Women's Leather Accessories

Key Performance Indicators

Version 02.02

THESIS
BY THE SUSTAINABILITY CONSORTIUM

About the Women's Leather Accessories Key Performance Indicators

This THESIS Performance Assessment covers goods made primarily of leather materials, including full-grain, corrected-grain, patent, bonded, and split types of leather, and suede. This includes, but is not limited to, hats, gloves, scarves, belts, purses, and handbags. It does not include outerwear or footwear.

The information you collect for these KPIs should cover your global production and not be specific to any region or buyer (e.g., retailer).

Remember to download the assessment documents to help you in completing the KPIs. Make sure to review the detailed guidance and resources for each KPI. Your work is saved automatically but not shared until you are ready.

Introduction

The Sustainability Insight System, THESIS, from The Sustainability Consortium (TSC) is a comprehensive and holistic solution for understanding environmental and social performance in consumer goods supply chains. These key performance indicators (KPIs) can be used to assess action, transparency, and continuous improvement on the material sustainability issues for brands, manufacturers, and producers.

TSC created this KPI set using its science-based, multi-stakeholder, and full life-cycle development process. TSC members and partners, including manufacturers, retailers, suppliers, service providers, NGOs, civil society organizations, governmental agencies, and academics, contributed valuable perspectives and expertise.

TSC is a global organization dedicated to improving the sustainability of consumer products that also offers a portfolio of services to help drive effective implementation. For more information please visit www.sustainabilityconsortium.org

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Key Performance Indicators

QUESTION	RESPONSE OPTION
1. Synthetic material sourcing What percentage of your synthetic material supply was traced to the production facility of origin, covered by a verifiable comprehensive plan for managing facility environmental impacts, and covered by a verifiable comprehensive plan for facility social impacts?	**A.** Not applicable. Our products do not contain synthetic materials. **B.** We are unable to determine at this time. **C.** We are able to report the following for our synthetic material supply: **C1.**_____% of our synthetic material supply, by mass, was traced to the production facility of origin. **C2.**_____% of our synthetic material supply, by mass, was covered by a verifiable comprehensive plan for managing facility environmental impacts. **C3.**_____% of our synthetic material supply, by mass, was covered by a verifiable comprehensive plan for facility social impacts. **C4.**_____% of our synthetic material supply for which we are able to report in response options C1-3 is polyester.
2. Leather Material Supply Mapping For what percentage of your leather material supply can you identify the country, region, or site of origin?	**A.** We are unable to determine at this time. **B.** The following percentages represent the origins of our fabric supply, by mass purchased: **B1.**_____% is the portion of our fabric supply for which we are unable to determine the origin. **B2.**_____% is the portion of our fabric supply for which we have identified the country of origin. **B3.**_____% is the portion of our fabric supply for which we have identified the region of origin. **B4.**_____% is the portion of our fabric supply for which we have identified the slaughterhouse of origin.
3. Animal Welfare Certifications and Audits What percentage of your material supply, by mass purchased or produced, was covered by a current comprehensive animal welfare certification or by regularly conducted animal welfare audits?	**A.** We are unable to determine at this time. **B.** The following percentage of our leather material supply, by mass purchased or produced, was covered by a current comprehensive animal welfare certification or by verifiable, regularly conducted animal welfare audits: **B1.**_____% of our leather material supply was certified or audited.
4. Greenhouse gas emissions - Supply chain What percentage of leather material used in your final product, by mass purchased, was produced by suppliers that reported their annual Scope 1 and 2 greenhouse gas emissions?	**A.** We are unable to determine at this time. **B.** The following percentage of fabric, by mass purchased, was produced by suppliers that reported Scope 1 and 2 greenhouse gas emissions: **B1.**_____%.
5. Water use - Supply chain What percentage of leather material used in your final product, by mass purchased, was produced by suppliers that reported their total annual water use?	**A.** We are unable to determine at this time. **B.** The following percentage of fabric, by mass purchased, was produced by suppliers that reported total water use: **B1.**_____%.

6. Wastewater generation - Supply Chain What percentage of textile fabric used in your final product, by mass purchased, was provided by suppliers' whose processing facilities have undergone supplier audits and meets or exceeds standards for wastewater quality for the five following metrics: biochemical oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids (TSS), temperature, and pH?	**A.** We are unable to determine at this time. **B.** We are able to report the following for the textile fabric used in our products: **B1.**_____% of our textile fabric was produced in facilities that met or exceeded the standard for COD. **B2.**_____% of our textile fabric was produced in facilities that met or exceeded the standard for BOD. **B3.**_____% of our textile fabric was produced in facilities that met or exceeded the standard for TSS. **B4.**_____% of our textile fabric was produced in facilities that met the standard for pH. **B5.**_____% of our textile fabric was produced in facilities that met the standard for temperature.
7. Worker Health and Safety - Supply Chain How did your organization manage worker health and safety risks in the operations that produced the leather supply used in your final product?	**A.** We are unable to determine at this time. **B.** We are able to report the following for our supply: **B1.**_____% of the leather supply used in our final product, by mass, was produced in operations that have performed a risk assessment to identify high-risk areas for health and safety. **B2.**_____% of the leather supply used in our final product, by mass, was produced in operations that train workers on health and safety procedures. **B3.**_____% of the leather supply used in our final product, by mass, was produced in operations that implement a verifiable worker health and safety plan. **B4.**_____% of the leather supply used in our final product, by mass, was produced in operations that have a worker health and safety performance monitoring system in place. **B5.**_____% of the leather supply used in our final product, by mass, was produced in operations that were audited in the last three years on worker health and safety issues.
8. Air quality - Manufacturing What percentage of this product, by mass, comes from company-owned and contract manufacturing facilities performing final cut, sew, and dyeing operations that tracked and reported their annual air emissions?	**A.** We are unable to determine at this time. **B.** The following percentage of this product, by mass, comes from facilities that tracked and reported their annual air emissions: **B1.**_____%.
9. Greenhouse gas emissions intensity - Manufacturing What was the greenhouse gas emissions intensity associated with final manufacture of your product?	**A.** We are unable to determine at this time. **B.** Our greenhouse gas emissions intensity was: **B1.**_____ kg CO2e per metric tonne of product. **B2.**_____% of our product, by mass produced, is represented by the number reported above.
10. Labor Rights - Manufacturing How did your organization manage labor rights risks in the company-owned and contract manufacturing facilities performing final cut, sew, and dyeing operations for your final product?	**A.** We are unable to determine at this time. **B.** We are able to report the following: **B1.**_____% of our final product, by mass, was produced in facilities that were covered by an internal policy that has quantitative time-bound goals related to child labor, discrimination, forced labor, and freedom of association and collective bargaining. **B2.**_____% of our final product, by mass, was produced in facilities that were reviewed by a risk assessment that identifies high-risk areas for labor rights abuses. **B3.**_____% of our staff responsible for procurement activities have been trained on labor rights issues in the supply chain. **B4.**_____% of our staff responsible for procurement activities have been evaluated via performance metrics on labor rights improvements in the supply chain. **B5.**_____% of our final product, by mass, was produced in facilities that were low-risk, that were high-risk but corrective actions were taken, or that were audited on child labor, discrimination, forced labor, and freedom of association and collective bargaining in the last three years.

11. Worker Health and Safety - Manufacturing What was the injury and illness rate at company-owned or contract manufacturing facilities that produced your final product?	**A.** We are unable to determine at this time. **B.** Our injury and illness rate over our last twelve-month reporting period was: **B1.**_____. **B2.**_____% of our product, by mass produced, is represented by the number reported above.
12. Hazardous Chemical Discharge Management What is your organization's approach to managing chemicals on the ZDHC Manufacturing Restricted Substances List in your products?	**A.** Not applicable, we have a policy to not use any chemicals on the ZDHC Manufacturing Restricted Substances List at any of our manufacturing facilities and we verify that this is true using analytical methods. **B.** We ensure legal and regulatory compliance. **C.** In addition to (B), we have programs with goals to prioritize and continuously reduce, eliminate, or restrict the use of chemicals on the ZDHC Manufacturing Restricted Substances List in our products using various tools and protocols to make informed substitutions of the identified substances. **D.** In addition to (C), we publicly disclose our goals and progress concerning the reduction, elimination, or restriction of chemicals on the ZDHC Manufacturing Restricted Substances List in our products. **E.** In addition to (D), we have reduced the number of chemicals on the ZDHC Manufacturing Restricted Substances List used in our manufacturing facilities in the last year by this number: **E1.**_____. **E2.**_____% of our facilities is represented by the number above.
13. Product Design What percentage of your product, by unit volume, was designed to reduce manufacturing, use, and end-of-life impacts?	**A.** We are unable to determine at this time, or we do not address these impacts. **B.** We are able to report the following about our products: **B1.**_____% of our products, by unit volume, underwent a lifecycle assessment. **B2.**_____% of our products, by unit volume, were designed to maximize material efficiency. **B3.**_____% of our products, by unit volume, were designed to reduce laundering impacts. **B4.**_____% of our products, by unit volume, were assessed for durability as part of the design process. **B5.**_____% of our products, by unit volume, were designed for resource reutilization.

Key Performance Indicators with Guidance

1. SYNTHETIC MATERIAL SOURCING

Question

What percentage of your synthetic material supply was traced to the production facility of origin, covered by a verifiable comprehensive plan for managing facility environmental impacts, and covered by a verifiable comprehensive plan for facility social impacts?

Response Options

- **A.** Not applicable. Our products do not contain synthetic materials.
- **B.** We are unable to determine at this time.
- **C.** We are able to report the following for our synthetic material supply:
  - **C1.**_____% of our synthetic material supply, by mass, was traced to the production facility of origin.
  - **C2.**_____% of our synthetic material supply, by mass, was covered by a verifiable comprehensive plan for managing facility environmental impacts.
  - **C3.**_____% of our synthetic material supply, by mass, was covered by a verifiable comprehensive plan for facility social impacts.
  - **C4.**_____% of our synthetic material supply for which we are able to report in response options C1-3 is polyester.

Guidance

Calculation & Scope

This KPI covers synthetic (e.g., polyester, nylon) and semisynthetic (e.g., rayon, viscose, lyocell) materials.

Calculate C1 as the mass of your synthetic material supply that was traced to the production facility of origin, divided by the total mass of your synthetic material supply, then multiply by 100. The production facility is where the chemical processes (e.g. synthesis, regeneration) to produce the fiber or material are carried out.

Calculate C2 as the mass of your synthetic material supply that was covered by a verifiable comprehensive plan for managing facility environmental impacts, divided by the total mass of your synthetic material supply, then multiply by 100.

Calculate C3 as the mass of your synthetic material supply that was covered by a verifiable comprehensive plan for facility social impacts, divided by the total mass of your synthetic material supply, then multiply by 100.

Calculate C4 as the mass of your polyester material supply that was assessed and met criteria for C1, C2, and C3, divided by the total mass of your polyester material supply, then multiply by 100.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

Hotspots Addressed

***3.** Production impacts - Synthetic materials*

2. LEATHER MATERIAL SUPPLY MAPPING

Question	Response Options
For what percentage of your leather material supply can you identify the country, region, or site of origin?	**A.** We are unable to determine at this time. **B.** The following percentages represent the origins of our fabric supply, by mass purchased: **B1.**_____% is the portion of our fabric supply for which we are unable to determine the origin. **B2.**_____% is the portion of our fabric supply for which we have identified the country of origin. **B3.**_____% is the portion of our fabric supply for which we have identified the region of origin. **B4.**_____% is the portion of our fabric supply for which we have identified the slaughterhouse of origin.

Guidance

Calculation & Scope

Calculate B1 as the mass of your leather material supply for which you are unable to identify the country, region, or site of origin, divided by the total mass of your leather material supply, then multiply by 100.

Calculate B2, B3, and B4 as the mass of your leather material supply for which you have identified the country, region, or site of origin, divided by the total mass of your leather material supply, then multiply by 100.

The percentages reported for B1, B2, B3, and B4 must be mutually exclusive and their sum must equal 100%.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

A country is defined as a nation-state recognized by the United Nations. A region is defined as a sub-country area such as an agricultural zone or region, eco-region, or geo-political boundary (e.g., state, county, department). Due to the variance in how "region" may be defined, respondents are encouraged to use a consistent interpretation from year to year when reporting data for this question.

The Leather Working Group Protocol can be used to report the supply mapping data by referencing Raw Material Traceability data reported.

Procurement data, trade networks, or national or subnational product production data may help to identify the origin of your product supply.

Certifications, Standards & Tools

Leather Working Group Auditing Protocol: This environmental auditing protocol and reporting mechanism has been developed and refined by brand, tanner and supplier members. The protocol is a dynamic improvement tool and is regularly reviewed by the members of the Leather Working Group to ensure that it is both challenging but realistic and achievable. It aims to tackle important topical issues, and reflect improvements or changes of technology within the sector.
https://www.leatherworkinggroup.com/how-we-work/audit-protocols

Hotspots Addressed

***2.** Environmental impacts - Material production*

3. ANIMAL WELFARE CERTIFICATIONS AND AUDITS

Question	Response Options
What percentage of your material supply, by mass purchased or produced, was covered by a current comprehensive animal welfare certification or by regularly conducted animal welfare audits?	**A.** We are unable to determine at this time. **B.** The following percentage of our leather material supply, by mass purchased or produced, was covered by a current comprehensive animal welfare certification or by verifiable, regularly conducted animal welfare audits: **B1.**_____% of our leather material supply was certified or audited.

Guidance

Calculation & Scope

Calculate C1 as the mass of leather materials that came from suppliers that either maintain a current comprehensive animal welfare certification or verifiable, regularly conducted animal welfare audits, divided by the total mass of our leather material supply, then multiply by 100.

Perform this calculation using data from a 12-month period that ended within 12 months of the date you respond to this question.

Verifiable, regularly conducted audits should be performed by a second party or third party. Government regulations or parties in the supply chain can initiate these audits. Regulations, audits, and certifications that align with the animal welfare standards as described in Section 7 of the World Organisation for Animal Health (OIE) Terrestrial/Aquatic Animal Health Code and are well-enforced by the implementation of auditing systems can be included in your calculation.

Farm stage:

Minimization of pain, risk of injury, and transmission of diseases or parasites to animals; a physical environment in which the air or water quality, temperature, and humidity supports good animal health; a structural and social environment that allows animals to rest comfortably, provides opportunities for physical and cognitive activity, and allows for the opportunity to perform all beneficial natural, individual, and social behaviors.

Animals should have access to sufficient water and appropriate feed, so as to be free from hunger and thirst. The handling of animals should foster a positive relationship between humans and animals and should not cause injury, panic, lasting fear, or avoidable stress.

Genetic selection should take into account the health and welfare of animals.

Transportation stage:

Animals should not be transported if they are not fit to travel. For those animals fit to travel, the number of journeys and the length of time should be minimized. Loading and unloading procedures should minimize animal stress, prevent injury, and use facilities that promote calm and safe animal movement. Protection from extreme temperatures and other extreme weather conditions is provided. Adequate feed and water is available when required.

Slaughter stage:

Animals should be treated humanely before and during all slaughter procedures, including pre-slaughter stunning for non-ritual slaughter. The pre-slaughter stunning must render the animal insensible to pain until death occurs. The minimization of fear, stress, and pain is included in humane treatment.

TSC provides a list of animal welfare certifications, standards, and programs to assist users in choosing a program that aligns with their needs. See Background Information for more details.

Please refer to THESIS Assessment for Animal Welfare (Beef Cattle, Pigs) for more detailed animal welfare indicators.

Definitions

Animal welfare: Animal welfare refers to the well-being of an animal and how an animal is coping with the conditions in which it lives. A good state of welfare varies substantially between different contexts, but in general an animal is in a good state of welfare if it is healthy, comfortable, well-nourished, safe, able to express innate behavior, and not suffering from pain, fear, and distress. Ensuring animal welfare is a human responsibility that requires treatments such as good housing, good care, good feed, humane handling and humane slaughter/killing. The treatments that an animal receives is covered by other terms such as animal care, animal husbandry, and humane management (adapted from The World Organisation for Animal Health (OIE)).

Animal-based priority ingredients: Priority ingredients that come from animals, either as primary meat products or byproducts, such as beef, chicken, dairy, eggs, fish, pork, and turkey.

Second-party audit: An audit conducted by a party having an interest in the organization, such as customers, or by another entity on their behalf.

Third-party audit: An audit conducted by external, independent auditing organizations, such as those providing certification of conformity to a standard.

Hotspots Addressed

1. *Animal welfare - Material production*

9. *Social impacts - Material production*

4. GREENHOUSE GAS EMISSIONS - SUPPLY CHAIN

Question	Response Options
What percentage of leather material used in your final product, by mass purchased, was produced by suppliers that reported their annual Scope 1 and 2 greenhouse gas emissions?	**A.** We are unable to determine at this time. **B.** The following percentage of fabric, by mass purchased, was produced by suppliers that reported Scope 1 and 2 greenhouse gas emissions: **B1.**_____%.

Guidance

Calculation & Scope

Scope 1 and 2 emissions are defined by the Greenhouse Gas Protocol Corporate Standard (2015).

Calculate B1 as the mass purchased from leather material suppliers that reported emissions, divided by total mass purchased from all leather material suppliers, then multiply by 100.

Reporting can occur through public disclosure or private disclosure from the supplier to your organization directly or through another party.

Perform this calculation using data from a 12-month period that ended within 12 months of the date you respond to this question.

If suppliers completed the CDP Climate Change 2020 Questionnaire, refer to C6.1 and C6.3 to determine if they report emissions.

Suppliers who have entered and communicated information required by the Higg Index Facility Environment Module 3.0 (Higg FEM) "Energy Use & GHG - Level 1" for their facilities may be used to answer this KPI.

Suppliers can include tanneries and wet processing facilities.

Certifications, Standards & Tools

Energy Efficiency Assessment and Greenhouse Gas Emission Reduction Tool for the Textile Industry (EAGER Textile): This tool was developed by the Lawrence Berkeley National Laboratory to aid in evaluating the impacts of introducing energy efficiency measures into a textile facility. According to the China Energy Group, "the EAGER tool will calculate the typical energy savings (electricity, fuel, final, and primary energy), CO2 emissions reduction, cost, and simple payback period...[the tool] is designed to work for textile facilities that have one or more of the following processes: spinning, weaving/knitting, dyeing, printing, finishing, and man-made fiber production." https://china.lbl.gov/eager-textile

Greenhouse Gas Protocol: Calculation Tools: This site provides a list of sector toolsets developed by GHG Protocol, third-party databases, and other tools based on the GHG Protocol standards that can be used to calculate greenhouse gas inventories for use in emissions calculations. https://ghgprotocol.org/calculation-tools

SAC Higg Index: The Sustainable Apparel Coalition has developed indicator-based assessment tools called the Higg Index, which evaluates the sustainable practices associated with production of apparel and footwear. https://apparelcoalition.org/the-higg-index/

Background Information	**CDP Climate Change Questionnaire:** The CDP Climate Change Questionnaire provides questions that assess a company's greenhouse gas emissions, goals, and management. The report provided by CDP provides the overview of the results from companies responding to the request. https://www.cdp.net/en/guidance/guidance-for-companies **Greenhouse Gas (GHG) Protocol Corporate Standard:** The Greenhouse Gas (GHG) Protocol provides guidance and is a useful resource published by the World Resources Institute with the World Business Council for Sustainable Development as a guide for monitoring and accounting for greenhouse gas emissions. https://ghgprotocol.org/corporate-standard **GRI G4 Sustainability Reporting Guidelines:** The GRI G4 Sustainability Reporting Guidelines provide a standard set of metrics for companies to report on material environmental, social, and economic impacts, actions, and outcomes. https://www.globalreporting.org/standards/ **Leather Working Group Auditing Protocol:** This environmental auditing protocol and reporting mechanism has been developed and refined by brand, tanner and supplier members. The protocol is a dynamic improvement tool and is regularly reviewed by the members of the Leather Working Group to ensure that it is both challenging but realistic and achievable. It aims to tackle important topical issues, and reflect improvements or changes of technology within the sector. https://www.leatherworkinggroup.com/how-we-work/audit-protocols
Definitions	**Greenhouse gas:** Gases that contribute to the greenhouse effect by absorbing infrared radiation in the atmosphere, e.g., carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.
Hotspots Addressed	***2.*** *Environmental impacts - Material production*

5. WATER USE - SUPPLY CHAIN

Question	Response Options
What percentage of leather material used in your final product, by mass purchased, was produced by suppliers that reported their total annual water use?	**A.** We are unable to determine at this time. **B.** The following percentage of fabric, by mass purchased, was produced by suppliers that reported total water use: **B1.**_____%.

Guidance

Calculation & Scope

Calculate B1 as the mass purchased from leather material suppliers that reported their annual water use, divided by total mass purchased from all fabric suppliers, then multiply by 100.

Perform this calculation using purchasing data from a 12-month period that ended within 12 months of the date you respond to this question.

Water use is defined as the total amount of withdrawals from municipal and private water providers, surface water, groundwater, or wells. Supplier water use reporting can occur through public disclosure or private disclosure from the supplier to your organization directly or through another party.

If suppliers completed the CDP Water Security 2020 Questionnaire, refer to W1.2b, W1.2h, and W5.1a to determine if they report water use.

Suppliers may include tanneries and wet processing facilities.

Suppliers who have entered and communicated the information required by the Higg Facility Environmental Module 3.0 (Higg FEM) "Water Use - Level 1" may be included in percentage.

Certifications, Standards & Tools

THESIS Help Center Video: Water use - Supply chain KPI: Short video tutorial on the Water use - Supply chain KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/528558948

Background Information

CDP Water Information Request: The CDP Water Information Request provides questions that assess a company's water use, goals, and management. The report provided by CDP provides the overview of the results from companies responding to the request. CDP can be contacted to respond to the Water Information Request.
https://www.cdp.net/en/guidance/guidance-for-companies

GRI G4 Sustainability Reporting Guidelines: The GRI G4 Sustainability Reporting Guidelines provide a standard set of metrics for companies to report on material environmental, social, and economic impacts, actions, and outcomes.
https://www.globalreporting.org/standards/

Leather Working Group Auditing Protocol: This environmental auditing protocol and reporting mechanism has been developed and refined by brand, tanner and supplier members. The protocol is a dynamic improvement tool and is regularly reviewed by the members of the Leather Working Group to ensure that it is both challenging but realistic and achievable. It aims to tackle important topical issues, and reflect improvements or changes of technology within the sector.
https://www.leatherworkinggroup.com/how-we-work/audit-protocols

Definitions

Water use: Water use is defined as total withdrawals from municipal and private water providers, surface water, groundwater, or wells.

Hotspots Addressed

***2.** Environmental impacts - Material production*

6. WASTEWATER GENERATION - SUPPLY CHAIN

Question

What percentage of textile fabric used in your final product, by mass purchased, was provided by suppliers' whose processing facilities have undergone supplier audits and meets or exceeds standards for wastewater quality for the five following metrics: biochemical oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids (TSS), temperature, and pH?

Response Options

- **A.** We are unable to determine at this time.
- **B.** We are able to report the following for the textile fabric used in our products:
  - **B1.**_____% of our textile fabric was produced in facilities that met or exceeded the standard for COD.
  - **B2.**_____% of our textile fabric was produced in facilities that met or exceeded the standard for BOD.
  - **B3.**_____% of our textile fabric was produced in facilities that met or exceeded the standard for TSS.
  - **B4.**_____% of our textile fabric was produced in facilities that met the standard for pH.
  - **B5.**_____% of our textile fabric was produced in facilities that met the standard for temperature.

Guidance

Calculation & Scope

Calculate B1 as the mass of textile fabric from wet processing facilities that have undergone supplier audits and met or exceeded the standard for COD, divided by the total textile fabric from all wet processing facilities, then multiply by 100.

Calculate B2 as the mass of textile fabric from wet processing facilities that have undergone supplier audits and met or exceeded the standard for BOD, divided by the total textile fabric from all wet processing facilities, then multiply by 100.

Calculate B3 as the mass of textile fabric from wet processing facilities that have undergone supplier audits and met or exceeded the standard for TSS, divided by the total textile fabric from all wet processing facilities, then multiply by 100.

Calculate B4 as the mass of textile fabric from wet processing facilities that have undergone supplier audits and met the standard for pH, divided by the total textile fabric from all wet processing facilities, then multiply by 100.

Calculate B5 as the mass of textile fabric from wet processing facilities that have undergone supplier audits and met the standard for temperature, divided by the total textile fabric from all wet processing facilities, then multiply by 100.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

Audits should include verification that discharged wastewater is meeting the standards set forth by the American Apparel & Footwear Association Global Textile Effluent Guidelines for 95% of the sampling period:

- Measurements for BOD and TSS should be below or equal to 30 ppm.

- Measurements for COD should be below or equal to 100 ppm.

- Measurements for temperature should be below or equal to 37 degrees Celsius.

- Measurements for pH should be between 6.0 - 9.0.

Testing should follow a rigorous and internationally accepted methodology and frequency. Local or corporate standards may be stricter. The water quality metrics ideally approach ambient conditions.

Suppliers who have entered and communicated information required by the Higg Index Facility Environment Module 3.0 (Higg FEM) "Wastewater - Level 2, Question 7" may be used in responding to B1-B5 if the chosen wastewater standard meets or exceeds the values listed above, or if the values of the parameters listed in the detection table meet or exceed the values listed above. The information reported to the FEM is at the facility level; if your products are produced in multiple facilities you may aggregate the data to represent the entirety of final product produced.

Certifications, Standards & Tools

American Apparel & Footwear Association (AAFA) - Restricted Substance List: The AAFA provides guidelines for restricted chemicals and substances.
https://www.aafaglobal.org/AAFA/Solutions_Pages/Restricted_Substance_List

AWS International Water Stewardship Standard: The International Water Stewardship Standard is a globally-applicable framework that helps water users understand their water use and impacts. Developed by the Alliance for Water Stewardship, the standard addresses 1) sustainable water balance, 2) good water quality, 3) healthy important water-related areas, and 4) good water governance.
https://a4ws.org/the-aws-standard-2-0/

BHive: The BHive enables the creation and management of chemical inventories, identifies chemical products that meet sustainability credentials. The BHive enhances supply chain transparency as factories, brands, and retailers can view and compare the safety of chemical products.
https://www.thebhive.net/

Detox to Zero by OEKO-TEX: This analysis and assessment tool creates transparency and provides textile and leather producers the ability to control the use of hazardous substances. The tool focuses on continuous improvement and gradual reduction of harmful substances in production processes.
https://www.oeko-tex.com/en/our-standards/detox-to-zero-by-oeko-tex

SAC Higg Index: The Sustainable Apparel Coalition has developed indicator-based assessment tools called the Higg Index, which evaluates the sustainable practices associated with production of apparel and footwear.
https://apparelcoalition.org/the-higg-index/

Sustainable Textile Solutions (STS): Sustainable Textile Solutions programs support brands, retailers, and industry partners in their efforts to achieve compliance to environmental, health, and safety standards.
https://sustexsolutions.com/

THESIS Help Center Video: Wastewater generation - Supply Chain KPI: Short video tutorial on the Wastewater generation - Supply Chain KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/448595442

Background Information

Leather Working Group Auditing Protocol: This environmental auditing protocol and reporting mechanism has been developed and refined by brand, tanner and supplier members. The protocol is a dynamic improvement tool and is regularly reviewed by the members of the Leather Working Group to ensure that it is both challenging but realistic and achievable. It aims to tackle important topical issues, and reflect improvements or changes of technology within the sector.
https://www.leatherworkinggroup.com/how-we-work/audit-protocols

Roadmap to Zero by ZDHC (Zero Discharge of Hazardous Chemicals): This plan is intended to reduce and eliminate the discharge of hazardous chemicals.
https://www.roadmaptozero.com/

Definitions	**Biological oxygen demand (BOD):** An indicator for the amount of oxygen required/consumed for the microbiological decomposition (oxidation) of organic material in water bodies. **Chemical oxygen demand (COD):** An indicator for the amount of oxygen required to oxidize an organic compound to carbon dioxide, ammonia, and water. The measurement is a proxy for the amount of organic compounds in water. Measuring COD in wastewater provides an estimated level of organic pollutants. The standard for measurement can be referenced in ISO 6060. **pH:** A measure of a substance's acidity or basicity. The measurement is based upon the molar concentration of hydrogen (H) ions in an aqueous solution of the substance. Pure water is at a neutral pH of 7. For wastewater quality testing, measuring pH allows for benchmarking pH levels to ambient conditions existing naturally in the surrounding environment. **Total suspended solids (TSS):** A water quality measurement that reflects the amount of particulates in a sample. The dry weight of residue in a filter is used to calculate units in milligrams per liter (mg/L). **Water use:** Water use is defined as total withdrawals from municipal and private water providers, surface water, groundwater, or wells.
Hotspots Addressed	***2.** Environmental impacts - Material production*

7. WORKER HEALTH AND SAFETY - SUPPLY CHAIN

Question

How did your organization manage worker health and safety risks in the operations that produced the leather supply used in your final product?

Response Options

A. We are unable to determine at this time.

B. We are able to report the following for our supply:

B1._____% of the leather supply used in our final product, by mass, was produced in operations that have performed a risk assessment to identify high-risk areas for health and safety.

B2._____% of the leather supply used in our final product, by mass, was produced in operations that train workers on health and safety procedures.

B3._____% of the leather supply used in our final product, by mass, was produced in operations that implement a verifiable worker health and safety plan.

B4._____% of the leather supply used in our final product, by mass, was produced in operations that have a worker health and safety performance monitoring system in place.

B5._____% of the leather supply used in our final product, by mass, was produced in operations that were audited in the last three years on worker health and safety issues.

Guidance

Calculation & Scope

To be included in B1-B5, risk assessments, training programs, safety plans, performance monitoring systems, and audits must be verifiable and address health and safety issues such as worker injury and worker exposure to harmful elements. The assessments and audits must be conducted by second or third parties. The risk assessment must be conducted once per year while the audit must have been conducted at least once every three years, both using a standard based on internationally-recognized principles such as International Labour Organization Occupational Safety and Health Conventions (e.g., No. 155). The standards and websites listed in Background Information below may be helpful for conducting your risk assessment(s) and for understanding appropriate corrective actions, which can inform your responses. See the Certifications, Standards & Tools for examples of initiatives that meet these requirements.

Calculate B1 as the mass of the leather supply used in your final product that came from operations that have performed a risk assessment to identify high risk areas for health and safety, divided by the total mass of the leather supply used in our final product, then multiply by 100.

To determine if an operation is high risk for health and safety, you may utilize a country risk analysis tool. The tool should measure the strength of a country's ability to govern and enforce laws, regulations, and internationally recognized principles. The country risk assessment may be a first party systematic review assessment, or external risk analyses tools may be utilized. It must be conducted at least once per year. The country risk assessment can be complemented with risks associated with specific activities, regions, and suppliers.

Calculate B2 as the mass of the leather supply used in your final product that came from operations that train workers on health and safety procedures, divided by the total mass of the leather supply used in your final product, then multiply by 100. To be included in B2, the training on health and safety procedures must be available in the language of the employee, including migratory and seasonal workers, and must be renewed as appropriate to maintain competency and implementation of good practices for workers on health and safety procedures and to prevent training exhaustion. Additional worker training may be required to perform job duties. On-site audits, where necessary, should be conducted by second or third parties and must be conducted at least once every three years using a standard based on internationally-recognized principles.

Calculate B3 as the mass of the leather supply used in your final product that came from operations that implement a verifiable worker health and safety plan, divided by the total mass of the leather supply used in your final product, then multiply by 100. To be included in B3, a worker health and safety plan must be verifiable and must be available in the language of the employee, including migratory and seasonal workers, and be prominently displayed in the workplace where employees normally report. The plan should include best practices specific to ergonomics; repetitive motions; chemical and particulate exposure; appropriate use of personal protective

equipment (PPE); and proper use of tools, machinery. On-site audits, where necessary, should be conducted by second or third parties and must be conducted at least once every three years using a standard based on internationally-recognized principles.

Calculate B4 as the mass of the leather supply used in your final product, that came from operations that have a worker health and safety performance monitoring system in place, divided by the total mass of the leather supply used in your final product, then multiply by 100. To be included in B4, a worker health and safety performance monitoring system should include metrics on issues including, but not limited to, incidence of worker injuries and prevalence of diseases. On-site audits, where necessary, should be conducted by second or third parties and must be conducted at least once every three years using a standard based on internationally-recognized principles.

Calculate B5 as the mass of the leather supply used in your final product, that came from operations that were audited in the last three years on worker health and safety issues, divided by the total mass of the leather supply used in your final product, then multiply by 100. Audits should be conducted by second or third parties at least once every three years, or more often depending on the requirements of the standard organization. See the Certifications, Standards & Tools for more information. Government regulations or parties in the supply chain may initiate these audits.

To be included in B5, the audits must be verifiable and address preventive measures, freely provided personal protective equipment, identification of worker health and safety hazards and effects on the exposed people, statistics and reasons behind injuries, design of work area, processes, installations, machinery/work equipment, operating processes and work organization, as outlined by internationally-recognized labor principles. Examples include, but are not limited to, principles outlined by the United Nations Global Compact, the International Labour Organization Standards on Occupational Health and Safety.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question. Audits must have been conducted in the 36 months prior to the end of the 12-month period.

Certifications, Standards & Tools

Fairtrade International Certification: Fairtrade International provides several standards (e.g. for smallholders and workers), and a certification through FLOCERT. Fairtrade aims to improve the livelihoods of smallholders and workers amongst others via fair trade relationships.
https://www.fairtrade.net/about/certification

Rainforest Alliance Sustainable Agriculture Standard: Rainforest Alliance has two certifications: farm and chain of custody. The standard encompasses all three pillars of sustainability—social, economic, and environmental. RA is currently developing a new certification program, following their 2018 merger with UTZ. Since 2018 RA has also become the sole owner and operator of the 2017 SAN Standard.
https://www.rainforest-alliance.org/business/solutions/certification/agriculture/

SA8000® Standard: Social Accountability International (SAI) is a global non-governmental organization that aims to advance human rights at work via the SA8000® Standard. SA 8000 measures social performance in eight areas that are relevant for workplaces in factories and organizations worldwide.
https://sa-intl.org/programs/sa8000/

THESIS Help Center Video: Worker health and safety - Supply chain KPI: Short video tutorial on the Worker health and safety - Supply chain KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/536528345

Background Information

IS0 26000 Social Responsibility: ISO 2600 is not a certification tool, but it offers guidance about social responsibility to all sorts of organizations regardless of their activity, size or location.
https://www.iso.org/iso-26000-social-responsibility.html

Social Accountability International Guidance Document for Social Accountability 8000: According to Social Accountability International, "this guidance document provides various tools and information for users of the Social Accountability 8000 standard, including definitions, background information, and examples."
https://sa-intl.org/wp-content/uploads/2020/02/SA8000-2014-Guidance-Document.pdf

United Nations Global Compact Human Rights and Business Dilemmas Forum: United Nations Global Compact Human Rights and Business Dilemmas Forum present an introduction to, analysis of, and business recommendations for minimizing social sustainability risks in the supply chain.
https://www.unglobalcompact.org/library/9

Definitions

Corrective actions: Prompt actions taken to eliminate the causes of a problem, thus preventing their recurrence.

First party systematic risk assessment: A first party systematic risk assessment is conducted by the organization itself for management review and other internal purposes and may form the basis for an organization's declaration of conformity.

Risk assessment: A systematic process to evaluate potential risks within an operation, system, or supply chain. It can include an on-site audit by a second party or third party or a country risk classification analysis that judges the site risk due to prevailing conditions, controls, or other mitigating factors.

Second-party audit: An audit conducted by a party having an interest in the organization, such as customers, or by another entity on their behalf.

Third-party audit: An audit conducted by external, independent auditing organizations, such as those providing certification of conformity to a standard.

Verifiable: Having the ability to demonstrate, through a reputable assessor, the truth or accuracy of a claim.

Worker exposure to harmful elements: Contact with potentially harmful chemical, physical, or biological elements that occurs as a result of one's job-related activities. Examples include chronic interaction with chemicals, dusts, radiation, environmental elements, allergens, noise, and vibrations.

Worker health and safety: Worker health and safety consists of worker injury and worker exposure to harmful elements. Please see the corresponding terms.

Worker injury: Physical damage to an individual due to a single act that causes immediate damage or repetitive acts that cause damage over time. Examples of causes of injury include repetitive motions, non-ergonomic motions, damage from use of tools and machinery, falls, and burns.

Hotspots Addressed

4. *Air quality - Tanneries*

9. *Social impacts - Material production*

8. AIR QUALITY - MANUFACTURING

Question	Response Options
What percentage of this product, by mass, comes from company-owned and contract manufacturing facilities performing final cut, sew, and dyeing operations that tracked and reported their annual air emissions?	**A.** We are unable to determine at this time. **B.** The following percentage of this product, by mass, comes from facilities that tracked and reported their annual air emissions: **B1.**_____%.

Guidance

Calculation & Scope

Calculate B1 as the mass of products that were produced in final cut, sew, and dyeing facilities that tracked and reported annual air emissions, divided by the total mass of products produced by all final cut, sew, and dyeing facilities, then multiply by 100. Include all company-owned or contract manufacturing facilities that performed final cut, sew, and dyeing operations. If the final cut, sew, and dyeing steps are performed in different facilities, then each must report their air emissions in order to be included in your calculation. Facilities included in this calculation must track all air emissions required by locally applicable regulations, as well as those emissions for which there is scientific evidence of serious effects to human health or the environment. Air emissions may include, but are not limited to, nitrogen and sulphur oxides from boilers, hydrocarbons from drying ovens, carbon monoxide from sizing, aniline vapors, and ammonia from printing/dyeing, and VOCs and ozone from textile finishing, and may be emitted as dust, oil mists, acid vapors, odors, and boiler exhausts. Testing of emissions must occur according to a rigorous and internationally accepted testing methodology.

Perform this calculation using data from a 12-month period that ended within 12 months of the date you respond to this question.

Information entered into the Higg Index Facility Environment Module 3.0 (Higg FEM) "Air Emissions - Level 1, Questions 1-3" may be used in responding to B1. The information reported to the FEM is at the facility level; if your products are produced in multiple facilities you may aggregate the data to represent the entirety of final product produced.

Certifications, Standards & Tools

Environmental Protection Agency National Ambient Air Quality Standards: According to the EPA's website, "The Clean Air Act, which was last amended in 1990, requires the EPA to set National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of 'sensitive' populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings."
https://www.epa.gov/criteria-air-pollutants

Safer Choice (EPA): In order to identify scientific evidence of probable serious effects to human health and the environment, organizations should reference relevant criteria in the U.S. EPA Safer Choice Program.
https://www.epa.gov/saferchoice

THESIS Help Center Video: Air quality - Manufacturing KPI: Short video tutorial on the Air quality - Manufacturing KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/533750750

Background Information

Hazardous Air Pollutants List from EPA: This site lists the original list of 187 air pollutants classified as hazardous by the United States Environmental Protection Agency. This list is periodically revised and should only be considered a starting point.
https://www.epa.gov/haps

Hotspots Addressed

***5.** Chemical use - Manufacturing*

9. GREENHOUSE GAS EMISSIONS INTENSITY - MANUFACTURING

Question

What was the greenhouse gas emissions intensity associated with final manufacture of your product?

Response Options

A. We are unable to determine at this time.

B. Our greenhouse gas emissions intensity was:

B1._____ kg CO2e per metric tonne of product.

B2._____% of our product, by mass produced, is represented by the number reported above.

Guidance

Calculation & Scope

Included in the scope of this question are fuels combusted and electricity used in facilities that perform final manufacturing activities, as well as trace gases released during manufacture. This may include some or all of your organization's corporate scope 1 and 2 emissions, as well as scope 1 and 2 emissions from any final manufacturing facilities not within your organization's financial or operational control (e.g., contract manufacturers). Excluded from the scope of this question are GHG allowances, offsets, and credits.

You may calculate B1 using product-specific data or estimate intensity via facility data that is not product specific. If using product-specific data, calculate B1 as the average of each product's greenhouse gas emissions intensity, weighted by the total mass produced of each product.

If using facility data, calculate B1 as the average of each final manufacturing facility's greenhouse gas emissions intensity, weighted by the total mass of final product produced/revenue from final product produced/number of units produced. If the manufacturing facilities produce more than one category of product, only weight using the total mass of production specific to the product category in question.

Calculate B2 as the mass of final products for which you are able to obtain data, divided by total mass of final products produced, then multiply by 100. For each final manufacturing facility, follow the instructions in the Greenhouse Gas Protocol Corporate Standard (2015) to calculate scope 1 and 2 greenhouse gas emissions generated from electricity purchased or produced, fuels combusted, and trace gases released, and then add them together. Worksheets are available on the GHG Protocol web site to facilitate these calculations.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

The data required for the CDP Climate Change 2020 Questionnaire combined with production data can be used to calculate your response (refer to C7.3b and C7.6b). The data required for "Disclosure 302-1 Energy consumption within the organization" in GRI 302: Energy 2016 or "Disclosure 305-1 Direct (Scope 1) GHG emissions" and "Disclosure 305-2 Energy indirect (Scope 2) GHG emissions" in GRI 305: Emissions 2016 can also be used to calculate your response.

Information entered into the Higg Index Facility Environmental Module 3.0 (Higg FEM) "Energy Use & GHG - Level 1" may be used to answer this KPI.

Certifications, Standards & Tools	**CDP Climate Change Questionnaire:** The CDP Climate Change Questionnaire provides questions that assess a company's greenhouse gas emissions, goals, and management. The report provided by CDP provides the overview of the results from companies responding to the request. https://www.cdp.net/en/guidance/guidance-for-companies **Energy Efficiency Assessment and Greenhouse Gas Emission Reduction Tool for the Textile Industry (EAGER Textile):** This tool was developed by the Lawrence Berkeley National Laboratory to aid in evaluating the impacts of introducing energy efficiency measures into a textile facility. According to the China Energy Group, "the EAGER tool will calculate the typical energy savings (electricity, fuel, final, and primary energy), CO2 emissions reduction, cost, and simple payback period...[the tool] is designed to work for textile facilities that have one or more of the following processes: spinning, weaving/knitting, dyeing, printing, finishing, and man-made fiber production." https://china.lbl.gov/eager-textile **Greenhouse Gas Protocol: Calculation Tools:** This site provides a list of sector toolsets developed by GHG Protocol, third-party databases, and other tools based on the GHG Protocol standards that can be used to calculate greenhouse gas inventories for use in emissions calculations. https://ghgprotocol.org/calculation-tools **GRI G4 Sustainability Reporting Guidelines:** The GRI G4 Sustainability Reporting Guidelines provide a standard set of metrics for companies to report on material environmental, social, and economic impacts, actions, and outcomes. https://www.globalreporting.org/standards/ **SAC Higg Index:** The Sustainable Apparel Coalition has developed indicator-based assessment tools called the Higg Index, which evaluates the sustainable practices associated with production of apparel and footwear. https://apparelcoalition.org/the-higg-index/
Background Information	**Greenhouse Gas (GHG) Protocol Corporate Standard:** The Greenhouse Gas (GHG) Protocol provides guidance and is a useful resource published by the World Resources Institute with the World Business Council for Sustainable Development as a guide for monitoring and accounting for greenhouse gas emissions. https://ghgprotocol.org/corporate-standard **Leather Working Group Auditing Protocol:** This environmental auditing protocol and reporting mechanism has been developed and refined by brand, tanner and supplier members. The protocol is a dynamic improvement tool and is regularly reviewed by the members of the Leather Working Group to ensure that it is both challenging but realistic and achievable. It aims to tackle important topical issues, and reflect improvements or changes of technology within the sector. https://www.leatherworkinggroup.com/how-we-work/audit-protocols
Definitions	**Greenhouse gas:** Gases that contribute to the greenhouse effect by absorbing infrared radiation in the atmosphere, e.g., carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.
Hotspots Addressed	***6.** Energy Consumption - Manufacturing, finished goods production*

10. LABOR RIGHTS - MANUFACTURING

Question

How did your organization manage labor rights risks in the company-owned and contract manufacturing facilities performing final cut, sew, and dyeing operations for your final product?

Response Options

A. We are unable to determine at this time.

B. We are able to report the following:

B1._____% of our final product, by mass, was produced in facilities that were covered by an internal policy that has quantitative time-bound goals related to child labor, discrimination, forced labor, and freedom of association and collective bargaining.

B2._____% of our final product, by mass, was produced in facilities that were reviewed by a risk assessment that identifies high-risk areas for labor rights abuses.

B3._____% of our staff responsible for procurement activities have been trained on labor rights issues in the supply chain.

B4._____% of our staff responsible for procurement activities have been evaluated via performance metrics on labor rights improvements in the supply chain.

B5._____% of our final product, by mass, was produced in facilities that were low-risk, that were high-risk but corrective actions were taken, or that were audited on child labor, discrimination, forced labor, and freedom of association and collective bargaining in the last three years.

Guidance

Calculation & Scope

The scope of this KPI includes company owned and contract manufacturing facilities performing final cut, sew, and dyeing operations for final product.

Calculate B1 as the mass of your final product that is covered by an internal policy that has quantitative time-bound goals related to child labor, discrimination, forced labor, and freedom of association and collective bargaining, divided by the total mass of your final product, then multiply by 100. Where freedom of association and collective bargaining are restricted by law, employers can use other forms of non-union employee representation and relations to respect this aspect of workers' rights.

Calculate B2 as the mass of your final product that has been reviewed by a risk assessment which identifies high-risk areas for labor rights abuses, divided by the total mass of your final product, then multiply by 100.

To be included in B2, a risk assessment must have been conducted by second or third parties and must have been conducted at least once every three years using a standard based on internationally-recognized principles. The risk assessments and standard must be verifiable and must address labor rights abuses such as discrimination on grounds of gender, age, ethnicity or disability, physical violence, sexual harassment and abuse, child labor, forced labor, and freedom of association and collective bargaining or any other range of behaviors and practices as outlined by internationally-recognized labor standards. The standards and websites listed in Background Information below may be helpful for conducting your risk assessment(s) and for understanding appropriate corrective actions which can inform your responses.

In addition, to determine if an operation is in a high-risk area for labor rights abuses, you may utilize a country risk analysis tool. The tool should measure the strength of a country's ability to govern and enforce laws, regulations, and internationally-recognized principles. The country risk assessment may be a first party systematic risk assessment, or external risk analyses tools may be utilized. The AMFORI Countries' Risk Classification tool listed below may be used to inform your response. The country risk assessment can be complemented with risks associated with specific activities, regions, and suppliers.

Calculate B3 as the number of staff responsible for procurement activities that have been trained on labor rights issues in the supply chain, divided by the total number of staff responsible for procurement activities, then multiply by 100. Include both full-time and contracted employees. The training must be verifiable. Staff training should cover child labor, discrimination, forced labor, and freedom of association and collective bargaining, as outlined by internationally-recognized labor principles. Staff training should be renewed as appropriate to maintain

competency and implementation of good practices for labor rights issues and to prevent training exhaustion. Additional staff training may be required to perform job duties.

Calculate B4 as the number staff responsible for procurement activities that have been evaluated via performance metrics on labor rights improvements in the supply chain, divided by the total staff responsible for procurement activities, then multiply by 100. Evaluation on labor rights should include, child labor, discrimination, forced labor, and freedom of association and collective bargaining, as outlined by internationally-recognized labor principles. Examples of improvements include decreased incidence of child labor, forced labor, or discrimination, or an Increased worker participation in collective bargaining.

Calculate B5 as the mass of your final product that was produced in operations that were low risk, that were high risk but corrective actions were taken, or that were audited on child labor, discrimination, forced labor, and freedom of association and collective bargaining in the last three years, divided by the total mass of your final product, then multiply by 100. To be included in B5, audits must be verifiable and address child labor, discrimination, forced labor, and freedom of association and collective bargaining, as outlined by internationally-recognized labor principles. Examples include, but are not limited to, principles outlined by the United Nations Global Compact, the International Labour Organization Declaration on Fundamental Principles and Rights at Work. Where freedom of association & collective bargaining is restricted by law, employers can use other forms of non-union employee representation and relations to respect this aspect of workers' rights. Audits should be conducted by second or third parties at least once every three years, or more often depending on the requirements of the standard organization See the Certifications, Standards & Tools for more information. Government regulations or parties in the supply chain may initiate these audits.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question. Audits must have been conducted in the 36 months prior to the end of the 12-month period.

Certifications, Standards & Tools

Amfori Country Risk Classification: This list classifies countries' risk of social injustice in an effort to assist companies in determining high and low risk for their sourcing and operations.
http://duediligence.amfori.org/CountryRiskClassification

Fairtrade International Certification: Fairtrade International provides several standards (e.g. for smallholders and workers), and a certification through FLOCERT. Fairtrade aims to improve the livelihoods of smallholders and workers amongst others via fair trade relationships.
https://www.fairtrade.net/about/certification

SA8000® Standard: Social Accountability International (SAI) is a global non-governmental organization that aims to advance human rights at work via the SA8000® Standard. SA 8000 measures social performance in eight areas that are relevant for workplaces in factories and organizations worldwide.
https://sa-intl.org/programs/sa8000/

THESIS Help Center Video: Labor Rights - Manufacturing KPI: Short video tutorial on the Labor Rights - Manufacturing KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/520093618

Background Information

United Nations Global Compact Human Rights and Business Dilemmas Forum: United Nations Global Compact Human Rights and Business Dilemmas Forum present an introduction to, analysis of, and business recommendations for minimizing social sustainability risks in the supply chain.
https://www.unglobalcompact.org/library/9

Definitions	**First party systematic risk assessment:** A first party systematic risk assessment is conducted by the organization itself for management review and other internal purposes and may form the basis for an organization's declaration of conformity. **Forced labor:** Any task or service performed by a person against their will or under threat of negative consequence. Forced labor includes debt bondage, human trafficking, withholding of wages or identity papers, threats of violence, unreasonable restriction of movement, and exploitation of marginalized workers. **Freedom of collective bargaining:** The right to negotiate the conditions of employment as a group rather than individually without fear of repercussions. **Internationally-recognized labor principles:** Internationally-recognized labor principles include the United Nations Global Compact and International Labour Organization Declaration on Fundamental Principles and Rights at Work or equivalent. **Labor rights:** The universal rights of workers, regardless of race, gender, nationality, or other distinguishing characteristic. These include protection from the worst forms of child labor, forced labor, and discrimination, as well as freedom of association and collective bargaining as outlined by the United Nations Global Compact or the International Labour Organization Declaration on Fundamental Principles and Rights at Work. **Risk assessment:** A systematic process to evaluate potential risks within an operation, system, or supply chain. It can include an on-site audit by a second party or third party or a country risk classification analysis that judges the site risk due to prevailing conditions, controls, or other mitigating factors. **Second-party audit:** An audit conducted by a party having an interest in the organization, such as customers, or by another entity on their behalf. **Third-party audit:** An audit conducted by external, independent auditing organizations, such as those providing certification of conformity to a standard. **Verifiable:** Having the ability to demonstrate, through a reputable assessor, the truth or accuracy of a claim.
Hotspots Addressed	***8.** Labor rights - Leather Goods Production*

11. WORKER HEALTH AND SAFETY - MANUFACTURING

Question	Response Options
What was the injury and illness rate at company-owned or contract manufacturing facilities that produced your final product?	**A.** We are unable to determine at this time. **B.** Our injury and illness rate over our last twelve-month reporting period was: **B1.**_____. **B2.**_____% of our product, by mass produced, is represented by the number reported above.

Guidance

Calculation & Scope

This question aligns with the United States Occupational Safety and Health Administration (OSHA) Injury and Illness rate. This rate can be normalized for global applicability.

Calculate B1 according to OSHA's injury and illness rate by multiplying the number of recordable injuries and illnesses by 200,000. Divide this number by the total employee hours worked to produce your final product. If multiple facilities manufacture the final product, the injury and illness rate will need to be adjusted using a weighted average based on each facility's percentage of total production. Include all employees at a facility that participate in the production of the final product. This includes both full-time and contracted employees.

Calculate B2 as the mass of your final product for which you were able to obtain data, divided by the total mass of your final product, then multiply by 100.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

THESIS General Guidance document provides guidance to calculate the weighted average. See Background Information for access to this document.

The Incidence Rate Calculator and Comparison Tool is an online calculator that will compute your injury and illness rate. The OSHA Forms for Recording Work-Related Injuries and Illnesses provides forms and information for computing your facility injury and illness rate.

Certifications, Standards & Tools

Incidence Rate Calculator and Comparison Tool: This tool calculates the injury and illness incidence rate for employers.
https://data.bls.gov/iirc/

OSHA Forms for Recording Work-Related Injuries and Illnesses: This webpage contains information on how to record workplace injuries and illnesses and provides the worksheets needed to correctly do so.
https://www.osha.gov/recordkeeping/forms

THESIS Help Center Video: Worker Health and Safety - Manufacturing KPI: Short video tutorial on the Worker Health and Safety - Manufacturing KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/520108472

Background Information

How to Compute a Firm's Incidence Rate for Safety Management: This website from the U.S. Bureau of Labor Statistics provides in-depth guidance on computing injury and illness numbers.
https://www.bls.gov/iif/osheval.htm

SA8000® Standard: Social Accountability International (SAI) is a global non-governmental organization that aims to advance human rights at work via the SA8000® Standard. SA 8000 measures social performance in eight areas that are relevant for workplaces in factories and organizations worldwide.
https://sa-intl.org/programs/sa8000/

Definitions	**Company-owned or contract manufacturing facilities:** Facilities responsible for manufacturing and assembly of final products, whether these facilities are internal or external to the respondent's organization. **Worker exposure to harmful elements:** Contact with potentially harmful chemical, physical, or biological elements that occurs as a result of one's job-related activities. Examples include chronic interaction with chemicals, dusts, radiation, environmental elements, allergens, noise, and vibrations. **Worker health and safety:** Worker health and safety consists of worker injury and worker exposure to harmful elements. Please see the corresponding terms. **Worker injury:** Physical damage to an individual due to a single act that causes immediate damage or repetitive acts that cause damage over time. Examples of causes of injury include repetitive motions, non-ergonomic motions, damage from use of tools and machinery, falls, and burns.
Hotspots Addressed	***7.*** *Worker health and safety - Manufacturing, finished goods production* ***10.*** *Chemical use - Manufacturing, wet processing*

12. HAZARDOUS CHEMICAL DISCHARGE MANAGEMENT

Question

What is your organization's approach to managing chemicals on the ZDHC Manufacturing Restricted Substances List in your products?

Response Options

- **A.** Not applicable, we have a policy to not use any chemicals on the ZDHC Manufacturing Restricted Substances List at any of our manufacturing facilities and we verify that this is true using analytical methods.
- **B.** We ensure legal and regulatory compliance.
- **C.** In addition to (B), we have programs with goals to prioritize and continuously reduce, eliminate, or restrict the use of chemicals on the ZDHC Manufacturing Restricted Substances List in our products using various tools and protocols to make informed substitutions of the identified substances.
- **D.** In addition to (C), we publicly disclose our goals and progress concerning the reduction, elimination, or restriction of chemicals on the ZDHC Manufacturing Restricted Substances List in our products.
- **E.** In addition to (D), we have reduced the number of chemicals on the ZDHC Manufacturing Restricted Substances List used in our manufacturing facilities in the last year by this number:
  E1._____.
  E2._____% of our facilities is represented by the number above.

Guidance

Calculation & Scope

For C, informed substitution implies that factors such as cost and performance, technical feasibility, life cycle impacts, economic and social accountability, and potential to result in lasting change have been taken into consideration to ensure that substitutes and the final product are safer based on their health and environmental profiles.

For D, goals should be specific, measurable, achievable, relevant, and time-bound. Public disclosure of goals and progress must have occurred within 12 months of the date you respond to this question.

Examples of tools and protocols for screening chemicals and assessing alternatives include green chemistry, alternatives analysis, restricted substances lists, and other tools that are listed in the Background Information.

To calculate E1, subtract the number of chemicals on the ZDHC Manufacturing Restricted Substances List used this year across all manufacturing facilities where your product is cut and sewed from the number of chemicals on the ZDHC Manufacturing Restricted Substances List used last year across all manufacturing facilities where your product was cut and sewed. If more chemicals on the ZDHC Manufacturing Restricted Substances List were used this year than last, enter zero.

Calculate E2 as the number of manufacturing facilities where your product is cut and sewed for which you were able to obtain primary data, divided by the total number of manufacturing facilities where your product is cut and sewed, then multiply by 100.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

Certifications, Standards & Tools

American Apparel & Footwear Association (AAFA) - Restricted Substance List: The AAFA provides guidelines for restricted chemicals and substances.
https://www.aafaglobal.org/AAFA/Solutions_Pages/Restricted_Substance_List

BHive: The BHive enables the creation and management of chemical inventories, identifies chemical products that meet sustainability credentials. The BHive enhances supply chain transparency as factories, brands, and retailers can view and compare the safety of chemical products.
https://www.thebhive.net/

Detox to Zero by OEKO-TEX: This analysis and assessment tool creates transparency and provides textile and leather producers the ability to control the use of hazardous substances. The tool focuses on continuous improvement and gradual reduction of harmful substances in production processes.

https://www.oeko-tex.com/en/our-standards/detox-to-zero-by-oeko-tex

Greenlist Process: According to their website, "In 2001, SC Johnson developed the Greenlist Process to classify ingredients in order to minimize the human and environmental impacts of their products." The process is now available for license to other companies and organizations.
https://www.scjohnson.com/en/our-purpose/sustainability-report/explaining-the-sc-johnson-greenlist-program-an-excerpt-from-our-2017-sustainability-report

GreenScreen for Safer Chemicals: GreenScreen is a "Chemical Hazard Assessment" method that can be used to identify chemicals of high concern and determine safer alternatives. The tool was developed and is administered by Clean Production Action. A second tool, the GreenScreen List Translator, is a publicly available abbreviated version that screens and classifies chemicals based solely on their presence on authoritative hazard lists.
https://www.greenscreenchemicals.org/

GreenSuite: GreenSuite is an environmental sustainability tool that can be customized to specific users' needs. Environmental issues throughout the supply chain are covered by this web based solution.
http://greensuite360.com/index.html

NSF/GCI/ANSI 355-2011 - Greener Chemicals and Processes Information: According to this website, "The purpose of the Information Standard is to provide the chemical enterprise with a voluntary and standardized way to define and report environmental and human health hazards associated with a chemical product and its gate-to-gate manufacturing process impacts."
http://www.worldcat.org/title/nsfgciansi-355-2011-greener-chemicals-and-processes-information/oclc/772118815

PRIO: PRIO is a web-based tool developed by the Swedish government to facilitate the assessment of environmental and health risks of chemicals.
https://www.kemi.se/prioguiden/english/start

SAC Higg Index: The Sustainable Apparel Coalition has developed indicator-based assessment tools called the Higg Index, which evaluates the sustainable practices associated with production of apparel and footwear.
https://apparelcoalition.org/the-higg-index/

Safer Choice (EPA): In order to identify scientific evidence of probable serious effects to human health and the environment, organizations should reference relevant criteria in the U.S. EPA Safer Choice Program.
https://www.epa.gov/saferchoice

Sustainable Textile Solutions (STS): Sustainable Textile Solutions programs support brands, retailers, and industry partners in their efforts to achieve compliance to environmental, health, and safety standards.
https://sustexsolutions.com/

THESIS Help Center Video: Priority Chemicals - Management KPI: Short video tutorial on the Priority Chemicals - Management KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/536528286

United States Environmental Protection Agency (EPA): Exposure Assessment Tools and Models: According to their website, "The Office of Pollution Prevention and Toxics (OPPT) has developed several exposure assessment methods, databases, and predictive models to help in evaluating what happens to chemicals when they are used and released to the environment and how workers, the general public, consumers and the aquatic ecosystems may be exposed to chemicals."
https://www.epa.gov/ceam/tools-data-exposure-assessment

United States Environmental Protection Agency (EPA): Sustainable Futures: According to their website, "The goal of the Sustainable Futures Initiative (SF) is to make new chemicals safer, available faster, and at lower cost. It works by giving chemical developers the same risk-screening models that EPA uses to evaluate new chemicals before they enter the market."
https://www.epa.gov/sustainable-futures

Background Information

BizNGO Chemical Alternatives Assessment Protocol: The BizNGO Chemical Alternatives Assessment Protocol is a "decision framework for substituting chemicals of concern to human health or the environment with safer alternatives."
https://www.biznGO.org/alternatives-assessment/chemical-alternatives-assessment-protocol

United States Environmental Protection Agency (EPA) Existing Chemicals Program: According to their website, "EPA's existing chemical programs address pollution prevention, risk assessment, hazard and exposure assessment and characterization, and risk management for chemical substances in commercial use." The current chemicals management program is undergoing review and update, including how the agency identifies and prioritizes priority chemicals for review and assessment under TSCA.
https://www.epa.gov/compliance/toxic-substances-control-act-tsca-compliance-monitoring#chemicals

United States Environmental Protection Agency (EPA) Safer Choice - Alternatives Assessments: The EPA's Safer Choice [formerly Design for the Environment (DfE)] partnership program provides guidance for informed decision-making regarding the hazards posed by different materials used in consumer goods.
https://www.epa.gov/saferchoice

Hotspots Addressed

2. *Environmental impacts - Material production*

5. *Chemical use - Manufacturing*

13. PRODUCT DESIGN

Question

What percentage of your product, by unit volume, was designed to reduce manufacturing, use, and end-of-life impacts?

Response Options

- **A.** We are unable to determine at this time, or we do not address these impacts.
- **B.** We are able to report the following about our products:
  - **B1.**_____% of our products, by unit volume, underwent a lifecycle assessment.
  - **B2.**_____% of our products, by unit volume, were designed to maximize material efficiency.
  - **B3.**_____% of our products, by unit volume, were designed to reduce laundering impacts.
  - **B4.**_____% of our products, by unit volume, were assessed for durability as part of the design process.
  - **B5.**_____% of our products, by unit volume, were designed for resource reutilization.

Guidance

Calculation & Scope

Calculate B1 as the unit volume of your products that underwent a life cycle assessment, divided by the total unit volume of your product, then multiply by 100.

A life cycle assessment should be conducted against ISO 14040:2006 (Life Cycle Assessment - Principles and Guidelines.)

Calculate B2 as the unit volume of your products that were designed to maximize material efficiency, divided by the total unit volume of your product, then multiply by 100.

Material efficiency may include, but is not limited to, design to reduce total amount of materials needed to cut and sew a product, design to reduce material waste during cut and sew process.

Addressing material efficiency during the design stage may include, but is not limited to employing zero waste patternmaking to reduce material waste during the cut and sew process, and using whole garment knitting techniques to reduce the amount of yarn wasted during the knitting process.

Calculate B3 as the unit volume of your products designed to reduce laundering impacts, divided by the total unit volume of your product, then multiply by 100.

Laundering impacts may include, but are not limited to, energy use during laundering and microfiber release during laundering.

Addressing laundering impacts at the design stage may include, but is not limited to choosing fabrics made from natural fibers that biodegrade, or adding care instructions to a garment's label that specify practices known to reduce energy use like cold water wash.

Calculate B4 as the unit volume of your products that underwent a durability assessment as part of the design process, divided by the total unit volume of your product, then multiply by 100.

Both physical and emotional durability should be considered in this assessment.

Attributes to consider while assessing physical durability may include, but are not limited to stability/longevity of materials used, and strength/quality of cut and sew techniques.

Attributes to consider while assessing emotional durability include a product's flexibility or changeability to adapt to changing tastes over time.

Calculate B5 as the unit volume of your products that were designed to maximize resource utilization, divided by the total unit volume of your product, then multiply by 100.

Resource utilization maximization may include, but is not limited to, materials that are able to be reused or recycled.

Addressing resource utilization maximization during the design stage may include, but is not limited to choosing single fiber fabrics that can be recycled, and using simple construction methods that can be disassembled after use.

Perform this calculation using data from a 12-month period that ended within 12 months of the date you respond to this question.

Certifications, Standards & Tools

THESIS Help Center Video: Product Design KPI: Short video tutorial on the Product Design KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/520107448

Background Information

B Corp Certification: B Corp offers certification at a company level and focuses on social and environmental performance, public transparency, and legal accountability.
https://bcorporation.net/

BlueSign: Bluesign is a third party verification and consultant service. Verification is performed for social and environmental impacts, and consulting services are available for multiple supply chain, manufacturing, and production stages.
https://www.bluesign.com/en/business/services

Cradle to Cradle Certified (TM) - Material Health: The Cradle to Cradle Products Innovation Institute, a non-profit organization, administers the Cradle to Cradle Certified™ Product Standard, and provide guidance on chemical hazard assessments and their use for material assessments. The Cradle to Cradle™ Material Health Assessment Methodology examines product chemical composition break down and data collection rules and guidelines, guidance and criteria for chemical profiling methods, assessment of metabolism considerations, and guidance for the evaluation of material assessments.
http://www.c2ccertified.org/get-certified/product-certification

Fairtrade International Certification: Fairtrade International provides several standards (e.g. for smallholders and workers), and a certification through FLOCERT. Fairtrade aims to improve the livelihoods of smallholders and workers amongst others via fair trade relationships.
https://www.fairtrade.net/about/certification

ISO 14040:2006: ISO 14040:2006 is the International Organization for Standardization's "Principles and Framework" document for conducting life cycle assessments.
https://www.iso.org/standard/37456.html

ISO 14044:2006: ISO 14044:2006 is the International Organization for Standardization's "Requirements and Guidelines" standard for conducting life cycle assessments.
https://www.iso.org/standard/38498.html

ISO/TC 207/SC 5: ISO/TC 207/SC 5 is the International Standardization Organization's life cycle assessment standard.
https://www.iso.org/committee/54854.html

Hotspots Addressed

***3.** Production impacts - Synthetic materials*

***11.** Product Disposal - Landfilling*

Category Sustainability Profile

Hotspots

Hotspots are activities in a product's life cycle that have a documented environmental or social impact. TSC evaluates the quality and quantity of the scientific sources of evidence for each hotspot according to a defined decision tree before they are included in the CSP. Items marked with an asterisk (*) are *additional issues* that have not achieved the same level of evidence as a hotspot. For more information on the methodology TSC uses to identify hotspots visit: http://www.sustainabilityconsortium.org/toolkit-methodology

RAW MATERIAL PROCESSING

1. **Animal welfare - Material production**
There is potential for poor animal welfare practices associated with handling, housing, and treatment practices on the farm, during transportation, and at the slaughterhouse in livestock supply chains.

Related Improvement Opportunities

3. *Implement animal welfare best practices during transport*
4. *Implement animal welfare programs, plans, and practices on-farm*

KPIs

3. *Animal Welfare Certifications and Audits*

References

- Gregory, 2008

AGRICULTURE AND LIVESTOCK

2. **Environmental impacts - Material production**
Activities associated with the production of leather materials impact animal welfare, climate change, pollution, ecosystem quality and biodiversity, and resource depletion.

Related Improvement Opportunities

2. *Collaborate with supply chain partners on sustainable initiatives*

KPIs

2. *Leather Material Supply Mapping*
4. *Greenhouse gas emissions - Supply chain*
5. *Water use - Supply chain*
6. *Wastewater generation - Supply Chain*
12. *Hazardous Chemical Discharge Management*

References

- Aratrakorn, Thunhikorn, & Donald, 2006
- Arcenas, Holst, Ono, & Valdin, 2010
- Arimoro, 2009
- Asia & Akporhonor, 2007
- China Water Risk, 2011
- Jacques, Agogino, & Guimaraes, 2010
- Llorenc et al, 1998
- Rydin, Black, Scalet, and Canova, 2013
- Swarna Smitha, Raghavendra, Shruthi, & Girish, 2012

INTERMEDIATE PRODUCTION

3. Production impacts - Synthetic materials

Production of synthetic (polyester, nylon, etc.) and semisynthetic (rayon, viscose, etc.) materials for use in textile manufacturing may lead to impacts from energy consumption, wastewater generation, resource use, worker exposure to chemicals and other hazards, as well as risk of labor rights issues.

Related Improvement Opportunities

1. *Apply a wastewater pretreatment after PET fiber production*
14. *Use life cycle assessments to understand human health and environmental impacts of product life cycles*
15. *Implement an environmental management system*

KPIs

1. *Synthetic material sourcing*
13. *Product Design*

References

- Ashbee, Frank & Wyatt, 1967
- Bartolome, Imran, Cho, Al-Masry, & Kim, 2012
- Bassi, Tan, & Mbi, 2012
- Lithner, 2011
- European Commission, 2003a
- European Commission, 2007c
- Ho & Choi, 2012
- Huijbregts et al., 2010
- International Energy Agency, 2008
- International Labour Organization, 2013
- International Labour Organization, 2015
- International Labour Organization, 2018
- International Labour Organization, 1993
- KEMA, 2012
- Natural Resources Defense Council, 2011
- Neelis, Worrell, & Masanet, 2008
- Shen, Nieuwlaar, Worrell, & Patel, 2011
- Swaminathan, 2011
- Thiriez & Gutowski, 2006
- Vidal, Martinez, & Garrain, 2009
- Weissman, Ananthanarayanan, Gupta, & Sriram, 2010
- Yang, 2009

4. Air quality - Tanneries

Volatile organic compounds are released the tanning process. In the drying and curing of finishing agents, air emissions are produced from the finishing agents themselves as well as from other substances carried over from upstream processes. Leather dust is created when leather is cut, ground for sizing, and before application of adhesives, and polished. Leather production processes in the tanyard have the greatest impact on human health by producing respiratory organics and carcinogens.

Related Improvement Opportunities

2. *Collaborate with supply chain partners on sustainable initiatives*

KPIs

7. *Worker Health and Safety - Supply Chain*

References

- Gangopadhyay, Ara, Dev, Ghosal, & Das, 2011
- Rivela, Moreira, Bornhardt, Mendez, & Feijoo, 2004
- Rydin, Black, Scalet, and Canova, 2013

MANUFACTURING AND ASSEMBLY

5. Chemical use - Manufacturing

Adhesives, solvents, and other harmful chemicals used in production can lead to adverse health effects for workers and residual contamination of products, which can have health hazards for consumers. These chemicals can also be released into wastewater and ecosystems, and can leach into landfills upon product disposal.

Related Improvement Opportunities

5. *Provide proper training for footwear manufacturer workers*

KPIs

8. *Air quality - Manufacturing*
12. *Hazardous Chemical Discharge Management*

References

- Borchardt, Wendt, Pereira, & Sellitto, 2011
- Gangopadhyay, Ara, Dev, Ghosal, & Das, 2011
- Heuser, Andrade, Silva, and Erdtmann, 2005

6. Energy Consumption - Manufacturing, finished goods production Energy use for textile finished goods production leads to non-renewable resource depletion and climate change from greenhouse gas emissions. **Related Improvement Opportunities** ***9.*** *Implement industrial energy management programs and goals* **KPIs** ***9.*** *Greenhouse gas emissions intensity - Manufacturing*	**References** ▪ Laursen et al., 2007 ▪ Nanjing University, 2014a
7. Worker health and safety - Manufacturing, finished goods production Workers are at risk of several health and safety challenges associated with the production of finished goods. These challenges include injuries associated with working with machinery as well as injuries sustained from insufficient building safety, including fires and building collapse. Workers may also inhale airborne particulates such as fibers that can have adverse effects on their respiratory systems. **Related Improvement Opportunities** ***10.*** *Develop a factory fire safety improvement program* ***11.*** *Require appropriate use of personal protective equipment (PPE) and post informational guidelines for worker safety* **KPIs** ***11.*** *Worker Health and Safety - Manufacturing*	**References** ▪ Absar, 2001 ▪ Ahmed, 2004 ▪ Akhter, Salahuddin, Iqbal, Malek, & Jahan, 2010 ▪ Paul-Majumder & Begum, 2000
8. Labor rights - Leather Goods Production Workers are at risk of several labor rights challenges. These challenges include unfair pay, discrimination, challenges to join unions and collectively bargain, long working hours, child and forced labor, and dangerous working conditions. Women, migrants, and other marginalized populations are at an increased risk of facing these challenges. **Related Improvement Opportunities** ***12.*** *Develop protocol for compensation of families of workers who are affected by occupational accidents and diseases* ***13.*** *Corporate policy and action plan for improving the sub-contracting process in manufacturing* ***16.*** *Implement labor management and equality monitoring programs* **KPIs** ***10.*** *Labor Rights - Manufacturing*	**References** ▪ Absar, 2001 ▪ Ahmed, 2004 ▪ Akhter, Salahuddin, Iqbal, Malek, & Jahan, 2010 ▪ Bureau of International Labor Affairs, 2011 ▪ Paul-Majumder & Begum, 2000
9. Social impacts - Material production Activities associated with the production of leather may create negative social impacts involving child labor use, forced labor, access to material and immaterial resources, fair income, and worker health and safety. **Related Improvement Opportunities** ***2.*** *Collaborate with supply chain partners on sustainable initiatives* ***13.*** *Corporate policy and action plan for improving the sub-contracting process in manufacturing* **KPIs** ***3.*** *Animal Welfare Certifications and Audits* ***7.*** *Worker Health and Safety - Supply Chain*	**References** ▪ Albers, Canepa, & Miller, 2008 ▪ Chan, 2002 ▪ Delaney, Burchielli, & Connor, 2014 ▪ Heuser, Andrade, Silva, and Erdtmann, 2005 ▪ Jacques, Agogino, & Guimaraes, 2010 ▪ Swedish Society for Nature Conservation, Prevodnik, 2011

10. Chemical use - Manufacturing, wet processing

Dyes, dyeing accelerants, and other chemicals used in textile production can lead to adverse health effects for workers, to residual contamination of products, to the release of harmful chemicals into the wastewater and ecosystems, and to leaching into landfills upon product disposal.

Related Improvement Opportunities

6. *Waterless dyeing technologies*
7. *Use plasma technology in dyeing and finishing*
8. *Automate preparation and dispensing of chemicals*

KPIs

11. *Worker Health and Safety - Manufacturing*

References

- Babu, Parande, Raghu, & Kumar, 2007
- Brigden, Labunska, House, Santillo, & Johnston, 2012
- Cotton Incorporated & PE International, 2012
- Nanjing University, 2014b
- Nanjing University, 2014a
- Steinberger, Friot, Jolliet, & Erkman, 2009

END-OF-LIFE AND DISPOSAL

11. Product Disposal - Landfilling

Chemical presence, such as dyes, thalates, and plasticizers, in textile production can leach out of landfills upon product disposal leading to ecotoxicity in surrounding ecosystems. Combustion of fossil fuels for transportation to landfills leads to greenhouse gas emissions.

Related Improvement Opportunities

17. *Implement business models for product reuse*

KPIs

13. *Product Design*

References

- Brigden, Labunska, House, Santillo, & Johnston, 2012

Improvement Opportunities

Improvement opportunities are practices that address one or more environmental or social hotspots and are actionable by brand manufacturers or their suppliers. TSC evaluates the quality of the evidence supporting each improvement opportunity according to a defined decision tree before including it in the CSP. For more information on the methodology TSC uses to identify hotspots visit: http://www.sustainabilityconsortium.org/toolkit-methodology

RAW MATERIAL PROCESSING

1.	**Apply a wastewater pretreatment after PET fiber production** Before sending wastewater from PET production to a wastewater treatment plant, apply a wastewater pretreatment such as stripping or recycling. **Related Hotspots** ***3.*** *Production impacts - Synthetic materials*	**References** ▪ European Commission, 2007c

AGRICULTURE AND LIVESTOCK

2.	**Collaborate with supply chain partners on sustainable initiatives** Industries and supply-chain entities should partner with small land-holders using environmental methods of agriculture and send teachers to those small land-holders that can teach them new methods and techniques for producing an improved quality of rubber that can be competitive and still follow conservation principles. **Related Hotspots** ***2.*** *Environmental impacts - Material production* ***4.*** *Air quality - Tanneries* ***9.*** *Social impacts - Material production*	**References** ▪ Jacques, Agogino, & Guimaraes, 2010
3.	**Implement animal welfare best practices during transport** Seek out and implement practices associated with transport of animals that maximize animal welfare. Considerations may include loading density, temperature and moisture control, ventilation, and transportation time. **Related Hotspots** ***1.*** *Animal welfare - Material production*	**References** ▪ Compassion in World Farming, 2006 ▪ EU Council Regulation No. 1/2005, 2005
4.	**Implement animal welfare programs, plans, and practices on-farm** Animal welfare programs, plans, or practices should address several aspects, including comprehensive veterinary care, proper herd management, reasonable housing conditions, and general minimization of pain and fear throughout the animal's life. The Five Freedoms provide principles on which good animal welfare is based. **Related Hotspots** ***1.*** *Animal welfare - Material production*	**References** ▪ World Organisation for Animal Health, 2016a

MANUFACTURING AND ASSEMBLY

5. Provide proper training for footwear manufacturer workers Workers should be trained in the safe handling of chemicals, proper use of machinery, sanitary waste separation, proper use of personal protective equipment, and energy saving practices. **Related Hotspots** ***5.*** *Chemical use - Manufacturing*	**References** ▪ Albers, Canepa, & Miller, 2008 ▪ Heuser, Andrade, Silva, and Erdtmann, 2005
6. Waterless dyeing technologies Technologies developed that use carbon dioxide as solvent to dye textile materials have the potential to reduce water use, energy use, and water contamination in the dyeing process. **Related Hotspots** ***10.*** *Chemical use - Manufacturing, wet processing*	**References** ▪ Hasanbeigi, 2013 ▪ McGinley, 2011
7. Use plasma technology in dyeing and finishing Plasma technology involves the use of mixtures of partially ionized gases to cleave covalent bonds on the surfaces of textiles. Plasmas can be used in applications of pre-treatment for dyeing and printing and in the application of other finishing treatments. Plasma treatment, as compared to traditional techniques, reduces energy use, uses less water, uses no solvents, produces no effluent, and results in savings in dyestuff and finishing auxiliaries. **Related Hotspots** ***10.*** *Chemical use - Manufacturing, wet processing*	**References** ▪ Hasanbeigi, 2013
8. Automate preparation and dispensing of chemicals Automating the preparing and dispensing of chemicals allows for more control of the process, improved performance, and a safer and healthier working environment. **Related Hotspots** ***10.*** *Chemical use - Manufacturing, wet processing*	**References** ▪ European Commission, 2003a
9. Implement industrial energy management programs and goals Implementing energy-management programs and setting goals can optimize energy use. **Related Hotspots** ***6.*** *Energy Consumption - Manufacturing, finished goods production*	**References** ▪ Cartwright et al., 2011 ▪ Hasanbeigi, 2010
10. Develop a factory fire safety improvement program Sufficient and clear emergency exit signage, communicating evacuation protocol to workers, accessible and unlocked emergency exits, and safe electrical wiring at garment manufacturing facilities can lead to reduced health and safety risks from factory fires. **Related Hotspots** ***7.*** *Worker health and safety - Manufacturing, finished goods production*	**References** ▪ Akhter, Salahuddin, Iqbal, Malek, & Jahan, 2010

11. Require appropriate use of personal protective equipment (PPE) and post informational guidelines for worker safety Providing personal protective equipment (masks, gloves, protective clothing) and posting informational guidelines for use and worker safety may help to reduce exposure to hazardous chemicals and particulates where prevention interventions are ineffective. **Related Hotspots** ***7.*** *Worker health and safety - Manufacturing, finished goods production*	**References** ▪ Akhter, Salahuddin, Iqbal, Malek, & Jahan, 2010
12. Develop protocol for compensation of families of workers who are affected by occupational accidents and diseases Companies should develop a protocol for compensating workers who are affected by occupational injuries and exposures. **Related Hotspots** ***8.*** *Labor rights - Leather Goods Production*	**References** ▪ Akhter, Salahuddin, Iqbal, Malek, & Jahan, 2010
13. Corporate policy and action plan for improving the sub-contracting process in manufacturing Create a corporate policy and action plan for monitoring, setting goals, and tracking progress for improving safety conditions for subcontractors. **Related Hotspots** ***8.*** *Labor rights - Leather Goods Production* ***9.*** *Social impacts - Material production*	**References** ▪ Akhter, Salahuddin, Iqbal, Malek, & Jahan, 2010

IMPROVEMENT OPPORTUNITIES FOR MULTIPLE LIFE CYCLE STAGES

14. Use life cycle assessments to understand human health and environmental impacts of product life cycles Product life cycle assessments (LCAs) provide a resource for improved decision-making based on an assessment of many environmental and human health impacts associated with a product life cycle. **Related Hotspots** ***3.*** *Production impacts - Synthetic materials*	**References** ▪ The Sustainability Consortium (Cotton Polyester Blend Textiles), 2016 ▪ The Sustainability Consortium (Rayon Textiles), 2016
15. Implement an environmental management system Implement an environmental management system that follows an established standard, such as ISO 14000, to provide procedures for detecting and improving environmental and efficiency issues. **Related Hotspots** ***3.*** *Production impacts - Synthetic materials*	**References** ▪ European Commission, 2003a ▪ Ho & Choi, 2012
16. Implement labor management and equality monitoring programs Employers should implement labor management and equality monitoring to prevent discrimination in their labor and hiring policies and procedures along the lines of race, color, gender, age, religion, social class, political tendencies, nationality, sexual orientation, or civil status. **Related Hotspots** ***8.*** *Labor rights - Leather Goods Production*	**References** ▪ Kearney and Hays, 2007 ▪ Locke et al., 2007

17. Implement business models for product reuse

Product design and stewardship programs can extend useful life and reclaim reusable or recyclable material.

Related Hotspots

11. *Product Disposal - Landfilling*

References

- Cartwright et al., 2011

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Release Notes

*** 02.02.10, May 2021 ***
- In-text references and broken resource links (URLs) included in the KPI guidance were updated to the most recent available versions. Where no alternative resource was available, the item was substituted with a comparable resource or was removed.
Animal Welfare Certifications and Audits:
- Calculation & Scope: Reference to relevant THESIS KPI Sets for Animal Welfare has been added.
Priority chemicals - Management:
- KPI Title: Renamed to “Hazardous Chemical Discharge Management”.
- KPI Question: Reworded to cover chemicals on the ZDHC Manufacturing Restricted Substances List.
- Response Options: The term “priority chemicals” has been replaced with “chemicals on the ZDHC Manufacturing Restricted Substances List”
- Response Options: A response option to track reduction in the number of chemicals on the ZDHC Manufacturing Restricted Substances List has been added.
- Calculation & Scope: Text added to support the response option changes and additions above.
- Certifications, Standards & Tools: References added to support the response option changes and additions above.
Synthetic material sourcing:
- Response Options: Quantitative response option added to track percentage of supply that is polyester.
Wastewater generation - Supply chain:
- Certifications, Standards & Tools: References updated to support recent initiatives.
02.01, May 2020
-In-text references and broken resource links (URLs) included in the KPI guidance were updated to the most recent available versions.

-Product design KPI: some linked items were not properly displaying in the guidance; these errors have been corrected and the linked items restored. In addition, the following certifications, standards, tools, and/or definitions will be added: Cradle to Cradle Certification, Bluesign standard, B Corp certification, ISO 14044:2006, ISO 14040:2006, and ISO /TC 207/SC 5.

-Alignment with Higg FEM was made explicit by including specific language in guidance for the following KPIs:
  -Greenhouse Gas Emissions Intensity - Supply Chain
  -Wastewater Generation - Supply Chain
  -Water Use - Supply Chain
  -Priority chemicals

02.00, June 2019
-Category created based on previous category- Leather Goods and Footwear. The following KPI was added to make the category more material inclusive:
  -Synthetic Material Sourcing
-The following KPIs were updated as part of sector revisions:
-Air Quality - Manufacturing guidance was updated to be more specific.
-Equality of Treatment for Homeworkers - Manufacturing KPI response option A was updated with language to verify that homeworkers are not used.
-Cross-sector social KPIs were updated with new questions and response options. KPIs affected:
-Worker Health and Safety - Supply Chain
-Labor Rights - Manufacturing
-Product Design KPI was updated with new question, guidance, and response options in order to assess every stage of product's life cycle.

TSC’s Multi-stakeholder Process
The Sustainability Consortium (TSC) is a multi-stakeholder organization comprised of leading companies, non-profit organizations, and other members that represent broad perspectives on sustainability. To build a KPI set that can be deployed widely, TSC acknowledges that members have diverse points of view. As such, the attributes, activities, KPIs, and scoring used in this KPI set represent a composite perspective of the current market and are not necessarily the views, policies, or program of any single member of TSC.

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