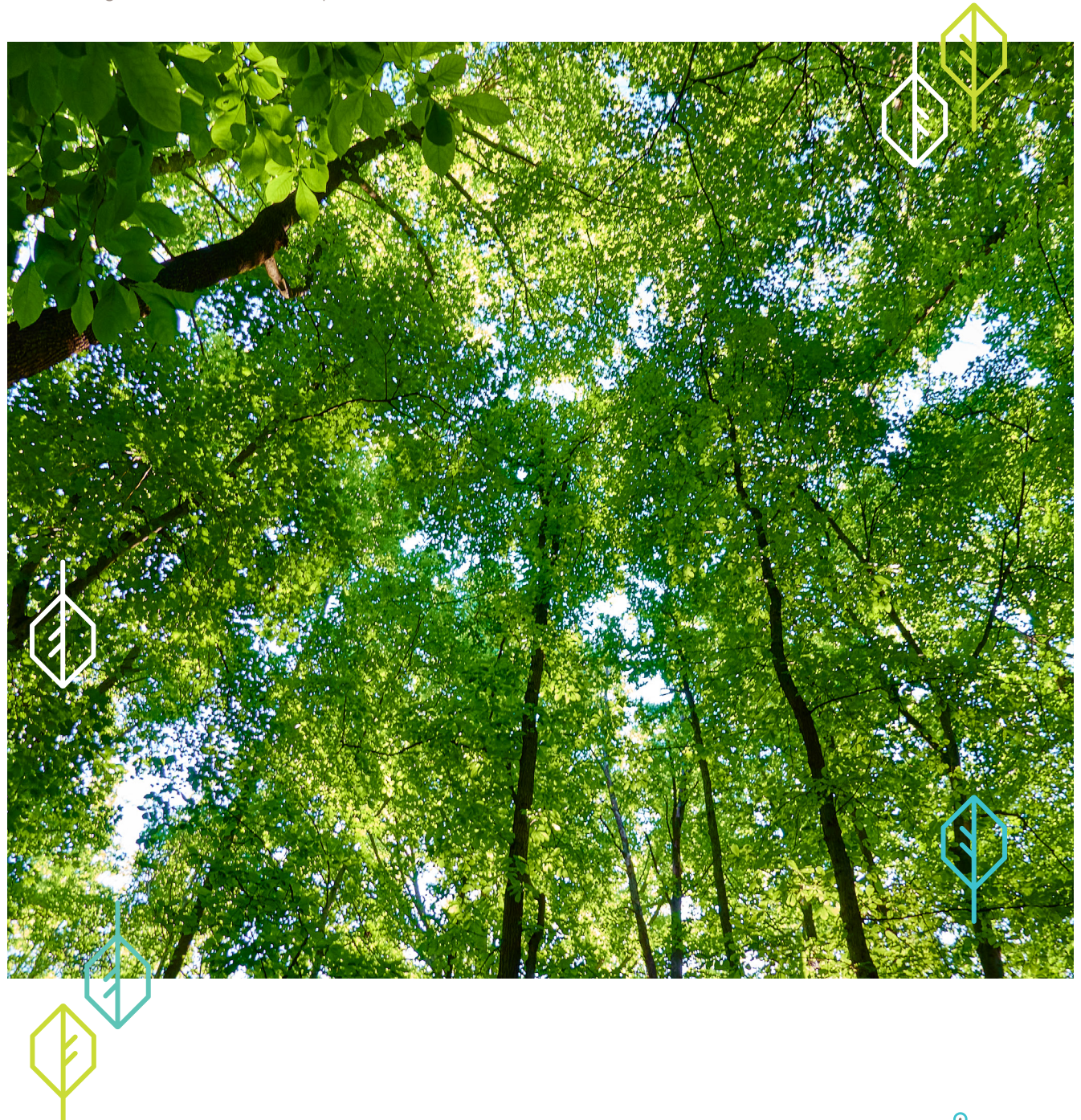
In February 2021, Ashland joined the global movement of leading companies to align operations with the ambitious aim of the Paris Climate Accord to limit global temperature rise to 1.5°C above preindustrial levels.

In January 2023, we submitted targets to the SBTi and have a review with SBTi late in 2023. We plan to publish the targets externally by 2024, following review and approval.

The target will be in line with the 1.5-degree Celsius warming scenario, with a 2022 baseline. Targets will include an absolute reduction in scope 1, 2, and 3 GHG emissions.



While we wait for approval of our science based targets, we continue to work toward the goal of reducing our GHG scope 1 and 2 emissions on an intensity basis by 2% per year, from 2020 (baseline) to 2025.

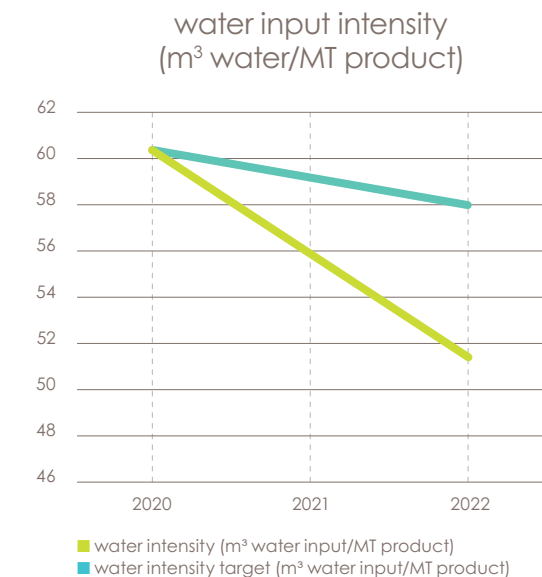
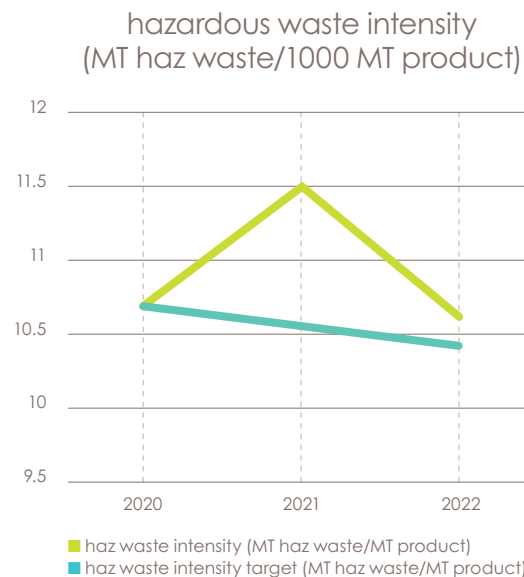
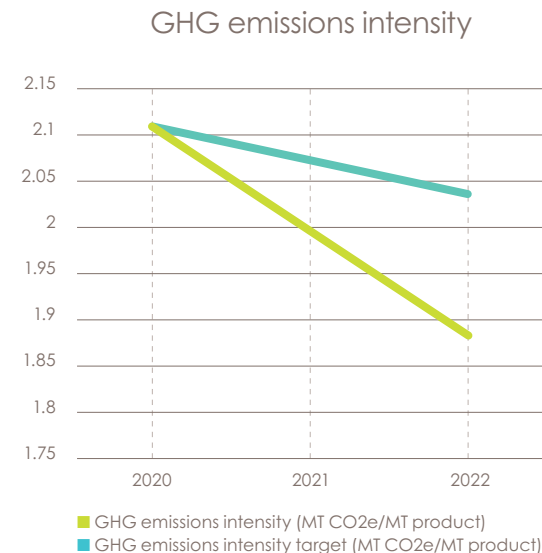
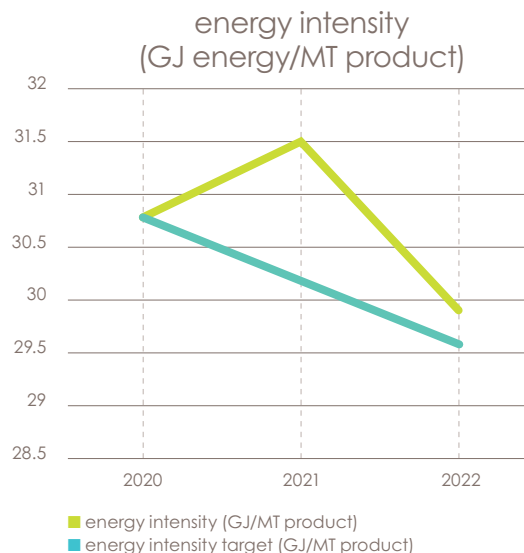


environmental performance

In 2022, we continued our efforts toward emissions reduction on an intensity basis. Our manufacturing sites worked hard to continue to identify and implement projects and initiatives to reduce our environmental footprint.

We implemented multiple projects to reduce our footprint; however, some of the successes in reducing our intensity-based emissions are the result of increased production demand, which resulted in more efficient run rates in 2022. Through a combination of energy efficiency projects and more efficient operations, we reduced our GHG emissions intensity by 10.6%, water intensity by 14.7%, energy intensity by 3.2%, and hazardous waste intensity by 1.8%. This is a reduction from our baseline year of 2020 and is compared to a target of 4% for all metrics (reduction goals are 2% per year for GHG, energy, water, and waste, respectively).

In all cases, we saw a reduction in 2022 in our intensity vs a 2020 baseline; however, we did not meet our target for our energy and hazardous waste intensity. The reduction we saw in 2022 was partially a result of operational demands where our manufacturing sites ran more efficiently during the reporting year. Our manufacturing sites continue to work to identify and implement projects to improve our efficiency and continue to work toward our targets.



Responsible Care®

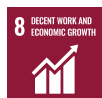


Responsible Care®

Ashland has made formal commitments to improve the environmental, health, safety, and security performance of facilities, processes, and products throughout the globe.

Our company delivers on commitments through a comprehensive Responsible Care® program. This global industry initiative advances the safe and secure management of chemical products and operations. Within Ashland, this program includes a global management system, employee involvement at every level of the organization, continuous improvement toward the goals of operating with zero incidents; ensuring compliance; and reducing our environmental, health, safety, and security impact.

learn more online >



EHS performance

Best shown by our commitment to our zero incident culture (ZIC), ZIC begins with the vision, values, beliefs, and actions of Ashland's leaders demonstrating that achieving zero incidents is possible. It means developing processes where compliance is the minimum expectation, allowing employees to proactively manage safety. Ashland has EHS targets in place to further support this culture and drive our incidents to ZERO.

FY 2022 safety KPIs performance indicator	FY 2021 actual	FY 2022 % reduction target	FY 2022 targeted	FY 2022 actual
total preventable recordable rate (TPRR)	0.71	14%	0.59	0.58
process safety event rate (PSI)	0.38	15%	0.46	0.59
environmental incident points (EIC)	37	15%	38	32

We exceeded our targets for TPRR and EIC. We did not meet our targets for PSI.

As an indication of our commitment to Responsible Care®, we have obtained a third-party certification to RC14001, which includes the internationally recognized ISO 14001 certification and adds additional health, safety, security, and chemical industry requirements. Currently, Ashland has 24 ISO/RC14001 certified sites participating in group (multi-site) certifications, and we are working toward certifying all our manufacturing locations. Also, as part of our commitment to health and safety, 16 of our sites have obtained an additional ISO 45001 certification, an international health and safety management system.

recordable occupational injury and illness rates for the last three years

employee safety	FY 2020	FY 2021	FY 2022
employees at year-end	4,147	3,757	3,847
employee recordable injury rate	0.73	0.71	0.58
employee lost-time incident rate	0.32	0.27	0.24
employee fatalities	0	0	0

All performance data has been updated to reflect Ashland's footprint at the end of FY 2022, including the divestiture of adhesives and Schulke acquisition. At the end of FY 2022, we had 32 manufacturing sites and 14 lab/office locations



our manufacturing sites continue to prove that achieving zero workplace injuries is possible

2 sites have been injury-free for more than 15 years

3 sites have been injury-free for more than 10 years but less than 15

10 sites have been injury-free for more than 5 years but less than 10

16 sites have been injury-free for more than 1 year but less than 5

at the end of FY 2022

process safety performance

Ashland has created a process safety roadmap for improvement, aligning with our Plan-Do-Check-Act process with a focus on the following: process safety health check, create an action plan to improve the current system, implement management system improvements, modify the ongoing validation/inspection program. Ashland's process safety management system involves:

	FY 2020	FY 2021	FY 2022
transport incidents	10	6	3



transport safety



Ashland sets global operational expectations for transportation safety that are designed to ensure compliance with transportation regulations and to minimize the risk to people and the environment.

Ashland's common carriers are expected to be in full compliance with applicable laws and Ashland's Global Supplier Code of Conduct, have a satisfactory safety performance and be in good financial standing, as regionally determined. Carriers are assessed on an ongoing basis to minimize any potential future risk, and their performance is monitored through Ashland's incident management system. Ashland supports investigations and developing corrective action plans with carriers for incidents involving Ashland products.

Note: The values are reported based upon transport incidents that require a U.S. Department of Transportation 5800 report, transport incidents that require a report based upon the EU concerning the International Carriage of Dangerous Goods by Road (ADR) criteria, and either transport incidents defined in accordance with the nationally recognized definition or definition consistent with the ICCA Guidance for Reporting Performance. These include all distributions for which Ashland has direct oversight as well as those contracted by Ashland to a third party.



28
manufacturing sites
have gone over
1 year
with
zero
process safety
incidents

19
manufacturing sites
have gone over
3 years
with
zero
process safety
incidents

plant projects

In 2022, over 20% of our site engineering projects were identified as having some sustainability impact. Some of our larger projects are listed here.



Doel, Belgium

In 2022, the Doel, Belgium, site installed 20 on-site vehicle charging stations for employee use. Charging stations provide several environmental benefits,

including supporting electrification and renewable energy transitions, improving local air quality, and others.



Alizay, France

The Alizay, France, facility increased monitoring and controls on water-using equipment, improving process efficiency and reducing water

use. As a result of key controls equipment upgrades, the site estimates that the water consumption of operating equipment was reduced by 150,000-200,000 m³ in 2022.



Calvert City, Kentucky

In 2022, the Calvert City, Kentucky, site made a process chemistry improvement on one of its processes, resulting in a significant reduction in

the generation of hazardous waste. Through process improvements, impurities in a solvent stream were eliminated, allowing for beneficial reuse of the spent solvent by a third party. This recycling initiative resulted in a hazardous waste reduction of 430,000 pounds per year.



Hopewell, Virginia

In 2022, the Ashland Hopewell, Virginia, site installed a new and more efficient dryer unit, resulting in water input and discharge reductions for the

site. This equipment runs continuously and with the more efficient operations, water input was reduced by roughly 3,000 gallons per month, and water discharge has decreased by 2,000 gallons per month.



Nanjing, China

In 2022, the Ashland Nanjing, China, site increased energy and resource efficiency and reduced nonorganized (fugitive emissions) emissions in our production. Purchased steam was reduced by 7,311 tons, and water consumption

has decreased by 30,000 tons. Fugitive emissions reduction improved local air quality and volatile solvents efficiency. The Ashland Nanjing site was recognized as an emission performance leading company in 2022 as a result of perfect emission management performance.



Ashland's lean manufacturing program drives sustainable project ideas and development.

The Ashland Production System builds on our zero incident culture using a structured, disciplined lean management system. The goal of APS is to increase the safety and efficiency of our manufacturing operations, resulting in a decrease in our environmental footprint.

aims of APS:

- | | |
|----------------------------|---|
| zero accidents | zero slow moving or off grade |
| zero spills | zero emergencies |
| zero defects | zero surprises |
| zero re-work | zero reduced environmental emissions |
| zero late shipments | |
| zero air freight | |

In 2022, we integrated sustainability performance targets into our APS communication process, increasing visibility to progress toward our ESG goals.

external recognition

We are proud to share our achievements in 2022, where our team of solvers continue to seek out challenges and deliver solutions that drive safe and responsible operations.

It's a testament to our diverse and motivated workforce who spend their professional lives seeking out challenges and delivering solutions that spark innovation and fuel impact.



Wildlife Habitat Council

WHC 2022: finalist for bats and formal learning projects: Old York Road site

WHC 2022: 5 sites – gold certification, 2 sites – silver certification

In 2022, 3 locations went from silver to gold status

[visit website](#)



Natura

Ashland recognized with Commitment to Life Award by Natura & Co

[visit website](#)



American Chemistry Council

12 sites won ACC Excellence awards; 6 sites won ACC certificate of achievement

2023 Responsible Care® Awards recognize leading individuals and organizations for safety & environmental stewardship — American Chemistry Council

The safety certificate process is a very straightforward, data-driven selection.

[visit website](#)



SOCMA

2022 Performance Improvement Award Recipients - Society of Chemical Manufacturers & Affiliates

Bronze Product Stewardship: Ashland Huntsville, AL

Bronze: EHS planning and operations Ashland Lima, OH; Wilmington, DE

Bronze: Employee training Ashland Lima, OH; Wilmington, DE

Bronze: Resource management and waste minimization: Menomonee Falls, WI; Parlin, NJ; Kenedy, TX; Calvert City, KY

[visit website](#)



esg innovations

aligned with the UN Sustainable Development Goals

At Ashland, a sustainable approach to innovations comes in many forms, beginning with our commitment to always solving™ in areas where we have unique insight and expertise.



sustainable solutions



reduce or eliminate the use, generation, or risk of hazardous substances on the planet

promote societal health and wellness

reduce environmental waste, increase circularity, promote responsible use/reuse of resources

Ashland defines sustainable solutions as natural, nature-derived, biodegradable, or sustainable in use. The design of these products supports reduced environmental impacts, the use of renewable resources, and reduced footprint across the product life cycle.

new product launch targets	deadline
>90% gross profit from sustainable solutions*	2025
>70% gross profit from natural or nature-derived* ingredients	2025
>80% new product launches from sustainable solutions*	2025
>70% of natural or nature-derived* ingredients are based on sustainably sourced raw materials	2025



*natural, nature-derived, biodegradable, or sustainable in use
*per ISO 16128-2:2017 standard definition

life sciences



Our broad portfolio of excipients, systems and technologies; the breadth of our global footprint; and unparalleled services are catalysts for change.

unlocking time, unleashing value, and responsibly solving for a better world

In a world where time is of the essence, Ashland is emerging as a beacon of innovation in the pharmaceuticals space, dedicated to revolutionizing specialty ingredients and technologies, and making a tangible difference in people's lives. Responsibly solving for a healthier world is the purpose behind our relentless pursuit of groundbreaking advancements in life sciences.

Within the walls of pharmaceutical manufacturing facilities, Ashland's specialty ingredients and technologies are at work, meticulously delivering speed, precision, and uncompromising quality to our customers. Within our own walls, the company's commitment to environmental stewardship can be seen at every level. Whether it is supporting continuous manufacturing with hot melt extrusion to lower energy requirements and improve efficiency, reducing overall water usage, or supply chain and logistics refinements that ship products more efficiently, Ashland is actively engaged in reducing our customers' impact on the planet, helping our customers effectively track and communicate their own scope 3 carbon emission responsibilities, and reducing their overall environmental footprint.

helping our customers pioneer so their processes, and consumers' lives, can be forever changed

As the "expert's expert," we understand how to streamline processes from production to delivery and how to help customers develop medicines faster, unlock time, and unleash value. Beyond saving minutes and hours, Ashland's impact reaches far beyond the confines of the factory. We're engaged in collaborations with customers to improve every stage of a patient's life from pediatrics to geriatrics in every corner of the world.

Success comes from families experiencing the joy of spending quality time together, of homes filled with laughter and love. For decades, Ashland innovations have contributed to parents' presence at children's and grandchildren's milestones; for babies once facing daunting health challenges, we help deliver hope and survival through advanced pharmaceutical coatings, injectables' systems and technologies. Every giggle, every tender moment, is a testament to the value unleashed from a problem well solved.

Geriatric patients, often burdened by the weight of age, can discover newfound vitality because of our relentless pursuit for scientific solutions. Whether masking taste or making tablets easier to swallow, our collaborations with customers on breakthrough, patient-centric solutions help seniors remain active longer so they can explore the world and live life with newfound strength, hope, and independence. The cumulative social impact these advances bring deliver the gift of time in countless ways, across countries and cultures often burdened by chronic, debilitating illness.



life sciences

In this fast-paced world, the clock ticks incessantly – a reminder of the precious moments that can be saved and the value that can be unleashed. Our solvers understand urgency and the need for efficiency. Through collaborations with customers on their most complex challenges, we are redefining what is possible.

That ticking clock is a constant reminder, not of time slipping away but of moments reclaimed and cherished. Amidst these transformative journeys, personal stories of impact illuminate the path we have helped pave.

The breadth of our solutions portfolio, global presence, and unsurpassed technical service give our customers access to Ashland's life sciences innovations so that they can improve life for mass populations and remote communities alike, with comprehensive solutions tailored to each customer's unique needs.



2022 life sciences ESG innovations

- o **klucel™ xtend** hydroxypropyl cellulose: controlled-release matrix former offers the possibility of smaller pills or higher dosages, enabling more tablets per batch, which improves productivity and manufacturing efficiency
- o **vialose™** trehalose dihydrate: premier sugar used in the production of pharmaceuticals to protect and shield APIs and key pharmaceutical ingredients from degradation and aggregation during the manufacturing process, ensuring high-quality manufacture of pharmaceutical ingredients
- o **gafchromic™ ebt4** and **ld-v1** processor-less radiation QA films: products used in measurements for radiation therapy and radiology machine quality assurance applications, providing the highest resolution

radiation dosimeter suitable for many qualitative and quantitative assurance tests

- o **nutrapress™ chw** organic chewable base: complete one-step system for chewable dietary supplements contains organic binder, sweetener, flow aid, and lubricant, supporting customer demand for organic ingredients
- o **gpm™ sf** soy-free nutrients: fermented, gluten-free, non-GMO, vegetarian-compliant nutrients are bound to a food source via a proprietary process to improve bioavailability and provide slow release over time — part of a whole food matrix, they are gentle on the stomach and gpm™ sf nutrients meet either USDA certified organic status or USDA "made with organic" status



personal care

sustainably sourced, upcycled, natural, nature-derived, biodegradable ingredients

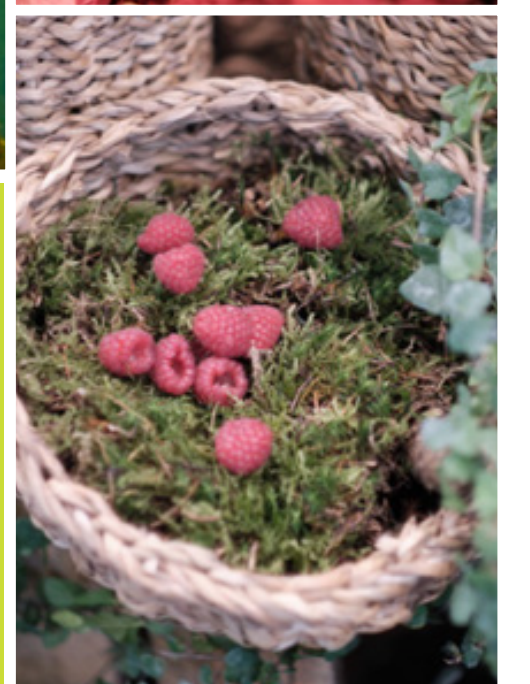
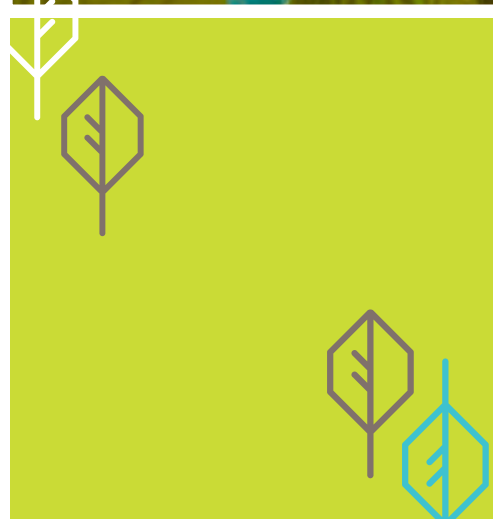
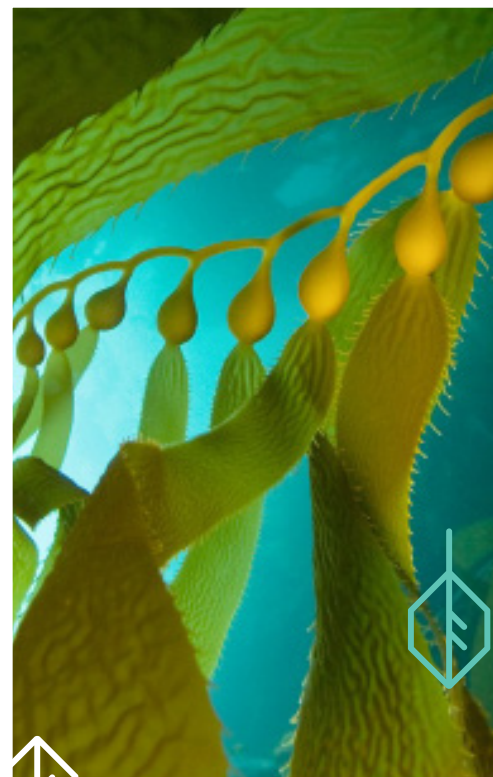
From crocus to coconuts, rosewood to raspberries, and more — our breakthrough solutions solve some of the personal care industry's most complex challenges.

As customer desires reshape global megatrends and regulatory landscapes, and as responsible solutions transform entire product categories, our innovations leap off the lab bench and into the field to deliver solutions that fuel our customers' growth, delighting consumers the world over.

In 2022, we worked to achieve certification for our timber-based raw materials and achieved FSC and PEFC certification for Ashland. To support our customers in their commitment to sustainable sourcing, we now offer controlled wood-based products under both certifications. For products made using palm oil or palm kernel oil, we also achieved RSPO certification at one of our manufacturing locations. Our product offerings for many of our key personal care products are now RSPO-MB certified. We plan to expand that certification in 2023 to further our own and our customers' efforts on sustainably sourced and deforestation-free products.

2022 personal care ESG innovations

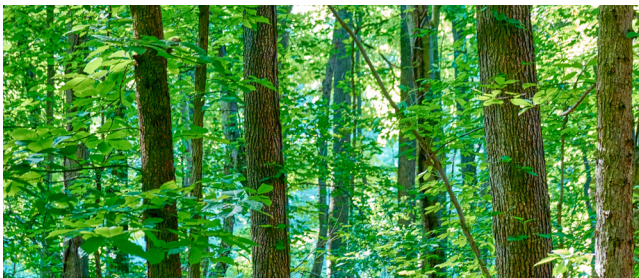
- **effisin™ cg**: natural, biodegradable, COSMOS* validated, vegan
- **sensiva™ sc 80**: nature-derived, biodegradable, IECIC listed, vegan, halal
- **sensiva™ go natural**: natural, biodegradable, COSMOS* validated, IECIC listed, vegan, halal
- **natrathix™ bio** cellulose
- **texturpure™ sa-1** ingredient: nature-derived, biodegradable, IECIC listed, vegan
- **klucel nutra™** modified cellulose
- **ecothix™** polymer: nature-derived, biodegradable
- **caressense™** biofunctional: natural, biodegradable, IECIC listed
- **styleze™ es-dura** ingredient: nature-derived, biodegradable, IECIC listed, vegan, halal



specialty additives

performance, environment, safety, responsibly solving for a better world

Sustainability is a part of everything we do.



From responsibly sourced materials to increasingly sustainable manufacturing operations and coatings solutions, Ashland has integrated environment, social, and governance (ESG) into our business strategy as a critical business capability which includes checkpoints within the innovation process to drive sustainable solutions. Our innovations deliver on customer needs without compromising performance while considering the communities where we operate and the planet.

Ashland additives for architectural and industrial coatings are targeted for our customers' environmentally friendly water-based formulations, with our core natrosol™ product line produced from naturally derived cellulose.

Through Ashland's localized leadership model, we drive regional and customer-focused decision making and innovations. Together, we formulate by country, culture, and for the consumer to deliver the best product formulation tailored for specific market needs. These cutting-edge innovations enable paint and coatings manufacturers to rethink modern coatings, resulting in improved performance and safety of our customers' products.

paints and coatings

Our coatings innovation efforts are focused on improving the ESG footprint of our product portfolio while providing the needed performance to our customers.

In 2022, we launched natrosol™ frs 1500, bringing HEC functionality in a liquid product. This innovation improves handling, resulting in a more efficient production process and a safer, dust-free work environment for the coatings producer.

batteries and energy storage

And we're not taking our foot off the pedal when it comes to zero- or low-emission electric and hybrid vehicles' need for lithium-ion batteries. Our wide range of specialty additives and ingredients include unique binders for high-capacity silicone-based anodes.

Our binders are easy to use with high integrity and they are sustainable; bondwell™ cmc binders contain at least 77 percent renewable carbon. They are fluorine-free and enable water-based formulations for solvent-free, zero-VOC anodes. We have completed product life



cycle assessments for key bondwell™ cmc binders and are using this data to understand the environmental impacts of the product.

Ashland solutions are built on the foundation of safe, compliant, and responsible operations as we continue our journey responsibly solving for a better world.

2022 specialty additive ESG innovations

- **natrosol™ frs 1500:** made from naturally derived cellulose
- **aquaflow™ eco-300:** High sheer rheology modifier allowing formulation of biocide-free paints; because it is a 100 percent active solid, it is more efficiently transported, reducing carbon footprint
- **culminal™ gap:** additive used that supports optimal performance of lower carbon footprint composite cements

biodegradability

In 2022, we continued to conduct biodegradability testing at our Bradford, UK, site, to expand our understanding of our product impact on the environment. This testing enables us to support customers with data on our existing and new product formulation and meet international standards for biodegradability. Our goal is to increase our portfolio of biodegradable product offerings and sustainable product lines. We are continuously advancing our capabilities to expand our range of innovative, sustainable product lines.

We have four aquatic biodegradation assays currently available in Bradford: OECD 301F and OECD 301D for readily biodegradable, OECD 302B for inherent biodegradability, and OECD 306 for seawater biodegradability.

During fiscal year 2022, 15 new commercial products and 152 products in trial/development stages project materials were tested utilizing one or more of the assays.

Ashland validated composting biodegradation according to ASTM D5338, and conducted testing on 67 products.

In 2022, Ashland expanded environmental testing to include compostability testing according to ASTM D5338. As we seek to provide our customers with better information on the environmental fate of our product offerings, compostability is an important consideration for our customers and suppliers providing sustainable packaging and home care products, beyond biodegradability. We hope to utilize this testing to continue to better understand how our specialty chemicals are and can be increasingly sustainable throughout their useful life. In 2022, we assessed 67 products for compostability.

Our R&D teams use this data to support claims for new product launches and better understand the environmental impact of our products. To date, through a combination of internal testing, analyzing/reviewing historical biodegradation results, assessment of structural and physiochemical compositions, and read-across acceptability, our teams have determined biodegradation classification for 350 materials in the Ashland portfolio and compostability classification for an additional 67 products.



PCHH portfolio biodegradability

Biodegradability is a measure of persistence in the environment and assessed by the ability of microorganisms to break down the parent molecule into smaller constituents. Ashland is committed to supporting products and solutions that are sustainable and biodegradable in the environment. Compostable products are biodegradable but are tested specifically in environments that mirror composting activities for their breakdown. Assessing compostability provides an additional level of information on the biodegradability of our products.

Ashland evaluates biodegradability and compostability through OECD and ASTM methods, and our scientists and regulatory professionals are knowledgeable and trained in interpreting environmental impact. Ashland's commitment to degradable solutions includes the build of internal laboratory capabilities for biodegradation testing. Ashland is aware that materials persist in the environment at different rates and knowledge in this area lets us understand the test results to make an informed assessment of the persistence of these materials in the environment.

As we evaluate our products, we look beyond the biodegradability of the product and consider microplastic concerns, product naturality, and ecotoxicity, to gain a broader understanding of the fate of our materials in the environment.

biofunctionals

Ashland biofunctional products are composed of naturally derived substances that are readily biodegradable via standard OECD methods.

cellulose

Cellulose ethers are nature-derived substances whose biodegradability profiles are dependent on factors including starting material and both type and degree of substitution. Ashland provides a wide range of cellulose ethers, including options that are classified as readily biodegradable by OECD methods.

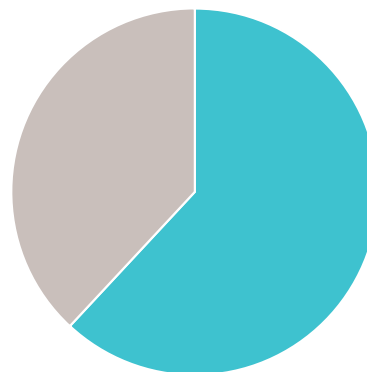
guar

Our guar-based polymers are polysaccharides with substituted sugar residues whose biodegradation profile is dependent on factors including charge density and overall viscosity. Ashland offers a range of guar derivatives to meet formulators' needs, many of which qualify as readily or inherently biodegradable according to OECD methods.

Ashland market sales

\$678M

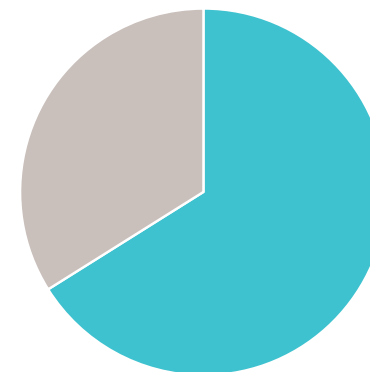
FY22 actuals



Ashland market GP

\$271M

FY22 actuals



■ biodegradable & not expected to persist in the environment
■ other

biodegradability definitions



biodegradable

Has attained a sufficient level of biodegradation that meets the requirements for 'ready' or 'inherent' according to OECD or related methods such as 301, 302, or 306; or the product has been assessed as being biodegradable based on a read-across to a chemical with similar structure; or the product components have been analyzed for biodegradation potential.

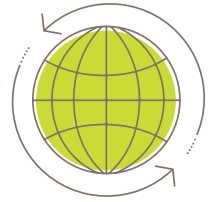


not expected to persist in the environment

Defined a level of biodegradation within standard OECD methods where there is evidence of ongoing biodegradation such that we are confident that the substance is not expected to persist in the environment. For example, if there is evidence for ongoing biodegradation on timescales beyond the standard OECD methodologies.

these icons are used in a variety of our product brochures to highlight sustainable attributes of our products

upcycling



Ashland implements principles of circularity by creating products using upcycled materials, or materials from a diverted waste stream that would otherwise be discarded. This concept allows us to reduce waste in other manufacturing processes while delivering effective products for our customers. Ashland is committed to researching and introducing more circularity-related solutions moving forward. This table outlines existing Ashland products that utilize upcycling.

product name	natural origin source	primary use of natural source	upcycled waste/byproduct
ederline™ biofunctional	apples	pulp used for food & drink	waste apple seeds and skin
perenity™ biofunctional	pears	pulp used for food & drink	waste pear seeds and skin
 d'orientine™ biofunctional	date palm	date pulp used in food products	waste date kernel
suberliff™ biofunctional	oak tree	cork used to make cork toppers	waste cork oak
 caressense™ biofunctional	jasmine	phytofermented extract	flower peptides
 aquarize™ biofunctional	rice	food	byproduct of processing raw rice
 vegetal ceramides BGG™ biofunctional	rice	food	byproduct of processing raw rice
 achromaxyl™ biofunctional	colza seeds	pulp used to make colza oil	waste colza seeds
 oleanoline™ IS biofunctional	olives	food	waste leaves
 phytoRNx baobab™ biofunctional	seeds	baobab oil used for food	waste baobab seeds
 elixiance™ biofunctional	pink pepper tree	pink pepper berries used for decorative purposes	waste leaves and twigs
 cb2-skin™ biofunctional	patchouli	essential oil	waste patchouli
 marine hydrolyzed collagen A™ biofunctional	fish	fish for food industry	waste fish skin
santalwood™ biofunctional	sandalwood	essential oil	waste wood chips
selected cellulosic products sourced from cotton linters	cotton	cotton used for textiles, animal feed, cottonseed oil	byproduct from cottonseed oil mills

ISO 16128

To solve for the growing consumer interest in natural and nature-derived ingredients, Ashland has evaluated the natural and natural origin content of many grades of its specialty ingredient product lines, applying the ISO 16128-2:2017(E) standard.

ISO 16128-2:2017 provides guidelines on definitions for natural cosmetic ingredients and approaches to calculate the natural origin content of products. Section 4.3 of the ISO standard references the determination of Natural and Natural Origin Indexes of ingredients, including nature-derived ingredients.

As examples:

- Ashland cellulosic and guar chemistries' derived natural values are calculated using molecular weight, formulation details for the product and analytical data from production
- Ashland biofunctional and preservatives chemistries' derived natural values are calculated using weight fraction; formulation details for the product; raw material supplier data; and, where applicable, analytical data from production
- Ashland finished products as sold to the customer factor in formulated water as referenced in the ISO standard 16128-2 (Section 5.1), and the calculations provided are for our finished products as sold to customers



 natural

meets ISO 16128-2:2017 100% natural origin content standard

 natural-derived

meets ISO 16128-2:2017 50%-99% natural origin content standard

sustainable forest management

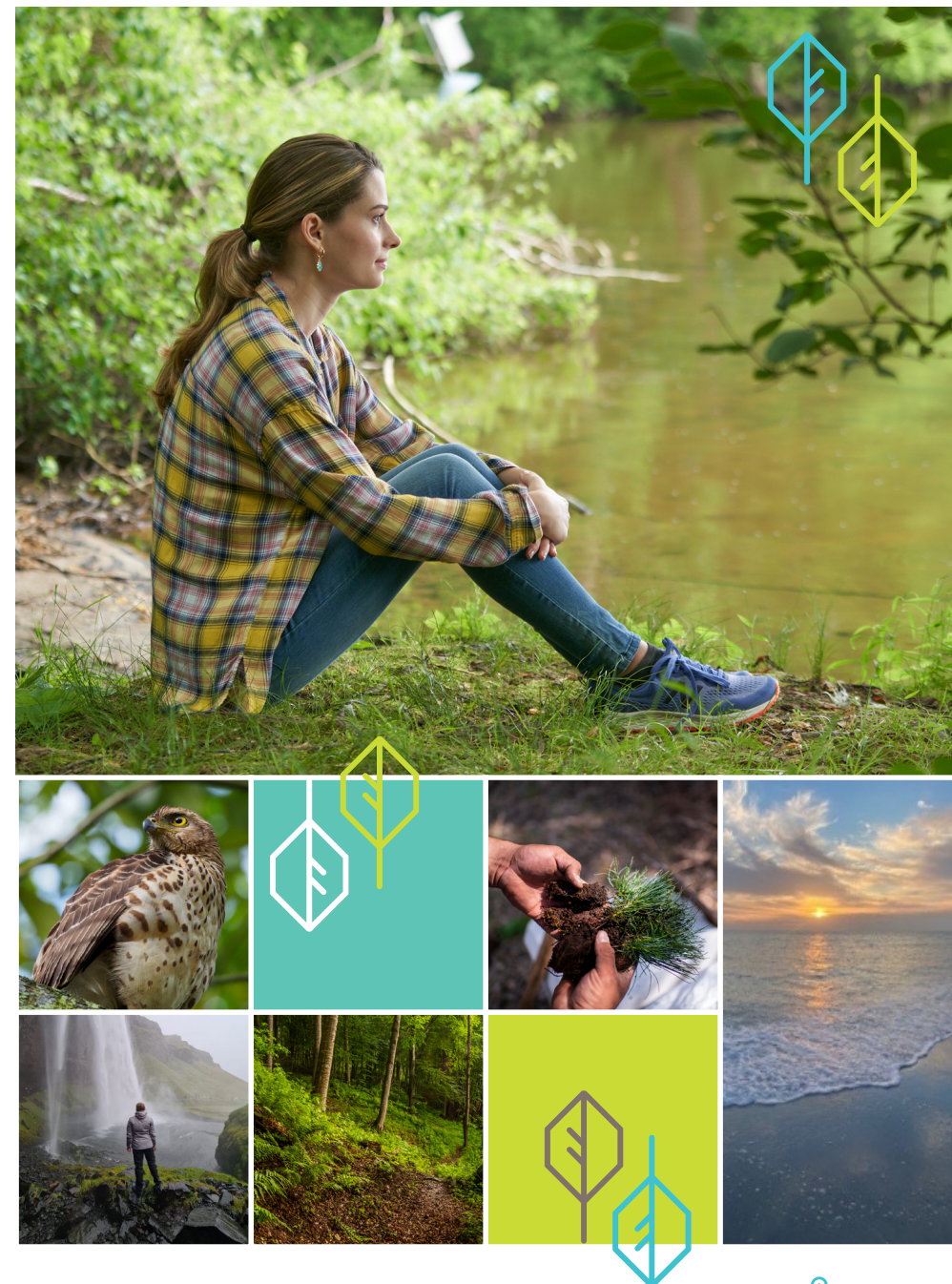
In 2022, Ashland looked far beyond its own walls to address broader sustainability-related programs by expanding its support of The Nature Conservancy (TNC) by donating \$25,000 toward TNC's STEM youth engagement Nature Lab, and providing an additional \$25,000 in funding toward that organization's Plant a Billion Trees forest restoration project.

These projects that support sustainable forestry, STEM education, and conservation underscore Ashland's focus on community engagement with a STEM focus, and the broader need to fund practical ways to engage and enlist the next generation of problem-solvers and innovators. TNC's reforestation program can have a profound impact on local conservation and restoration efforts and can play a vital role in curbing the effects of climate change and habitat loss. Ashland's donation funds the planting of roughly 10,000 trees through The Nature Conservancy. Once mature, these trees could absorb 480,000 pounds of carbon dioxide offsets annually, based on estimates from the Arbor Day Foundation.

In 2022, Ashland obtained FSC and PEFC certification for responsible sourcing of wood-based products. These programs support supply chain transparency and sustainable forest management. At this time, we focus on offering controlled wood-based products to our requesting customers with the goal of educating customers and providing additional certified materials in the future.

At Ashland, we understand there is no Planet B. We are a vital part of an ecosystem that must be protected for future generations. We believe increasing the number of students pursuing advanced degrees in STEM careers is vital to the health of the planet and to our long-term success as a company. We will continue working with partners to broaden the participation of women and minorities because the more diverse the team, the better the problem solving.

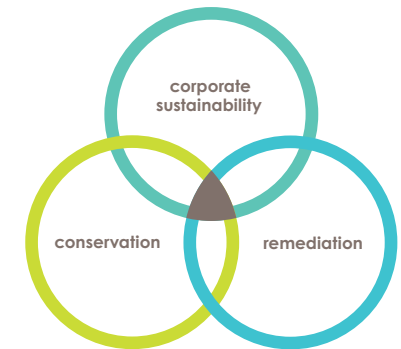
Responsibly solving for a better world means innovating while being nature positive. It means doing business in a way that protects and conserves nature while also giving back to the planet.



biodiversity – Wildlife Habitat Council program

In 2022, Ashland bolstered our commitment to biodiversity enhancement and conservation by adding multiple projects across the seven sites within our Wildlife Habitat Council (WHC) program portfolio.

All three sites recertified in 2022 achieved gold certification. Ashland's WHC program has seven certified sites with five sites achieving gold certification and two sites certified silver. Ashland continues to combine conservation and corporate sustainability goals with remediation efforts and was recognized by WHC at the 2022 Conservation Conference as a finalist for the Bats and Formal Learning projects at a former landfill site in Burlington, New Jersey.



research center, Delaware

In 2022, Ashland expanded its program at the Delaware site to include newly landscaped pollinator garden habitats and an associated species project. In collaboration with the Delaware Nature Society, over half an acre was seeded with native grasses and wildflower species to meet native pollinator life cycle needs. Ashland's research center now contains over 90 percent native species and includes informational signs and a maintained walking path to provide educational opportunities for Research Center workers and visitors.



former plant, Georgia

This former plant includes grasslands and forests that provide a habitat for native wildlife, including birds, mammals, and pollinators. Over 8 acres of land have been allowed to naturally revegetate or were converted to wildflower fields. The success of the wildflower field habitat is imperative for continued use by native species, and ongoing vegetation surveys show a dominance of native plant species, including salt-marsh morning glory and blackjack, which are utilized by pollinator species.



former plant, Mississippi

The former Mississippi plant contains more than five acres of grassland habitat converted from a mowed lawn to a pollinator meadow and native food plots to provide habitat and foraging for native wildlife. In 2022, vegetation monitoring identified native wildflowers in the pollinator meadow, including golden tickseed (*Coreopsis tinctoria*), swamp sunflower (*Helianthus angustifolius*), and purple false foxglove (*Agalinis purpurea*).



former landfill, Georgia

The Georgia program habitats include approximately 3 acres of freshwater pond, associated wetlands, and a 1-acre grassland meadow on the former landfill. Vegetation surveys were conducted in the grassland meadow and wetlands associated with the freshwater pond to provide an understanding of the species present and the ecological value of the habitats. Notable native species include slender yellow wood sorrel (*Oxalis dillenii*) and largeleaf pennywort (*Hydrocotyle bonariensis*) in the grassland meadow and dwarf palmetto (*Sabal minor*) and Carolina ash (*Fraxinus caroliniana*) shrubs in the wetland habitats.



former landfill, New Jersey

The New Jersey landfill site is a seven-acre former landfill that was capped and seeded with native grasses in 2012 to create a viable habitat for native vegetation and wildlife. The site partnered with a local university to conduct ongoing studies on biodiversity, and in 2022, a southern flying squirrel was identified on-site via game camera for the first time, and 5 species of native bats were recorded at the site.



plant site, Arkansas

This site consists of approximately 93 acres of habitat, including forests, grassland, and aquatic habitats managed and monitored for use by native wildlife. In 2022, monitoring efforts were expanded to three grassland habitats, including formal vegetation surveys and pollinator monitoring where active pollinator activity was identified.



plant site, Virginia

The Virginia plant site includes an eight-acre landfill cap meadow surrounded by forest and freshwater ponds with associated wetland fringe habitat. In 2022, bat boxes, an owl box, and coverboards were added to the site to provide additional habitat for native species. Monthly species monitoring is conducted throughout spring and summer, and numerous reptiles and amphibians have been documented using the pond basking logs.





social



inclusion and diversity (I&D)

Ashland's purpose is to responsibly solve for a better world.

Ashland believes one powerful and necessary way to live that purpose is to proactively strengthen both the diversity of the workforce and the inclusiveness of the culture.

Ashland's inclusion and diversity (I&D) vision is to cultivate a diverse, safe, and inclusive environment where every employee is respected, valued, and has an equal opportunity to develop, succeed, and feel heard.

The I&D mission is to attract, nurture, and sustain a global and inclusive workforce, where differences drive innovative solutions and business outcomes.

Ashland achieves the I&D vision and mission through five key priorities from which they have built global and local objectives and initiatives to advance progress:



inclusion & belonging

build an environment that fosters belonging and full participation for all employees

accountability

evolve our systemic, policy, and accountability mechanisms to advance equity and inclusion

community engagement & investment

support the communities in which we live and work through corporate giving & volunteer programs

recruitment & internal mobility

accelerate the diversification of our candidate and talent pools

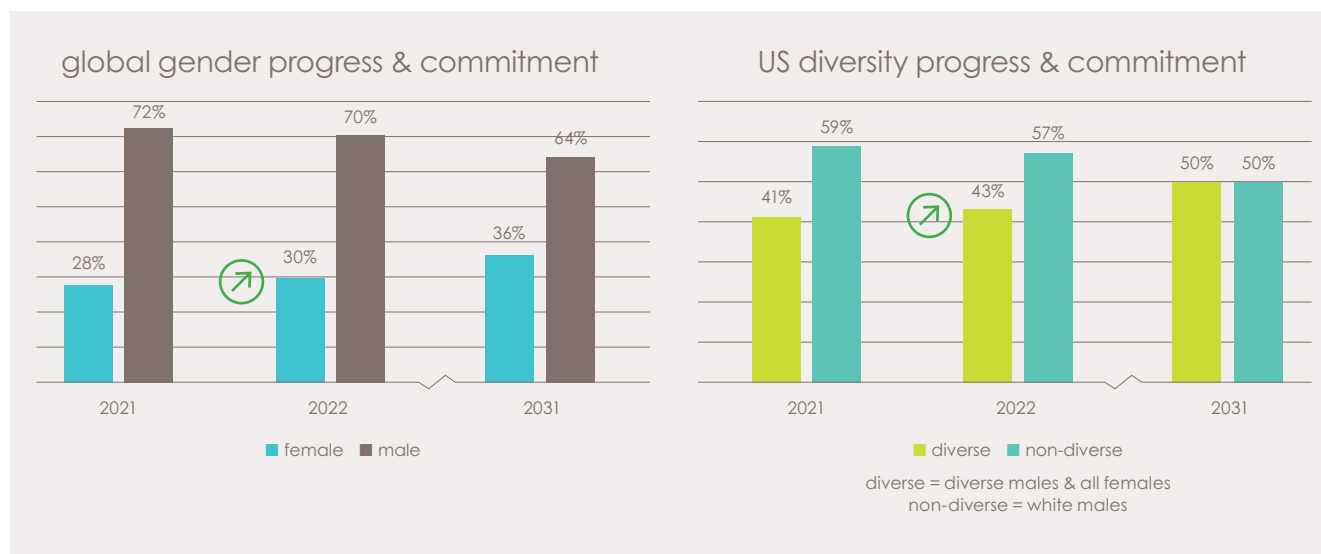
workforce diversity metrics & goals

establish clear diversity metrics & goals and provide transparency on progress



In 2021, Ashland set long-term goals to ensure a sustained focus on building a diverse workforce and inclusive culture.

They are making great incremental progress as detailed below, and recognize that there is more work to do:



In early 2022, Ashland established a global ecosystem of accountability beginning with CEO and board of directors oversight of a senior-level committee made up of global and regional leaders who drive focus on the initiatives that will build momentum across the entire organization. The global committee's role is to set the

strategy, govern, and support execution of both global and regional inclusion and diversity efforts in a way that ensures local relevance and commitment. The team meets quarterly to review progress, challenges, and support needed.

In 2022, the company's board of directors is 45% diverse, including females and diverse males. Demographics of the executive committee include 33% women and 45% who identify as ethnically diverse individuals.

Across Ashland, there are approximately 70% male employees and approximately 30% female employees. In the U.S., approximately 26% of its employees self-identify as ethnically diverse.

pay equity

Ashland is committed to paying employees equitably regardless of gender, age, race, ethnicity, or veteran status. To that end, the company reviews each compensation process (merit increases, adjustments, promotions, and recognition) with leaders to ensure that employees are rewarded appropriately. During 2022, Ashland also conducted a global review of pay equity and practices to ensure the company was paying equitably. Results were positive with only a few corrections needed and quickly completed. Ashland will continue to refine their education and training resources to ensure equitable compensation.

employee resource groups

The employee-led global teams focus on educating, connecting, and positively impacting the workforce.

Another cornerstone of the I&D ecosystem and strategy is Ashland's employee resource groups (ERGs).

While Ashland plans to continue to expand the reach of existing ERGs and add additional networks to the team, the company has established two primary groups who are actively leading impactful knowledge and experience sharing events, influencing policies, and creating a sense of community and belonging.

Established in 2022, Ashland Pride Allies Network (APAN) hosted two highly attended and impactful education sessions facilitated by external speakers and experts to honor Pride Month and LGBTQ+ History Month. The content covered allyship, unconscious bias, and the lived experience of the LGBTQ+ community.

apan

Ashland pride allies network

vision – We envision Ashland as a welcoming organization where people of all sexual orientations and gender identities can be their true selves and feel empowered to achieve their full potential.

mission – APAN strives to attract and retain an inclusive workforce by engaging Ashland employees to be allies for their LGBTQ+ colleagues. APAN also works to educate the Ashland community on why supporting our LGBTQ+ community is critical to the company's continued success.

belief – We believe in equality for the LGBTQ+ community and other marginalized individuals and groups. We believe Ashland can play a significant role in advancing career opportunities for members of the LGBTQ+ community by actively creating and maintaining an inclusive and welcoming work environment.

awin

Ashland women's international network

vision – We envision Ashland as a gender-balanced company where women feel inspired and empowered to achieve their full potential.

mission – AWIN seeks to cultivate success in career aspirations for women across all levels of the organization in pursuit of greater inclusion and diversity.

belief – We believe each of us could be an agent of change, individually and for others, through continuous self-awareness, self-cultivation, and always doing the right things.

The Ashland Women's International Network (AWIN) was launched a decade ago and continues to play a significant role in advancing gender equality and equity at Ashland. Each year, AWIN invests in development, networking, and career empowerment for its members through internal and external programs, speakers, and events. Every year on International Women's Day, AWIN recognizes women employees for their outstanding and noteworthy contributions to the company's bottom line, called the Ashland Business Impact Awards.

AWIN recipients

In 2022, 17 women solvers were selected by the Ashland Women's International Network (AWIN) from among hundreds of nominations across the company. These women made positive contributions, including improving efficiencies and cost savings; solving a particularly complicated problem (internal or external); providing business-critical support to a major project or initiative; or delighting a customer beyond expectations.

In honor of this year's 17 AWIN Business Impact Award recipients, Ashland donated \$20,000 to greenlight for girls (g4g), an international nonprofit dedicated to inspiring girls of all ages and backgrounds to pursue science, technology, engineering, and math (STEM) subjects by introducing them to the world of science in fun and exciting ways.

"Ashland is committed to inclusion and diversity and to the global, philanthropic focus of our social agenda on STEM," said Guillermo Novo, chair and chief executive officer of Ashland. "Through our corporate and regional Responsible Solvers™ programs, we will provide opportunities for more students at all levels to experience STEM careers and expand the number of students pursuing advanced degrees in STEM. Through our work, we also intend to broaden the participation of women and minorities."



I&D programs

In addition to setting the strategy and framework for I&D, the corporate Talent Management and Inclusion & Diversity team launched additional initiatives aimed at understanding and advancing Ashland's culture and commitment to I&D.

In February and April of 2022, Ashland's head of I&D facilitated two sessions to global employees launching the Ashland I&D strategy, framework, and ecosystem, along with establishing common language and definitions for inclusion, diversity, equity, equality, and allyship across the organization. The content was built on the head, heart, and hands model of ensuring a holistic and proactive approach to inclusion.



 head	knowledge ground yourself	know yourself, research, read, watch, learn, understand
 heart	empathy connect with others	get curious about others, be humble and vulnerable
 hand	action act inclusively, be an ally	consistent, proactive, inclusive, accountable

Ashland also piloted a global mentorship program in 2022, with plans to expand participation and diversity reach in 2023. The voluntary program brought together mentors and mentees from all around the world to focus on personal and professional development. The program included 50 mentor-mentee pairs connecting, learning, and growing together over approximately 12 months.

The participants rated the program a 3.75/5, indicating an overall positive response with room for improvement to take into the 2023 program. Here are what a few participants shared about their experience in the program:



“The experience was fantastic. At a time when I was facing crucial career choices, my mentor’s feedback and guidance came at just the right moment.”

“The mentoring program proved highly beneficial for me, thanks to the great match with my mentor. I gained a wealth of knowledge from this program and have no doubt that it will aid me in my future career.”

“The experience was excellent, and my mentor’s knowledge was invaluable. She was always available and prepared for each meeting, offering exceptional guidance and advice to help enhance my professional career.”

A third key initiative for Ashland was the launch of the inaugural global culture survey in March 2022. The culture survey synthesized several other smaller surveys happening locally into one global survey that included measures across 13 categories: engagement, change management, empowerment, future vision, growth & development, inclusion & diversity, manager relationship, performance management, resources & support, teamwork, well-being, and safety.

Ashland achieved an 83% response rate and 70% or higher favorability scores across the 13 categories. Once survey responses were gathered, managers were empowered with their results to debrief and form an action plan with their team. Ashland had close to 500 action plans drafted by approximately 200 leaders in response to the results. In addition, a corporate action plan, that focused on solutions to improve the lowest-rated categories, was created in response to both the culture survey and focus group feedback.

Ashland plans to conduct the culture survey annually to track progress on action plans and to ensure that the organization is continuously listening to what is most important to the employees.

The commitment to I&D at Ashland starts at the top and cascades throughout the global organization, ensuring that the focus is steadfast and that progress is achieved. The company is proud of what it has accomplished in 2022, and understands that there is still more work to be done for both the short-term evolution of inclusion and belonging at Ashland and the long-term achievement of the 2031 goals.



science, technology, engineering, and math (STEM)



Ashland's commitment to STEM is not a one-size-fits-all program. Instead, the company actively listens to the communities where they live and work to understand

their unique needs. Local teams then implement programs and partnerships that address those needs while tapping into the unique problem-solving abilities of local employees. With programs in the regions in which we operate, Ashland's STEM outreach is wide ranging in the variety of support offered, including sponsorships and internships; mentoring; in-classroom programs; site visits; partnerships with other organizations; and investments in local facilities, teaching materials, and more.

By broadening access and increasing awareness for women and minorities, the company is helping to create a more diverse group of scientists, technologists, engineers, and mathematicians who share the company's problem-solving passion and a focus on responsibly solving for a better world.

One example of our commitment began near our corporate headquarters. Over the course of the last eight years, Ashland has been the title sponsor of the Delaware STEM Educator's Awards which recognizes a teacher or team of teachers at the elementary (K-5), middle (6-8), and high school (6-12) levels who demonstrate STEM innovation and excellence through teaching, academic collaboration, and student engagement. Previous educators have been recognized for programs in robotics, hyponic farming, mathematics, and more.

Specific regional STEM programs can be accessed from our website.

learn more online >



global STEM programs

The Nature Conservancy

Youth STEM Nature Lab

Hub for youth curriculum to learn how nature works while bringing greater equity to environmental education; provides teachers, students, and families with customizable, interactive lesson plans to explore and understand nature.

greenlight for girls (g4g)

Hands-on workshops connect thousands of girls annually with role models to ignite a passion for science and inspire girls to pursue STEM careers.

- broadening awareness and access to a STEM skillset for women and minorities globally
- elevating significant portions of economies in the communities in which we operate
- increasing social equity and equity in compensation for people we impact

regional STEM program highlights

China

Shanghai

Internships

for college students

Open class

for middle school students

Formulation competition

personal care

Nanjing

Mfr plant

open house

student visits



Europe

Belgium

Sira traineeship

hired 12 process operators in 10 years

France

UIC partnership

internships (lab and process technicians)

high school presentations; full-day site visits

The Netherlands

regional school trainees

DaVinci College (Dordrecht) and STC (Brielle) operators

Curio (Breda) and Techniek College (Rotterdam) – lab technicians

Avans (Breda) – chemists

plant visits by local technical school as part of curriculum

India

Hyderabad

Best Student Award

Internships

some interns are now employees

School presentations

focused on advances in pharmaceuticals

Kondgaon School

bicycle project

Dhunalwadi School

solar lighting and dormitory upgrades

Shive Schools

three new classrooms, upgraded bathrooms

Rajasthan

Sustainable guar farming

for men and women (increase yield 35%, elevate local economies, empower women)

Latin America

Brazil

Febrace

science and engineering event features the work and rewards of high school students and technical staff, stimulating creativity and innovation of students as well as the new vocations in science and engineering between schools and universities

Instituto Reciclar

STEM youth training for at-risk young people who want to overcome barriers; those assisted become multiplier agents of transformation; providing professional support for first jobs (prep, interview simulations, placement)

Mexico

Instituto Politécnico Nacional

top 5 students' sponsorship

North America

Wilmington, DE

Sponsorships

DE STEM Educator's Awards; Wilmington Urban STEM Initiative

Parlin, NJ

Grants

honors class visits

Hopewell, VA

Partnerships

local grade and high schools; employing local college students for internships and co-ops; female process engineer hired this year

Texas City, TX

scholarships, internships, co-ops, career fairs

Calvert City, KY

sponsor Society of Women Engineering (SWE) at University of KY

Rest of Asia

Singapore

The Ashland Bursary

supports financially disadvantaged and deserving undergraduates pursuing a full-time Chemical Engineering of Food Technology undergraduate degree program at the Singapore Institute of Technology (SIT)

Nanyang Technological University

six-month paid internships with Ashland personal care team

STEM and sustainable guar farming



Ashland partnered with the Sehgal Foundation in June 2021 on a pilot program for the sustainable farming of guar in Rajasthan, India.

The collective goal was to increase the volume of guar harvested annually through educational programs and scientific solutions for sustainable farming while respecting the sourcing relationships and local cultures of small village farmers in Rajasthan, India. The relationships are important to Ashland because we use guar to formulate specialty ingredients for personal care, life sciences, and coatings applications.

helping expand local economies

The pilot included 250 farms from 10 villages. Using science, technology, engineering, and math (STEM) and modern technologies, farmers were taught sustainable agronomic practices and water conservation. The program's successful results include helping farmers lower their production cost while increasing their crop yield by approximately 30 percent. In addition, the program has helped increase farmers' income, thus expanding the local economy in the small villages.



At the same time, Ashland's commitment to gender equality led to specific training focused on the local female population to empower them, improve their technical knowledge and skills, and help elevate their standard of living. Based on the success of the pilot, Ashland is moving forward with plans to increase the number of farms to 5,000 by 2025.

sustainably sourced guar by the numbers

- number of farmers enrolled in the program increased from 250 farmers to 1,850 farmers and from 10 villages to 25 villages
- average productivity yield increase in guar crop since the implementation of the program is 22%
- number of health, sanitation, and community participation awareness program for women in 2022 is 728
- number of health, hygiene, sanitation, and nutrition awareness program for children in 2022 is 1,600





governance



governance overview

At Ashland, we dedicate ourselves to earning the trust of our investors, employees, suppliers, and customers.

By fostering a culture that emphasizes compliance with the law and ethical business behavior and by adopting strong principles of corporate governance, our constituents can feel confident about their association with Ashland.

The cornerstone of Ashland's compliance program is our Global Code of Conduct. We also have a strong and active preventive law program and apply strict ethical standards to our financial audit practices.

Our system of corporate governance includes an independent board of directors and board committees composed entirely of independent directors as well as stock ownership guidelines for key employees.

At Ashland, we value the trust our constituents place in us, and we work every day to keep their trust.



risk management – enterprise risk management

Ashland participates in a risk assessment process to assess risks and opportunities for both near- and long-term. The risk assessment process identifies key risk areas, including ESG and other impacts which could pose threats to business continuity. Additionally, the risk process encompasses a definition of the responsibilities of risk owners, functional experts, and independent verifiers. Each risk type is managed and supported by functional organizations that are responsible for specifying corporate requirements and processes. These processes include the critical elements of leadership, people, risk identification and management, and continuous improvement.

In 2022, Ashland reviewed and identified a number of ESG-related risks tied to climate change, transitional risks and opportunities, and resource availability.

We continue to evaluate ESG-related risks in our enterprise risk assessment process to ensure that our risk identification and mitigation efforts are forward-looking and sustainable.



our board oversight and committee efforts

audit committee

The Audit Committee assists the Ashland Inc. Board of Directors in fulfilling its oversight responsibilities relating primarily to: (a) the integrity of the Company's financial statements and financial reporting process; (b) the integrity and effectiveness of the Company's internal control over financial reporting; (c) the performance of the Company's internal audit function and independent auditors; (d) the independent auditors' qualifications and independence, and the audit of the Company's financial statements and effectiveness of internal control over financial reporting; (e) the Company's risk management policies and processes; (f) the Company's financial affairs; and (g) legal and regulatory compliance requirements.

The committee reviews and approves the report required by the rules of the Securities and Exchange Commission ("SEC") to be included in the Company's annual proxy statement. The committee maintains effective working relationships with – and open communication between – the Board, management, and internal and independent auditors.

Ashland's audit committee supports oversight of internal and external validation of ESG metrics and reporting. The committee is actively monitoring anticipated or known disclosure requirements that will impact future reporting of key ESG information.





compensation committee

The Compensation Committee of the Board of Directors of Ashland Inc. will assist the Board in discharging its duties related to executive compensation and succession and the adoption, amendment, and termination of employee benefit plans sponsored, maintained, or contributed to by Ashland Inc., its subsidiaries, and affiliates that are more than 50 percent owned by Ashland Inc. (hereinafter singly or collectively referred to as the "Company").

The purpose of the Committee is to (i) oversee the adoption and administration of the Company's compensation plans, in particular the incentive and equity-based plans; (ii) discharge the Board's responsibilities relating to compensation of the Company's executive officers (those executive officers deemed "officers" under Section 16 of the Securities Exchange Act of 1934, as amended) ("Executive Officers"); (iii) oversee the preparation of the annual report on executive compensation required by the rules and regulations of the Securities and Exchange Commission to be included in the Company's proxy statement; (iv) oversee plans for executive development and succession; and (v) adopt, amend, terminate, merge, spin off, and transfer the employee benefit plans of the Company, including those that are and are not subject to the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), except as the committee otherwise expressly determines or applicable law otherwise expressly requires, the committee shall not act as a fiduciary with respect to any company Employee Benefit Plan subject to ERISA.

Ashland's compensation committee supports compensation tied to ESG performance and KPIs, including current and future compensation for the company sustainability progress.

environmental health, safety, and quality committee

Ashland Inc. is committed to operating our businesses safely and responsibly and in compliance with all regulations. The Company is committed to protecting the health and safety of its employees and the public and sustaining the quality of the environment for future generations. Ashland is also committed to producing and providing safe and quality products for our customers while protecting the health and safety of its employees and customers. Ashland is also committed to increasing its portfolio of sustainable products and solutions to better protect the environment and the communities within which we operate.

The primary responsibility for ensuring the Company's compliance with applicable environmental, health, safety, and product safety laws and regulations is vested in the operating management of the Company. The Company's Board of Directors believes that the Company must continuously earn the trust and confidence of its employees, customers, shareholders, and neighboring communities and other stakeholders in its commitment to operating safely and responsibly. In order to monitor such compliance and performance as well as EHS, Quality, and Environmental ESG (defined as sustainability topics covering sourcing, operations, and solutions) related issues affecting the Company, the Board has established the Environmental, Health, Safety, and Quality Committee. The Committee is appointed by the Board to review and oversee the Company's EHS, Quality, Environmental ESG, and Compliance policies, programs, and practices; EHS and Quality audits; and any EHS, quality, or compliance issues that affect, or could affect, the Company's employees, customers, shareholders, and neighboring communities.

The EHS&Q Committee reviews ongoing implementation of sustainability efforts, including Ashland's direct and indirect GHG emissions reduction efforts and sustainable sourcing initiatives.

governance and nominating committee

The Governance and Nominating Committee will assist the Ashland Inc. Board of Directors in identifying qualified individuals to become Board members, in determining the composition of the Board and its committees, in developing and implementing the Company's corporate governance guidelines, and in ensuring the independence of the Board as it exercises its corporate governance and oversight roles for the benefit of shareholders and the Company's other constituencies, including, but not limited to, counsel to the full Board with respect to (A) Board size, organization, membership, and function, (B) Board committee structure, size, and membership, and (C) succession planning for the Board.

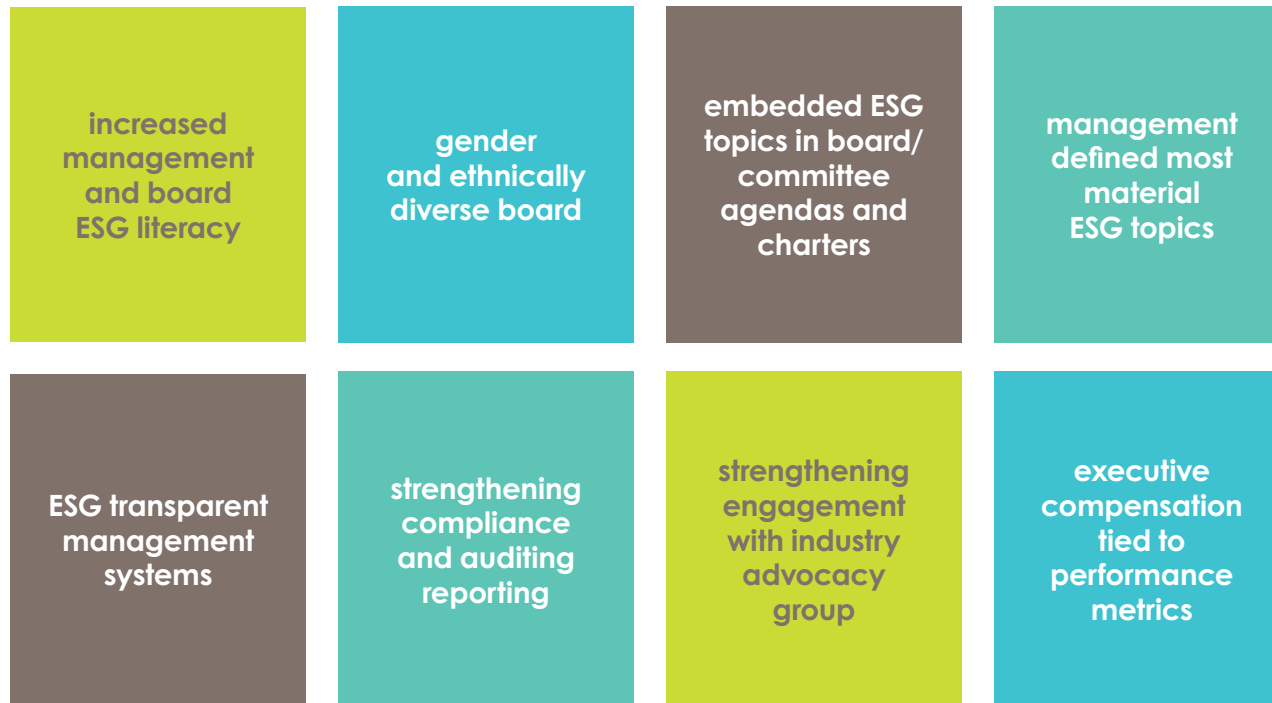
The G&N Committee supports ESG governance efforts, including communication, transparency, and oversight of Ashland's ESG programs. The committee also supports community engagement and STEM initiatives.

director independence standards

Pursuant to Ashland Inc.'s ("Company") Corporate Governance Guidelines policy, at least two-thirds of the Company's Board of Directors ("Board") must be independent. No director will be deemed independent unless the Board affirmatively determines that the director has no material relationship with the Company, directly or as an officer, shareholder, or partner of an organization that has a relationship with the Company. The Board will observe and comply with all additional criteria for independence established by the New York Stock Exchange and other governing laws and regulations.

governance

raising transparency, avoiding conflicts of interest, and honing compliance policies beyond foundational elements of doing business



cybersecurity

Ashland is dedicated to protecting our data and intellectual property, and we follow all applicable data privacy laws.

Cybersecurity is an increasingly important topic for companies around the world.

We take reasonable steps to protect information from loss, misuse, unauthorized access, disclosure, alteration, and/or destruction. Our Vice President of Cybersecurity and IT teams have a comprehensive security program in place, including:

- annual security trainings for employees
- regular updates to operating systems
- change management processes
- antivirus and malware protection
- firewalls and intrusion prevention systems
- identity and access controls
- 24x7 security operations center
- annual penetration tests and risk assessments
- compliance with regional/country data privacy laws

global code of conduct



Our Global Code of Conduct is the foundation of everything we do. It details our core values of integrity and ethical behavior that define Ashland's way of doing business. It applies to all employees, officers, and members of the Board, and it guides us on how to carry out our daily activities in accordance with our values and applicable laws and policies.

We have zero-tolerance policies for the use of child labor, forced labor, human trafficking, or land-grabbing practices. We refuse to do business with subcontractors, business partners, and suppliers who engage in these practices. We expect all relevant third parties to hold themselves to similar standards when acting on Ashland's behalf. Ashland takes appropriate measures when we believe third parties have not met our expectations or their contractual obligations.

When doing business with a third party, Ashland has a formal process in place to initiate the due diligence review process. This process is required prior to entering or renewing a contractual relationship with a person or entity supporting Ashland's international business operations.

training

Training is required annually on our Code of Conduct for all employees and as part of our onboarding of new Board of Director members. Our mature and robust training program uses a variety of methods for

employees to complete training including instructor-led, targeted, and online. The majority of Ashland's global employee population completes training. In 2022, our overall completion rate in the below areas was at least **95%**.

- anti-boycott compliance
- anti-corruption compliance
- code of conduct
- competition & anti-trust
- data privacy: global edition
- diversity & inclusion
- preventing workplace harassment

targeted and instructor-led training:

- anti-boycott compliance
- code of conduct
- competition and antitrust
- diversity and inclusion
- prevention of sexual harassment of women in workplace
- records management
- smart business writing

Additionally, all employees and Board of Director members must sign a certification form that demonstrates understanding of the Code and their commitment to it. In 2022, we achieved 100 percent compliance.

learn more online

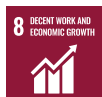


Ashland manages our business ethics and compliance by ensuring:

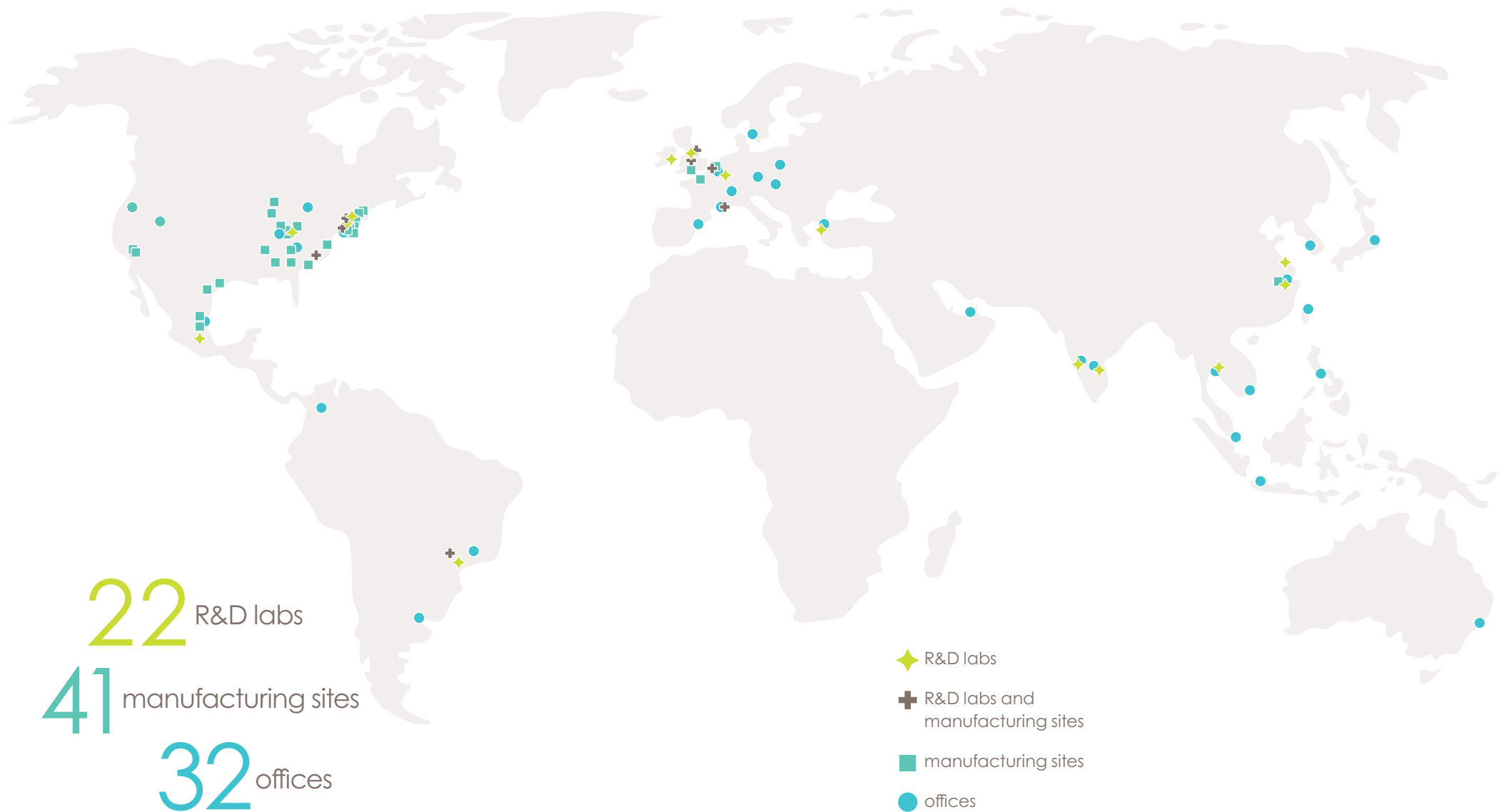
- secure, confidential, third-party whistleblowing mechanism through Ashland's Global Speak Up Line
- annual training of all employees on our Code of Conduct
- the assignment of a Chief Compliance Officer who oversees adherence to the Code in all business operations
- all ethics incidents are investigated thoroughly and disciplined accordingly
- ethics and compliance policies are available to all employees
- an ethical culture is maintained, where employees feel comfortable speaking up about their concerns without fear of retaliation

ethics ambassadors

As an extension and enhancement to Ashland's Ethics and Compliance policies and programs, Ashland has created a global network of "Ethics Ambassadors" as an added resource for employees and to integrate our global ethics and compliance program into business operations at the local level.



2022 global footprint



board of directors

Guillermo Novo

Chair and Chief Executive Officer,
Ashland Inc.

Steve D. Bishop

Former CEO, Procter & Gamble Health Care

Brendan M. Cummins

Former CEO, Ciba Specialty Chemicals

Suzan F. Harrison

Former President, Global Oral Care,
Colgate-Palmolive Company

Jay V. Ihlenfeld, Ph.D.

Former Senior Vice President, 3M Company

Wetteny Joseph

Chief Financial Officer and Head of Business
Development, Zoetis

Susan L. Main

Senior Vice President and Chief Financial Officer,
Teledyne Technologies Incorporated

Jerome A. Peribere

Former President and CEO, Sealed Air Corp.

Janice J. Teal, Ph.D.

Former Group Vice President and
Chief Scientific Officer, Avon Products Inc.

executive leadership

Guillermo Novo

Chair and Chief Executive Officer

Eric N. Boni

Vice President, Finance and Principal
Accounting Officer

Karl Bostaph

Vice President, Manufacturing

Min Chong

Senior Vice President and General Manager,
Specialty Additives and Intermediates

Eileen Drury

Senior Vice President and Chief Human
Resources Officer

Ashok Kalyana

Senior Vice President and General Manager,
Life Sciences

Osama Musa, Ph.D.

Senior Vice President and
Chief Technology Officer

Xiaolan Wang, Ph.D.

Senior Vice President and General Manager,
Personal Care

J. Kevin Willis

Senior Vice President and Chief Financial Officer

P. Yvonne Winkler von Mohrenfels

Senior Vice President,
General Counsel and Secretary

global headquarters

Ashland inc.

8145 Blazer Drive
Wilmington, DE 19808 USA
Tel: +1 859 815 3333

regional centers

Asia Pacific

Shanghai, China
Tel: +86 21 2402 4888

Europe, Middle East, Africa

Schaffhausen, Switzerland
Tel: +41 52 560 5500

Central, South America

São Paulo, Brazil
Tel: +55 11 3649-0455

ashland.com/esg

® Registered trademark, Ashland or its subsidiaries,
registered in various countries

™ Trademark, Ashland or its subsidiaries, registered
in various countries

* Third-party registered

© 2023, Ashland / COR17-1041.5

The information contained in this brochure and the various products described are intended for use only by persons having technical skill and at their own discretion and risk after they have performed necessary technical investigations, tests and evaluations of the products and their uses. Certain end uses of these products may be regulated pursuant to rules or regulations governing medical devices, drug uses, or pesticidal or antimicrobial uses. It is the end user's responsibility to determine the applicability of such regulations to its products. All statements, information, and data presented herein are believed to be accurate and reliable, but are not to be taken as a guarantee of fitness for a particular purpose, or representation, express or implied, for which seller assumes legal responsibility. No freedom to use any patent owned by Ashland, its subsidiaries, or its suppliers is to be inferred.

 ashland.com / efficacy usability allure integrity profitability™

 **Ashland**
always solving