

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

W. R. Grace & Co. is engaged in the production and sale of specialty chemicals and specialty materials on a global basis through two reportable business segments: Grace Catalysts Technologies, which includes catalysts and related products and technologies used in refining, petrochemical and other chemical manufacturing applications; and Grace Materials Technologies, which includes specialty materials, including silica-based and silica-alumina-based materials, used in consumer/pharma, chemical process, and coatings applications.

W. R. Grace & Co. delivers value through performance. Our catalysts and specialized silicas improve the products and processes of many of the world's best companies. Through world-class knowhow, collaboration, and experience, we help customers in 70 countries achieve some of their most important goals, from high-performing products and high-productivity manufacturing, to improved efficiency, sustainability, and profitability.

W-CH0.1a

(W-CH0.1a) Which activities in the chemical sector does your organization engage in?

Specialty inorganic chemicals
 Other, please specify (Specialty Materials and Active Pharmaceutical Ingredients)

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1 2022	December 31 2022

W0.3

(W0.3) Select the countries/areas in which you operate.

- Brazil
- Canada
- Germany
- Malaysia
- Philippines
- Republic of Korea
- Spain
- Sweden
- United States of America

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

USD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Remediation sites	We are unable to collect water usage data from our remediation sites, however this is expected to be immaterial to our overall water use and risk.
Global Sales Offices	We are unable to collect water usage data from our global sales offices, however this is expected to be immaterial to our overall water use and risk.
Warehouses	We are unable to collect water usage data from our warehouses, however this is expected to be immaterial to our overall water use and risk.

W0.7

(W0.7) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, another unique identifier, please specify (D&B number)	61-296-7141

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Vital	Sufficient amounts of good quality freshwater is of vital importance for the production of all of our products, and we recognize water of suitable quality and volume is a finite resource. For Grace, a majority of our processes require access to fresh water for the manufacturing of our products. Water is used in steam generation, washing, slurring, transport, treatment, as a reaction medium, and incorporated into products. Indirectly, freshwater is also very important for the production of raw materials and other indirect materials across our value chain. We do not anticipate water becoming any less important for either our direct or indirect use in the future. We do not anticipate our future fresh water use to change significantly.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	We consider recycled water to be important to our direct business operations and our supply chain as we recognize the importance of conserving water. Recycled water is used both directly to minimize freshwater use within our operations and indirectly to support the production of raw materials across our value chain. In the future we see the availability of recycled water as remaining important for direct and indirect uses as we seek to bolster our water stewardship efforts. We do not anticipate our future recycled water use to change significantly.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	76-99	Monthly	Grace internally monitors its water withdrawals primarily through invoices sent by third-party providers or through direct readings obtained at the point of withdrawal. Additionally, many sites have flow meters which can be accessed as needed (daily or otherwise) to obtain and verify flow data.	Water withdrawals from public utilities are monitored at a frequency applicable to the billing cycle of that water utility. In instances where water withdrawals data exceeds a period of 3 months, water withdrawal is estimated. Where data is unavailable applicable estimates are made. In cases where water withdrawal is from surface or ground water, withdrawal data is obtained on a monthly basis from in line water flow meters. Data gaps for both public utilities and surface or ground water are addressed through engineering estimation where required.
Water withdrawals – volumes by source	26-50	Monthly	Grace internally monitors its water withdrawals primarily through invoices sent by third-party providers or through direct readings obtained at the point of withdrawal. Additionally, many sites have flow meters which can be accessed as needed (daily or otherwise) to obtain and verify flow data.	Water withdrawals from public utilities are monitored at a frequency applicable to the billing cycle of that water utility. In instances where water withdrawals data exceeds a period of 3 months, water withdrawal is estimated. Where data is unavailable applicable estimates are made. In cases where water withdrawal is from surface or ground water, withdrawal data is obtained on a monthly basis from in line water flow meters. Data gaps for both public utilities and surface or ground water are addressed through engineering estimation where required.

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Water withdrawals quality	1-25	Unknown	Grace internally monitors its water withdrawals primarily through invoices sent by third-party providers or through direct readings obtained at the point of withdrawal. Additionally, many sites have flow meters which can be accessed as needed (daily or otherwise) to obtain and verify flow data.	Grace maintains compliance with all of its operational permits and applicable regulations. Where water is supplied from third party sources such as water utilities, water quality is monitored by those entities. Where water is withdrawn from ground or surface water, water quality parameters are monitored as a raw material input to ensure water is of sufficient quality to meet product requirements.
Water discharges – total volumes	76-99	Monthly	Water discharges from facilities are monitored through either or both (where applicable) public owned treatment works or effluent flow meters at discharge points. Measurement frequency is determined by permit obligations or operational requirements and may range from daily to monthly.	Data gaps for both publicly owned treatment works or other receiving bodies is estimated according to applicable regulatory guidance and internal procedures.
Water discharges – volumes by destination	76-99	Monthly	Water discharges from facilities are monitored through either or both (where applicable) public owned treatment works or effluent flow meters at discharge points. Measurement frequency is determined by permit obligations or operational requirements and may range from daily to monthly.	Data gaps for both publicly owned treatment works or other receiving bodies is estimated according to applicable regulatory guidance and internal procedures.
Water discharges – volumes by treatment method	76-99	Monthly	Water discharges from facilities are monitored through either or both (where applicable) public owned treatment works or effluent flow meters at discharge points. Measurement frequency is determined by permit obligations or operational requirements and may range from daily to monthly.	Data gaps for both publicly owned treatment works or other receiving bodies is estimated according to applicable regulatory guidance and internal procedures.
Water discharge quality – by standard effluent parameters	76-99	Monthly	Water discharge quality parameters are monitored at intervals specified by all operating and discharge permits and are specific to each facility. The monitoring frequency set by the relevant permits may range from hourly to annually.	Grace complies with all operating and discharge permits pursuant to national, federal, state, and local regulations. We regularly monitor discharge water quality to maintain compliance with our permits. The specific method for monitoring each water quality parameter will be established by the appropriate regulatory body and specified in the operating permit. For example, at some facilities we monitor discharge through on-site meters.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	Not relevant	<Not Applicable>	<Not Applicable>	Grace complies with all operating and discharge permits pursuant to national, federal, state, and local regulations. We regularly monitor discharge water quality to maintain compliance with our permits. The specific method for monitoring each water quality parameter will be established by the appropriate regulatory body and specified in the operating permit. For example, at some facilities we monitor discharge through on-site meters.
Water discharge quality – temperature	26-50	Monthly	Water discharge quality parameters are monitored at intervals specified by all operating and discharge permits and are specific to each facility. The monitoring frequency set by the relevant permits may range from hourly to annually.	Water discharge quality parameters are monitored at intervals specified by all operating and discharge permits and are specific to each facility. The monitoring frequency set by the relevant permits may range from hourly to annually.
Water consumption – total volume	76-99	Monthly	Water consumption is calculated on an annual basis using the following formula: Consumption = Withdrawal (all sources) – Discharge (all receptors).	Prior water consumption data assumed reported consumption to be 100% water withdrawal whenever stormwater cannot be separated from wastewater volume. This avoided negative consumption values but limited comparability of the data set. Going forward consumption will not be modified and raw calculated values will be reported for all facilities.
Water recycled/reused	26-50	Monthly	The volume of water recycled is based on either engineering estimation or direct measurement.	Data is aggregated on an annual basis.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Daily	Grace complies with all local, state, and federal regulations regarding the provision of fully-functioning, safely managed WASH services to all workers.	We manage any changes to regulations on an annual basis and as new ones arise.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	16666.08	Lower	Increase/decrease in business activity	Lower	Investment in water-smart technology/process	Grace's total withdrawal volume decreased by 7% in 2022 from 2021. This is primarily due to lower production volume at Grace facilities that have water-intensive processes, and the installation of water reduction projects at certain facilities.
Total discharges	18432.95	Higher	Increase/decrease in business activity	Lower	Investment in water-smart technology/process	Grace's total discharge volume increased by 9% in 2022 from 2021. Grace's discharge includes rainwater and other non-process water.
Total consumption	428.77	Lower	Increase/decrease in business activity	Lower	Investment in water-smart technology/process	In 2022, Grace's water consumption decreased by 732 ML compared with 2021.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	1-10	About the same	Other, please specify (In 2022, Grace's water withdrawal from water stressed areas remained about the same from 2021)	About the same	Other, please specify (Grace's water withdrawal from water stressed areas was forecasted to remain the same in the net 5 years by the WRI Aqueduct tool)	WRI Aqueduct	<p>Grace utilized the WRI Aqueduct tool to approximate the level of Baseline water stress at each of its facilities globally. Areas with a baseline water stress score above 3.0 (High to Very High) were identified as being within water stressed areas. We then took the total water withdrawn from those areas and divided it by total water use to obtain the % withdrawn from areas with water stress. Based on known data deficiencies in water withdrawal in prior years this should be viewed as a conservative estimate.</p> <p>We expect this value to remain relatively unchanged moving forward but may shift as data collection methods continue to improve.</p> <p>In 2022, 6% or approximately 1,008 megaliters of Grace's total withdrawals were from water-stressed areas</p>

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	889.36	Lower	Increase/decrease in business activity	<p>Fresh surface water is used in direct operations at a number of plants, therefore it is relevant. In 2022, withdrawals by 3 of our facilities from surface water decreased by 9% from 2021.</p> <p>Year-on-year variance may be expected as production volume at our facilities withdrawing water from fresh surface water may increase or decrease depending on business need.</p>
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Brackish surface water/seawater is not used in direct operations at any facilities, therefore it is not relevant.
Groundwater – renewable	Relevant	2866.91	Lower	Increase/decrease in business activity	<p>Renewable groundwater is used in direct operations at a number of plants, therefore it is relevant. In 2022, withdrawals from 1 of our facilities from renewable groundwater decreased by 5% from 2021. In addition, the facility implemented water efficiency projects to reduce its water withdrawal.</p> <p>Year-on-year variance may be expected as production volume at our facilities withdrawing water from renewable groundwater may increase or decrease depending on business need.</p>
Groundwater – non-renewable	Relevant	4846.55	About the same	Increase/decrease in business activity	<p>Non-renewable groundwater is used in direct operations at a number of our plants, therefore it is relevant. In 2022, withdrawals by 1 of our facilities from non-renewable groundwater decreased by 3% from 2021.</p> <p>Year-on-year variance may be expected as production volume at our facilities withdrawing water from non-renewable groundwater may increase or decrease depending on business need.</p>
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Produced/entrained water is not used in direct operations at any of our plants, therefore it is not relevant.
Third party sources	Relevant	8063.25	Lower	Increase/decrease in business activity	<p>Water from third party sources is used in direct operations at a number of plants, therefore it is relevant. In 2022, withdrawals by 8 Grace facilities from third party sources decreased by 10% from 2021.</p> <p>Year-on-year variance may be expected as production volume at our facilities withdrawing water from third-party sources may increase or decrease depending on business need.</p>

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	10814.01	Higher	Increase/decrease in business activity	A number of facilities discharge to fresh surface water; therefore this destination is relevant. In 2022, discharge to freshwater by 4 of our facilities increased by 22% compared to 2021 . Year-on-year variance may be expected as production volume at our facilities discharging water to third-party sources may increase or decrease depending on business need.
Brackish surface water/seawater	Relevant	5077.8	Lower	Increase/decrease in business activity	A number of our facilities discharge to brackish surface water; therefore, this destination is relevant. In 2022, discharge to seawater by 1 of our facilities decreased by 2% from 2021 Year-on-year variance may be expected as production volume at our facilities discharging water to brackish water may increase or decrease depending on business need.
Groundwater	Relevant	24	About the same	Increase/decrease in business activity	A number of facilities discharge to groundwater; therefore this destination is relevant. In 2022, discharge to groundwater by 1 of our facilities increased by 0% compared to 2021 . Year-on-year variance may be expected as production volume at our facilities discharging water to groundwater may increase or decrease depending on business need.
Third-party destinations	Relevant	2517.14	Lower	Increase/decrease in business activity	A number of facilities discharge third-party destinations; therefore this destination is relevant. In 2022, discharge to third parties by 5 of our facilities decreased by 9% compared to 2020 . Year-on-year variance may be expected as production volume at our facilities discharging water to third-party destinations may increase or decrease depending on business need.

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Tertiary treatment is not relevant to Grace's business as it is not required by regulatory requirements applicable to our facilities.
Secondary treatment	Relevant	133	Higher	Increase/decrease in business activity	11-20	The level of treatment is dictated by regulatory requirements at each facility. In 2022, water discharged by 2 facilities that underwent secondary treatment increased by 21% from 2021. Year-on-year variance may be expected as production volume at our facilities discharging water that underwent secondary treatment may increase or decrease depending on business need.
Primary treatment only	Relevant	17280.45	Higher	Increase/decrease in business activity	41-50	The level of treatment is dictated by regulatory requirements at each facility . In 2022, water discharged by 8 facilities that underwent primary treatment increased by 11% from 2021. Year-on-year variance may be expected as production volume at our facilities discharging water that underwent primary treatment may increase or decrease depending on business need.
Discharge to the natural environment without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Discharging wastewater without treatment is not relevant to Grace's business as it is not required by regulatory requirements applicable to our facilities.
Discharge to a third party without treatment	Relevant	1892.59	Much lower	Increase/decrease in business activity	21-30	In 2022, water discharged to a third-party without treatment by 3 of our facilities increased by 1,278 ML from 2021. Year-on-year variance may be expected as production volume at our facilities discharging water to a third party without treatment may increase or decrease depending on business need.
Other	Relevant	307.54	Much lower	Increase/decrease in business activity	11-20	In 2022, water discharged by 3 of our facilities that underwent other treatment decreased by 333 ML from 2021.

W1.3

(W1.3) Provide a figure for your organization's total water withdrawal efficiency.

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	2601805000	16666.08		We anticipate our future water withdrawal efficiency to increase in the future due to continued growth of our business and implementation of water efficiency projects at our facilities.

W-CH1.3

(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?

Yes

W-CH1.3a

(W-CH1.3a) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

Product type

Specialty inorganic chemicals

Product name

All chemical products

Water intensity value (m3/denominator)

0.03

Numerator: water aspect

Total water withdrawals

Denominator

Other, please specify (Metric Ton (MT))

Comparison with previous reporting year

Lower

Please explain

In 2022, Grace's water withdrawal intensity decreased by 0.01 m3/MT product from 2021. This was due to an 8% reduction in our water withdrawal volume in 2022 from 2021, as well as a 19% increase in our 2022 production volume from 2021. The underlying factors for the decrease include product mix changes and the installation of water reduction projects at certain facilities.

We expect our water withdrawal intensity to maintain or decrease from its current level as our business continues to grow and we implement water withdrawal efficiency projects at our facilities.

W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances	Comment
Row 1	Yes	<Not Applicable>

W1.4a

(W1.4a) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Annex XVII of EU REACH Regulation	Don't know	Prior to the commercialization of a product, a risk management evaluation is performed. This evaluation assures that products can be safely produced, sold, and used in all intended applications. Changes to existing products and related product manufacture, distribution and use are addressed through a business management of change program. Hazard and risk assessments coupled with periodic RCMS audits focus on the effectiveness of our product safety management systems .

W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	Yes	<Not Applicable>	<Not Applicable>
Other value chain partners (e.g., customers)	Yes	<Not Applicable>	<Not Applicable>

W1.5a

(W1.5a) Do you assess your suppliers according to their impact on water security?

Row 1

Assessment of supplier impact

Yes, we assess the impact of our suppliers

Considered in assessment

- Supplier dependence on water
- Supplier impacts on water availability
- Supplier impacts on water quality
- Procurement spend

Number of suppliers identified as having a substantive impact

190

% of total suppliers identified as having a substantive impact

1-25

Please explain

In our supply chain, Grace engages with suppliers on sustainability issues, through its Responsible Sourcing Program. We assess the sustainability performance of our suppliers through EcoVadis, is evidence-based and requires suppliers to provide document verification of policies, practices and management systems, and performance related to a number of environmental issues, including water-related topics.

As of the end of 2022, suppliers representing approximately 70% of Grace direct spend (including 190 suppliers to Grace) have completed or provided to Grace an EcoVadis scorecard, which includes a variety of water-related topics, including water risk, wastewater management and efficiency, water consumption and impacts on groundwater. Through the EcoVadis platform, Grace may assign corrective actions for water risks and management.

W1.5b

(W1.5b) Do your suppliers have to meet water-related requirements as part of your organization's purchasing process?

	Suppliers have to meet specific water-related requirements	Comment
Row 1	Yes, suppliers have to meet water-related requirements, but they are not included in our supplier contracts	<Not Applicable>

W1.5c

(W1.5c) Provide details of the water-related requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.

Water-related requirement

Reporting against a sustainability index with water-related factors (e.g., DJSI, CDP Water Security questionnaire, etc.)

% of suppliers with a substantive impact required to comply with this water-related requirement

100%

% of suppliers with a substantive impact in compliance with this water-related requirement

1-25

Mechanisms for monitoring compliance with this water-related requirement

Supplier scorecard or rating

Response to supplier non-compliance with this water-related requirement

Suspend and engage

Comment

In our supply chain, Grace engages with suppliers on sustainability issues, through its Responsible Sourcing Program. We assess the sustainability performance of our suppliers through EcoVadis, is evidence-based and requires suppliers to provide document verification of policies, practices and management systems, and performance related to a number of environmental issues, including water-related topics.

As of the end of 2022, suppliers representing approximately 70% of Grace direct spend have completed or provided to Grace an EcoVadis scorecard, which includes a variety of water-related topics, including water risk, wastewater management and efficiency, water consumption and impacts on groundwater. Through the EcoVadis platform, Grace may assign corrective actions for water risks and management.

W1.5d

(W1.5d) Provide details of any other water-related supplier engagement activity.

Type of engagement

Information collection

Details of engagement

Other, please specify (Collection of suppliers' water withdrawal data, water reduction targets, water risks and opportunities is currently collected on a triennial basis)

% of suppliers by number

1-25

% of suppliers with a substantive impact

1-25

Rationale for your engagement

Annually, Grace engages with our suppliers through the Grace Supplier Code of Conduct, sustainability assessments conducted through EcoVadis, and town halls.

Scope of Engagement: The Grace Supplier Code of Conduct, which includes expectations for environmental responsibility, apply to all Grace suppliers. Grace selects suppliers for an EcoVadis assessment based on their strategic importance to our business .

Impact of the engagement and measures of success

In our supply chain, Grace engages with suppliers on sustainability issues, through its Responsible Sourcing Program. We assess the sustainability performance of our suppliers through EcoVadis, is evidence-based and requires suppliers to provide document verification of policies, practices and management systems, and performance related to a number of environmental issues, including water-related topics.

As of the end of 2022, suppliers representing approximately 70% of Grace direct spend have completed or provided to Grace an EcoVadis scorecard, which includes a variety of water-related topics, including water risk, wastewater management and efficiency, water consumption and impacts on groundwater. Through the EcoVadis platform, Grace may assign corrective actions for water risks and management.

Comment

W1.5e

(W1.5e) Provide details of any water-related engagement activity with customers or other value chain partners.

Type of stakeholder

Customers

Type of engagement

Innovation & collaboration

Details of engagement

Collaborate with stakeholders on innovations to reduce water impacts in products and services

Rationale for your engagement

Grace directly engages with its customers whose water related risks are a material factor in their ability to deliver value to consumers through technical expertise, collaboration, and the investigation and co-development of custom products designed specifically to reduce water consumption requirements.

Impact of the engagement and measures of success

Measures of success ultimately are based on water or water related savings from the use of Grace products. Two examples of products which can provide significant value include 1) DARACLAR silica, which reduces water consumption in brewing processes. 2) Our DESOx FCC additive which offsets water-based caustic usage in petroleum refineries .

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	Yes	Fines, but none that are considered as significant	Grace would not consider fines below 100,000 USD that we receive to have a significant financial impact. The total fines considered in 2022 for this response was 1,500 USD.

W2.2a

(W2.2a) Provide the total number and financial value of all water-related fines.

Row 1

Total number of fines

1

Total value of fines

1500

% of total facilities/operations associated

1

Number of fines compared to previous reporting year

Lower

Comment

The pH at the facility's main discharge point to the Metropolitan Water Reclamation District of Greater Chicago (MWRD) exceeded the permitted limit. The MWRD issued an NOV to the facility for this incident, with a corresponding 1,500 USD fine.

Our comparison to prior reporting years was affected by implementation of an improved reporting system at Grace in 2022. A full list of citations issued to Grace is available on our website.

W3. Procedures

W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified	Please explain
Row 1	Yes, we identify and classify our potential water pollutants	Risk characterization begins with an evaluation of the hazards associated with our products' ingredients. For example, we have pilot plants that test processes to better understand chemical hazards in production. Then we scale these test processes to a larger level and assess the potential, via engineering calculations and physical tests, for impacts to production. Every product's composition is defined, and reaction compounds, by-products, impurities, or other minor components are evaluated. Available information on physio-chemical, health hazard, and environmental effects is reviewed, and studies are commissioned to obtain additional data as appropriate. Exposure risks are assessed for manufacturing processes, handling, packaging, distribution, use, and disposal. Risks are characterized for workers making the product, customers using the product, and others who may be affected. Prior to commercialization of a product, a risk management evaluation is performed. This evaluation assures that products can be safely produced, sold, and used in all intended applications. Grace communicates product safety information primarily through Safety Data Sheets and product labels. Additional communication methods such as training presentations and videos, safe use bulletins, and regulatory summaries are provided when appropriate to communicate risks adequately. Local and federal regulations also largely influence our operations and processes.	<Not Applicable>

W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Water pollutant category

Other, please specify (pH)

Description of water pollutant and potential impacts

pH as a water parameter can have substantial impacts on the health and sustainability of water ecosystems including vital benthic organisms, microbiomes, and vertebrates that form the basis of food chains. Extreme pH values pose risk to amphibian, reptilian, avian, and mammalian organisms who rely on water ecosystems. By ensuring compliance with our effluent discharge requirements, we implement the necessary primary and/or secondary treatment and monitoring systems and processes to ensure that our facilities operate within the discharge limits in our operating permits.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Resource recovery

Beyond compliance with regulatory requirements

Implementation of integrated solid waste management systems

Industrial and chemical accidents prevention, preparedness, and response

Water recycling

Reduction or phase out of hazardous substances

Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

Upgrading of process equipment/methods

Please explain

While maintaining compliance is an operational requirement, Grace strives for a level of water stewardship beyond all local, state, federal, and regional effluent quality standards. We do this through the incorporation of management systems, management of change processes within our operational facilities, and robust incident reporting procedures. Facilities are equipped with a variety of administrative, treatment, and operational controls to modify pH parameters to permitted limits.

Success is measured by achieving our target of nothing out of place and receiving no regulatory citations (notices of violation) from regulatory agencies.

Water pollutant category

Other nutrients and oxygen demanding pollutants

Description of water pollutant and potential impacts

Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) are water quality parameters measuring water health, indicating the amount of organic pollution in water. BOD measures organic matter degraded biologically, wherein COD measures all. BOD and COD's greater presence can rapidly reduce aquatic life's oxygen leading to distress and destroying the ecosystems.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Resource recovery

Beyond compliance with regulatory requirements

Implementation of integrated solid waste management systems

Industrial and chemical accidents prevention, preparedness, and response

Water recycling

Reduction or phase out of hazardous substances

Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

Upgrading of process equipment/methods

Please explain

While maintaining compliance is an operational requirement, Grace strives for a level of water stewardship beyond all local, state, federal, and regional effluent quality standards. We do this through the incorporation of management systems, management of change processes within our operational facilities, and robust incident reporting procedures. Facilities are equipped with a variety of administrative, treatment, and operational controls to modify BOD/COD parameters to permitted limits.

Success is measured by achieving our target of nothing out of place and receiving no regulatory citations (notices of violation) from regulatory agencies.

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Value chain stage

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed in an environmental risk assessment

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market

Other

Tools and methods used

WRI Aqueduct

External consultants

Contextual issues considered

Water availability at a basin/catchment level

Water quality at a basin/catchment level

Stakeholders considered

Customers

Employees

Local communities

Water utilities at a local level

Comment

Grace utilized the WRI Aqueduct tool to approximate the level of Baseline water stress at each of its facilities globally. Areas with a baseline water stress score above 3.0 (High to Very High) were identified as being within water stressed areas. We then took the total water withdrawn from those areas and divided it by total water use to obtain the % withdrawn from areas with water stress. Based on known data deficiencies in water withdrawal in prior years this should be viewed as a conservative estimate.

We expect this value to remain relatively unchanged moving forward but may shift as data collection methods continue to improve.

In 2022, 6% or approximately 1,008 megaliters of Grace's total withdrawals were from water-stressed areas.

Value chain stage

Supply chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

Frequency of assessment

Annually

How far into the future are risks considered?

1 to 3 years

Type of tools and methods used

Tools on the market

Tools and methods used

EcoVadis

Contextual issues considered

Water availability at a basin/catchment level

Water quality at a basin/catchment level

Impact on human health

Water regulatory frameworks

Status of ecosystems and habitats

Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Suppliers

Comment

As of the end of 2022, suppliers representing approximately 70% of Grace direct spend have completed or provided to Grace an EcoVadis scorecard, which includes a variety of water-related topics, including water risk, wastewater management and efficiency, water consumption and impacts on groundwater. Through the EcoVadis platform, Grace may assign corrective actions for water risks and management.

W3.3b

(W3.3b) Describe your organization’s process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	<p>In 2022, we continued our process for identifying our water-related risks within our direct operations to assess priority locations for water stewardship activities and set water risk reduction targets to respond to any identified issues.</p> <p>In a separate effort, as of the end of 2022, suppliers representing approximately 70% of Grace direct spend have completed or provided to Grace an EcoVadis scorecard, which includes a variety of water-related topics, including water risk, wastewater management and efficiency, water consumption and impacts on groundwater. Through the EcoVadis platform, Grace may assign corrective actions for water risks and management.</p>	<p>As part of this process, we review at-risk facilities within our direct operations through the use of the WRI Aqueduct tool and evaluate facilities for opportunities for water usage efficiency.</p> <p>For our supply chain, suppliers representing approximately 70% of Grace direct spend have completed or provided to Grace an EcoVadis scorecard, which includes a variety of water-related topics, including water risk, wastewater management and efficiency, water consumption and impacts on groundwater</p>	<p>We consider our customers, local communities, employees and local water utilities as our primary stakeholders for our operational water risk assessment using WRI Aqueduct.</p> <p>We also address water risks in our supply chain considering suppliers as our primary stakeholder group. Suppliers representing approximately 70% of Grace direct spend have completed or provided to Grace an EcoVadis scorecard, which includes a variety of water-related topics, including water risk, wastewater management and efficiency, water consumption and impacts on groundwater.</p>	<p>Based on this review, we plan to consider water related risks in our direct operations as part of our Enterprise Risk Management system should they exceed relevant thresholds. This analysis would help inform our future water strategy.</p> <p>Through the EcoVadis platform, Grace may assign corrective actions for supply chain-related water risks and management to our suppliers.</p>

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, only within our direct operations

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

At this time, WR Grace recognizes a ‘substantive impact’ in regard to water-related risks as one that may limit our ability to operate or grow our facilities or significantly affects our profitability or business strategy. We depend on readily available, clean water to maintain our global operations. We are committed to the responsible management of our water resources and acknowledge that significant changes in water availability could have a direct or indirect impact on our company and supply chain. We recognize water of suitable quality and volume is a finite resource.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	6	1-25	Grace’s facilities are equipped to manage water-related risks through a combination of fungibility, inventory management and other operational levers (i.e., contingency planning).

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

Country/Area & River basin

United States of America	Other, please specify (Vince Bayou)
--------------------------	-------------------------------------

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company’s annual electricity generation that could be affected by these facilities

<Not Applicable>

% company’s global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

1-10

Comment

WR Grace is engaged with the production and sale of specialty chemicals and specialty materials for various applications. We recognize business risks as we operate our business at a global scale. Multiple Grace facilities globally are located within 20 miles of a coast, placing them at risk from increased severity of hurricanes and weather events that could cause production interruptions. Key suppliers and associated distribution routes for raw materials and finished goods are located within 100 miles of a coast, increasing susceptibility to interruptions from severe weather events.

Grace's facilities are equipped to manage water-related risks through a combination of fungibility, inventory management and other operational levers (i.e., contingency planning). Historical water-related issues have not represented a material impact to Grace's operations.

Country/Area & River basin

United States of America	Mississippi River
--------------------------	-------------------

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

1-10

Comment

WR Grace is engaged with the production and sale of specialty chemicals and specialty materials for various applications. We recognize business risks as we operate our business at a global scale. Multiple Grace facilities globally are located within 20 miles of a coast, placing them at risk from increased severity of hurricanes and weather events that could cause production interruptions. Key suppliers and associated distribution routes for raw materials and finished goods are located within 100 miles of a coast, increasing susceptibility to interruptions from severe weather events.

Grace's facilities are equipped to manage water-related risks through a combination of fungibility, inventory management and other operational levers (i.e., contingency planning). Historical water-related issues have not represented a material impact to Grace's operations.

Country/Area & River basin

United States of America	Other, please specify (Calcasieu River Basin)
--------------------------	--

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

21-30

Comment

WR Grace is engaged with the production and sale of specialty chemicals and specialty materials for various applications. We recognize business risks as we operate our business at a global scale. Multiple Grace facilities globally are located within 20 miles of a coast, placing them at risk from increased severity of hurricanes and weather events that could cause production interruptions. Key suppliers and associated distribution routes for raw materials and finished goods are located within 100 miles of a coast, increasing susceptibility to interruptions from severe weather events.

Grace's facilities are equipped to manage water-related risks through a combination of fungibility, inventory management and other operational levers (i.e., contingency planning). Historical water-related issues have not represented a material impact to Grace's operations.

Country/Area & River basin

United States of America	Other, please specify (Patapsco River)
--------------------------	--

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

1-10

Comment

WR Grace is engaged with the production and sale of specialty chemicals and specialty materials for various applications. We recognize business risks as we operate our business at a global scale. Multiple Grace facilities globally are located within 20 miles of a coast, placing them at risk from increased severity of hurricanes and weather events that could cause production interruptions. Key suppliers and associated distribution routes for raw materials and finished goods are located within 100 miles of a coast, increasing susceptibility to interruptions from severe weather events.

Grace's facilities are equipped to manage water-related risks through a combination of fungibility, inventory management and other operational levers (i.e., contingency planning). Historical water-related issues have not represented a material impact to Grace's operations.

Country/Area & River basin

Germany	Rhine
---------	-------

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

21-30

Comment

Low water levels at the River Rhine may impact the facility's ability to effectively transport raw materials and finished products via river transport.

Grace's facilities are equipped to manage water-related risks through a combination of fungibility, inventory management and other operational levers (i.e., contingency planning).

Historical water-related issues have not represented a material impact to Grace's operations.

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

United States of America	Other, please specify (Mississippi River, Calcasieu River, Vince Bayou)
--------------------------	---

Type of risk & Primary risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)
----------------	--

Primary potential impact

Increased operating costs

Company-specific description

Severe weather conditions that may be linked to climate change caused significant flooding events in 4 Grace facilities located along the Gulf Coast. These types of occurrences can negatively affect our manufacturing, supply chain, logistics, information technology, and communications functions. Similarly, they can strike major suppliers and customers, thus restricting or delaying our supply of raw materials or energy as well as reducing or deferring demand for our products and services. In the event of a major disruption, we may not be able to replace this business in a timely manner or at similar margins.

The most recent significant weather event was Winter Storm Uri which impacted Grace's 4 Gulf Coast facilities.

Timeframe

1-3 years

Magnitude of potential impact

Medium-high

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

15000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Grace did not experience any significant water-related impacts in 2022. However, in 2021, Winter Storm Uri caused approximately \$15 million in increased cost, with \$8.5 million impacting the first quarter and approximately \$6.5 million expected in the second quarter. The weather-related costs were primarily due to lower fixed cost absorption during the downtime, increased costs to supply customers from other Grace manufacturing plants, and costs to repair plants impacted by the weather.

Primary response to risk

Amend the Business Continuity Plan

Description of response

During the three months ended March 31, 2021, Winter Storm Uri caused widespread manufacturing disruption across Texas and Louisiana. Grace operates four manufacturing facilities in the region. All sites experienced interruptions, with extended downtime at three plants ranging from 8 to 24 days. All Grace sites have resumed operations.

In response to this and other severe weather events, Grace has also Improved business continuity and emergency response planning to include impacts from severe weather events. Concrete examples include significant infrastructure upgrades at affected facilities.

Cost of response

15000000

Explanation of cost of response

Given our experience in 2021 with Winter Storm Uri, which cost roughly 15,000,000 USD, we are now better able to quantify the impact to our operations. Furthermore, we have implemented the learnings from our response actions to minimize potential future impacts to our operations and our customers

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	As of the end of 2022, suppliers representing approximately 70% of Grace direct spend have completed or provided to Grace an EcoVadis scorecard, which includes a variety of water-related topics, including water risk, wastewater management and efficiency, water consumption and impacts on groundwater. Through the EcoVadis platform, Grace may assign corrective actions for water risks and management. Based on reviews of these EcoVadis responses, we assess that while water risks in the value chain exist, they are not anticipated to have a substantive impact on our operations. For example, Grace's network of suppliers provided enough flexibility to offset the impact of recent severe weather events such as Hurricane Laura or Winter Storm Uri.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Products and services

Primary water-related opportunity

Reduced impact of product use on water resources

Company-specific description & strategy to realize opportunity

Water is the most important raw material used in the brewing process and is one of the scarcest natural resources on the planet. Water conservation is pertinent, especially in drought-stricken or water constrained geographies where sanctions or water use restrictions are often imposed.

Water is necessary to produce beer and is used in several steps of the brewing process. On average, the quantity of water used to produce one hectoliter of beer varies between 3 and 3.5 hectoliters and about 10% of it is used during filtration and stabilization of beer.

To provide a company-specific example, we will discuss the use of DARACLAR®'s silica product. By extending filtration and stabilization cycles up to 20-25%, DARACLAR® 9000 HP silica helps to increase process efficiency and consequently reduce downtime and the total number of intermediate filtration cleaning cycles. This in turn drives process efficiency and water savings for our customers with NO compromise on beer quality and NO CAPEX.

Since its launch in 2015, breweries have filtered over 180 million hectoliters of beer with DARACLAR® 9000 HP silica, which has saved up to 350 million liters of water (Grace estimate) in the filtration stabilization process. This represents enough water to fill up 154 Olympic-size swimming pools.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

20000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

This figure is a rough estimate of our 2022 revenue from Daraclae.

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Baton Rouge

Country/Area & River basin

United States of America	Mississippi River
--------------------------	-------------------

Latitude

30.49

Longitude

-91.18

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

154.78

Comparison of total withdrawals with previous reporting year

Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0.07

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

154.71

Total water discharges at this facility (megaliters/year)

456.03

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

456.03

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

0

Comparison of total consumption with previous reporting year

Lower

Please explain

Facility reference number

Facility 2

Facility name (optional)

Curtis Bay

Country/Area & River basin

United States of America	Other, please specify (Patapsco River Basin)
--------------------------	--

Latitude

39.214629

Longitude

-76.570979

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

3201.07

Comparison of total withdrawals with previous reporting year

Much lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

3201.07

Total water discharges at this facility (megaliters/year)

6750.03

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

6750.03

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

0

Comparison of total consumption with previous reporting year

About the same

Please explain

Facility reference number

Facility 3

Facility name (optional)

Lake Charles

Country/Area & River basin

United States of America	Other, please specify (Calcasieu River Basin)
--------------------------	---

Latitude

30.157912

Longitude

-93.339482

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

4891.96

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

4846.28

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

45.68

Total water discharges at this facility (megaliters/year)

5077.8

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

5077.8

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

0

Comparison of total consumption with previous reporting year

About the same

Please explain

Facility reference number

Facility 4

Facility name (optional)

Norco

Country/Area & River basin

United States of America	Mississippi River
--------------------------	-------------------

Latitude

30.0131

Longitude

-90.45289

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

0

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

0

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

0

Comparison of total consumption with previous reporting year

About the same

Please explain

The facility has an agreement with site host Shell Chemicals to provide water for withdrawal, which is not invoiced to Grace. Wastewater is discharged to Shell's sewage treatment, and the treatment costs are also not billed to Grace as per agreement.

Facility reference number

Facility 5

Facility name (optional)

Pasadena

Country/Area & River basin

United States of America	Other, please specify (Vince Bayou)
--------------------------	-------------------------------------

Latitude

29.62

Longitude

-95.05

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

235.7

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

235.7

Total water discharges at this facility (megaliters/year)

191.77

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

191.77

Total water consumption at this facility (megaliters/year)

0

Comparison of total consumption with previous reporting year

About the same

Please explain

Facility reference number

Facility 6

Facility name (optional)

Worms

Country/Area & River basin

Germany	Rhine
---------	-------

Latitude

49.66342

Longitude

8.35778

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

2934.13

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

2866.91

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

67.22

Total water discharges at this facility (megaliters/year)

2857.36

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

2791.36

Discharges to brackish surface water/seawater

0

Discharges to groundwater

24

Discharges to third party destinations

42

Total water consumption at this facility (megaliters/year)

0

Comparison of total consumption with previous reporting year

About the same

Please explain

W5.1a

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
Currently Grace does not have future plans to verify our water data.

Water withdrawals – volume by source

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
Currently Grace does not have future plans to verify our water data.

Water withdrawals – quality by standard water quality parameters

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
Currently Grace does not have future plans to verify our water data.

Water discharges – total volumes

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
Currently Grace does not have future plans to verify our water data.

Water discharges – volume by destination

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
Currently Grace does not have future plans to verify our water data.

Water discharges – volume by final treatment level

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
Currently Grace does not have future plans to verify our water data.

Water discharges – quality by standard water quality parameters

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
Currently Grace does not have future plans to verify our water data.

Water consumption – total volume

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
Currently Grace does not have future plans to verify our water data.

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Commitment to reduce water withdrawal and/or consumption volumes in direct operations Commitments beyond regulatory compliance Reference to company water-related targets Acknowledgement of the human right to water and sanitation	Grace recognizes the importance of water availability and quality for both its manufacturing processes and its value chain. We also acknowledge that water is a finite resource that should be protected for future generations. Grace is committed to reduce water consumption throughout its operations, reuse water where feasible and treat and discharge wastewater in accordance with all applicable regulations. Grace's commitment to manage and conserve water resources is based on our global EHS policy, our EHSS Management Systems and is tied to our goal of Nothing Out of Place. To achieve this, we have set our global target to reduce water withdrawn by our facilities by 10% in 2029 from a 2019 baseline. We selected water withdrawal as the basis for our water reduction goal as it is sufficiently reliable and more accurately represents our current water footprint. Grace's water policy is company-wide in scope which reflects the consistency in our approach to water security across our global direct operations. Our water policy is publicly available on https://grace.com/sustainability/ehs/environmental-performance/

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual or committee	Responsibilities for water-related issues
Chief Executive Officer (CEO)	W. R. Grace & Co.-Conn, the operating unit of W. R. Grace & Co., is governed by a 4-member board of directors comprised of selected members of our leadership team. Several of these members hold multiple roles for the corporation, resulting in multiple selections of individuals/committees for this question. The board, with the support of the full leadership team, has assumed responsibility for all issues for W. R. Grace & Co.-Conn, including water-related issues. The board addresses those issues as they rise to the level of material significance to the corporation. One example of a decision made in 2022 was the continuation of a capital budget in 2022 for sustainability related investments in Grace's operating plants targeted at capital projects which enable Grace to meet its publicly stated water goals.
Board Chair	W. R. Grace & Co.-Conn, the operating unit of W. R. Grace & Co., is governed by a 4-member board of directors comprised of selected members of our leadership team. Several of these members hold multiple roles for the corporation, resulting in multiple selections of individuals/committees for this question. The board, with the support of the full leadership team, has assumed responsibility for all issues for W. R. Grace & Co.-Conn, including water-related issues. The board addresses those issues as they rise to the level of material significance to the corporation. One example of a decision made in 2022 was the continuation of a capital budget in 2022 for sustainability related investments in Grace's operating plants targeted at capital projects which enable Grace to meet its publicly stated water goals.
Director on board	W. R. Grace & Co.-Conn, the operating unit of W. R. Grace & Co., is governed by a 4-member board of directors comprised of selected members of our leadership team. Several of these members hold multiple roles for the corporation, resulting in multiple selections of individuals/committees for this question. The board, with the support of the full leadership team, has assumed responsibility for all issues for W. R. Grace & Co.-Conn, including water-related issues. The board addresses those issues as they rise to the level of material significance to the corporation. One example of a decision made in 2022 was the continuation of a capital budget in 2022 for sustainability related investments in Grace's operating plants targeted at capital projects which enable Grace to meet its publicly stated water goals.
Chief Financial Officer (CFO)	W. R. Grace & Co.-Conn, the operating unit of W. R. Grace & Co., is governed by a 4-member board of directors comprised of selected members of our leadership team. Several of these members hold multiple roles for the corporation, resulting in multiple selections of individuals/committees for this question. The board, with the support of the full leadership team, has assumed responsibility for all issues for W. R. Grace & Co.-Conn, including water-related issues. The board addresses those issues as they rise to the level of material significance to the corporation. One example of a decision made in 2022 was the continuation of a capital budget in 2022 for sustainability related investments in Grace's operating plants targeted at capital projects which enable Grace to meet its publicly stated water goals.
Chief Risk Officer (CRO)	W. R. Grace & Co.-Conn, the operating unit of W. R. Grace & Co., is governed by a 4-member board of directors comprised of selected members of our leadership team. Several of these members hold multiple roles for the corporation, resulting in multiple selections of individuals/committees for this question. The board, with the support of the full leadership team, has assumed responsibility for all issues for W. R. Grace & Co.-Conn, including water-related issues. The board addresses those issues as they rise to the level of material significance to the corporation. One example of a decision made in 2022 was the continuation of a capital budget in 2022 for sustainability related investments in Grace's operating plants targeted at capital projects which enable Grace to meet its publicly stated water goals.
Chief Government Relations Officer (CGRO)	W. R. Grace & Co.-Conn, the operating unit of W. R. Grace & Co., is governed by a 4-member board of directors comprised of selected members of our leadership team. Several of these members hold multiple roles for the corporation, resulting in multiple selections of individuals/committees for this question. The board, with the support of the full leadership team, has assumed responsibility for all issues for W. R. Grace & Co.-Conn, including water-related issues. The board addresses those issues as they rise to the level of material significance to the corporation. One example of a decision made in 2022 was the continuation of a capital budget in 2022 for sustainability related investments in Grace's operating plants targeted at capital projects which enable Grace to meet its publicly stated water goals.
General Counsel	W. R. Grace & Co.-Conn, the operating unit of W. R. Grace & Co., is governed by a 4-member board of directors comprised of selected members of our leadership team. Several of these members hold multiple roles for the corporation, resulting in multiple selections of individuals/committees for this question. The board, with the support of the full leadership team, has assumed responsibility for all issues for W. R. Grace & Co.-Conn, including water-related issues. The board addresses those issues as they rise to the level of material significance to the corporation. One example of a decision made in 2022 was the continuation of a capital budget in 2022 for sustainability related investments in Grace's operating plants targeted at capital projects which enable Grace to meet its publicly stated water goals.

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Sporadic - as important matters arise	Monitoring implementation and performance Overseeing acquisitions, mergers, and divestitures Overseeing and guiding public policy engagement Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding major plans of action Reviewing and guiding strategy Other, please specify (Ratifying water usage targets)	

W6.2d

(W6.2d) Does your organization have at least one board member with competence on water-related issues?

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	Significant number of years engaged in management of chemical operations, both at Grace and at former companies.	<Not Applicable>	<Not Applicable>

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Chief Executive Officer (CEO)

Water-related responsibilities of this position

Managing annual budgets relating to water security
Managing major capital and/or operational expenditures related to low water impact products or services (including R&D)

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The CEO is responsible for supporting all water-related decisions made by the enterprise.

Name of the position(s) and/or committee(s)

President

Water-related responsibilities of this position

Managing annual budgets relating to water security
Managing major capital and/or operational expenditures related to low water impact products or services (including R&D)

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The President of Global Operations is responsible for managing all major capital and/or operational expenditures related to water aspects and impacts.

Name of the position(s) and/or committee(s)

Other C-Suite Officer, please specify (SVP, Strategy, Planning and Execution)

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities
Conducting water-related scenario analysis
Integrating water-related issues into business strategy
Managing annual budgets relating to water security

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The SVP, Strategy, Planning and Sustainability is responsible for assessing and conveying water related risks to the board of directors on an as needed basis.

The SVP, Strategy, Planning and Sustainability is responsible to the Grace Leadership Team (LT) which is composed of business presidents and representatives of all corporate functions. The LT is responsible for the strategic development, planning, and oversight of water related issues throughout the organization.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	No, and we do not plan to introduce them in the next two years	

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, trade associations

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

Grace engages with governmental entities directly and indirectly through trade organizations. Grace's Sustainability team and Government Affairs teams are jointly responsible for coordinating all such activity. Our Global Sustainability Director is responsible for developing and implementing climate change policies. In the United States, Grace's primary mechanism for engagement on governmental policy is through our participation in the American Chemistry Council (ACC), a trade organization representing the chemical industry. Grace's policies and commitments, including those for water programs are consistent with those of the ACC Responsible Care sustainability principles that are required of member companies. Grace has established policies, including our EHSS policy and Responsible Care Management System, to ensure that our actions are aligned with our company's commitments and strategic objectives. Should Grace uncover an inconsistency between our policies and those of our trade associations, Grace would seek resolution with the trade association or consider an independent public statement. One example of alignment is that Grace is evaluating identifying priority sites to undergo ACC's Water Body Risk Assessment to understand water-related physical, regulatory, and reputational risks at those facilities.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

Yes (you may attach the report - this is optional)

2021_WR_Grace_Co_GRI_Report.pdf

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	5-10	We consider water availability and quality (including regulatory and discharge) as part of our capital planning process for expansions and new facilities. We specifically address capital projects to enable Grace to meet its water reduction goals in our long-range planning process. In addition, our business strategy includes developing products that are responsive to our customer's needs to reduce water usage (ex. DARACLAR®).
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	We have established water reduction goals, monitor water risks through WRI Aqueduct, and conduct strategic reviews of our product portfolio. As part of our review of our current and future product portfolio, we track revenue of current products and R&D of future products that reduce water usage and increase efficiency of customers' processes. One example of this is our DARACLAR® silica.
Financial planning	Yes, water-related issues are integrated	5-10	Grace takes into account water withdrawal volume and discharge quality requirements for our production facilities and warehouse operations as part of its annual operating budget and capital allocation planning process. Continued capital expenditures on state of the art technologies, process modifications, and raw materials to reduce water consumption, withdrawal, and discharge. These actions ensure the continued operation of our facilities in compliance with regulatory permits and that Grace is able to meet the expectations of our customers and the value chain.

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

0

Anticipated forward trend for CAPEX (+/- % change)

0

Water-related OPEX (+/- % change)

0

Anticipated forward trend for OPEX (+/- % change)

0

Please explain

WR Grace is reporting 0% changes as this is not a metric that is currently tracked. We hope to build in this ability in the future.

W7.3

(W7.3) Does your organization use scenario analysis to inform its business strategy?

	Use of scenario analysis	Comment
Row 1	Yes	Grace has utilized WRI Aqueduct to assess future water stress, water supply and water demand at its facilities. Currently 6% of Grace's water withdrawals are from water-stressed areas. In 2040, we anticipate that 28% of our current facilities will be in areas at high risk of becoming water stressed areas.

W7.3a

(W7.3a) Provide details of the scenario analysis, what water-related outcomes were identified, and how they have influenced your organization's business strategy.

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Water-related	Grace has utilized WRI Aqueduct to assess future water stress, water supply and water demand at its facilities. Inputs to this process include current Grace locations, current water profiles and year of evaluation (both for current and future scenarios up to 2040).	Currently 6% of Grace's water withdrawals are from water-stressed areas. In 2040, we anticipate that 28% of our current facilities will be in areas at high risk of becoming water stressed areas.	Based on this review, water related risks would be considered as part of our Enterprise Risk Management system should they exceed relevant thresholds. These results help inform our future water strategy.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

Yes

Please explain

Water prices are set locally, based on the cost to acquire and manage water at each facility.

W7.5

(W7.5) Do you classify any of your current products and/or services as low water impact?

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	Yes	Water is the most important raw material used in the brewing process and is one of the scarcest natural resources on the planet. Water conservation is pertinent, especially in drought-stricken or water constrained geographies where sanctions or water use restrictions are often imposed. We consider a product to be low water impact when it requires significantly lesser water consumption in our production process or when it provides an opportunity for our customers to reduce water usage significantly in their process.	<Not Applicable>	Water is necessary to produce beer and is used in several steps of the brewing process. On average, the quantity of water used to produce one hectoliter of beer varies between 3 and 3.5 hectoliters and about 10% of it is used during filtration and stabilization of beer. One example of our low water impact products is our DARACLAR® silica. By extending filtration and stabilization cycles up to 20-25% (*), DARACLAR® 9000 HP silica helps to increase process efficiency and consequently reduce downtime and the total number of intermediate filtration cleaning cycles. This in turn drives process efficiency and water savings with NO compromise on beer quality and NO CAPEX. Since its launch in 2015, breweries have filtered over 180 million hectoliters of beer with DARACLAR® 9000 HP silica, which has saved up to 350 million liters of water in the filtration stabilization process. This represents enough water to fill up 154 Olympic-size swimming pools.

W8. Targets

W8.1

(W8.1) Do you have any water-related targets?

Yes

W8.1a

(W8.1a) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

	Target set in this category	Please explain
Water pollution	No, and we do not plan to within the next two years	While maintaining compliance is an operational requirement, Grace strives for a level of water stewardship beyond all local, state, federal, and regional effluent quality standards. Success is measured by achieving our target of nothing out of place and receiving no regulatory citations (notices of violation) from regulatory agencies.
Water withdrawals	Yes	<Not Applicable>
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	There are regulatory requirements at our facilities to provide adequate number of hygiene and sanitation services. Success is measured by achieving our target of nothing out of place and receiving no regulatory citations (notices of violation) from regulatory agencies.
Other	No, and we do not plan to within the next two years	

W8.1b

(W8.1b) Provide details of your water-related targets and the progress made.

Target reference number

Target 1

Category of target

Water withdrawals

Target coverage

Company-wide (direct operations only)

Quantitative metric

Reduction in total water withdrawals

Year target was set

2019

Base year

2019

Base year figure

17999

Target year

2029

Target year figure

16199

Reporting year figure

16666

% of target achieved relative to base year

Target status in reporting year

Revised

Please explain

Grace's commitment to manage and conserve water resources is based on our global EHS policy, our EHSS Management Systems and is tied to our goal of Nothing Out of Place. To achieve this, we have set our global target to reduce water withdrawn by our facilities by 10% in 2029 from a 2019 baseline. We selected water withdrawal as the basis for our water reduction goal as it is sufficiently reliable and more accurately represents our current water footprint.

We re-calculated our baseline 2019 water withdrawal volume to include water data from our South Haven and Tyrone facilities, as well as corrected water withdrawal volume from our Baton Rouge facility.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?

No, but we are actively considering verifying within the next two years

W10. Plastics

W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Not mapped – and we do not plan to within the next two years	<Not Applicable>	

W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Value chain stage	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	

W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Value chain stage	Type of risk	Please explain
Row 1	Yes	Product use phase	Please select	Grace provides materials that are critical to the production of plastics. Any impact to the general plastic value chain could present a substantive risk or opportunity for Grace.

W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Target type	Target metric	Please explain
Row 1	No – and we do not plan to within the next two years	<Not Applicable>	<Not Applicable>	

W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	No	
Production of durable plastic components	No	
Production / commercialization of durable plastic goods (including mixed materials)	No	
Production / commercialization of plastic packaging	No	
Production of goods packaged in plastics	Yes	
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	

W10.8

(W10.8) Provide the total weight of plastic packaging sold and/or used, and indicate the raw material content.

	Total weight of plastic packaging sold / used during the reporting year (Metric tonnes)	Raw material content percentages available to report	% virgin fossil-based content	% virgin renewable content	% post-industrial recycled content	% post-consumer recycled content	Please explain
Plastic packaging sold	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Plastic packaging used		% virgin fossil-based content		<Not Applicable>	<Not Applicable>	<Not Applicable>	Grace uses a variety of forms of plastic packing for many products that we produce.

W10.8a

(W10.8a) Indicate the circularity potential of the plastic packaging you sold and/or used.

	Percentages available to report for circularity potential	% of plastic packaging that is reusable	% of plastic packaging that is technically recyclable	% of plastic packaging that is recyclable in practice at scale	Please explain
Plastic packaging sold	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Plastic packaging used	Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	

W11. Sign off

W-FI

(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Global Sustainability Director	Chief Sustainability Officer (CSO)

SW. Supply chain module

SW0.1

(SW0.1) What is your organization's annual revenue for the reporting period?

	Annual revenue
Row 1	2601805000

SW1.1

(SW1.1) Could any of your facilities reported in W5.1 have an impact on a requesting CDP supply chain member?

Yes, CDP supply chain members buy goods or services from facilities listed in W5.1

SW1.1a

(SW1.1a) Indicate which of the facilities referenced in W5.1 could impact a requesting CDP supply chain member.

SW1.2

(SW1.2) Are you able to provide geolocation data for your facilities?

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	Yes, for some facilities	

SW1.2a

(SW1.2a) Please provide all available geolocation data for your facilities.

Identifier	Latitude	Longitude	Comment
Curtis Bay	39.214629	-76.570979	
Lake Charles	30.157912	-93.339482	
Worms	49.66342	8.35778	

SW2.1

(SW2.1) Please propose any mutually beneficial water-related projects you could collaborate on with specific CDP supply chain members.

SW2.2

(SW2.2) Have any water projects been implemented due to CDP supply chain member engagement?

No

SW3.1

(SW3.1) Provide any available water intensity values for your organization's products or services.

Product name

All chemical products

Water intensity value

0.0325

Numerator: Water aspect

Water withdrawn

Denominator

Total tonnes of product

Comment

In 2022, Grace's water withdrawal intensity decreased by 0.01 m3/MT product from 2021. This was due to an 8% reduction in our water withdrawal volume in 2022 from 2021, as well as a 19% increase in our 2022 production volume from 2021. The underlying factors for the decrease include product mix changes and the installation of water reduction projects at certain facilities.

We expect our water withdrawal intensity to maintain or decrease from its current level as our business continues to grow and we implement water withdrawal efficiency projects at our facilities.

[Submit your response](#)

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Please confirm below

I have read and accept the applicable Terms