
Recycled Polyester Guidelines Industry Standard Implementation Approach

Version 1.0
December 2024



Introduction

ZDHC has developed the Recycled Polyester Guidelines V1.0 to provide a framework for sustainable chemical management in recycled polyester production for bottle-to-textile and textile-to-textile recycling processes. These guidelines set requirements for recycled polyester manufacturers on key chemicals used in their production processes including; the recovery and reuse of these chemicals, safe chemical storage and handling, worker safety and the environmental impacts of wastewater, air and sludge.

The guidelines address input, process and output management. Input management includes responsible sourcing and handling of feedstock, such as post-consumer PET bottles, pre- and post-consumer textile waste, as well as input chemical management. Process management covers the requirements to ensure that chemicals used in manufacturing are managed responsibly by recycling solvents, safe storage and handling of chemicals for worker safety, both in mechanical and chemical recycling processes. Finally, output management focuses on wastewater, sludge and air emissions resulting from recycled polyester production.

ZDHC has created this implementation approach document to underline the steps and actions necessary to implement the guidelines and support the stakeholders involved. With this release, ZDHC expects all relevant stakeholders to collaborate towards successful industry implementation.

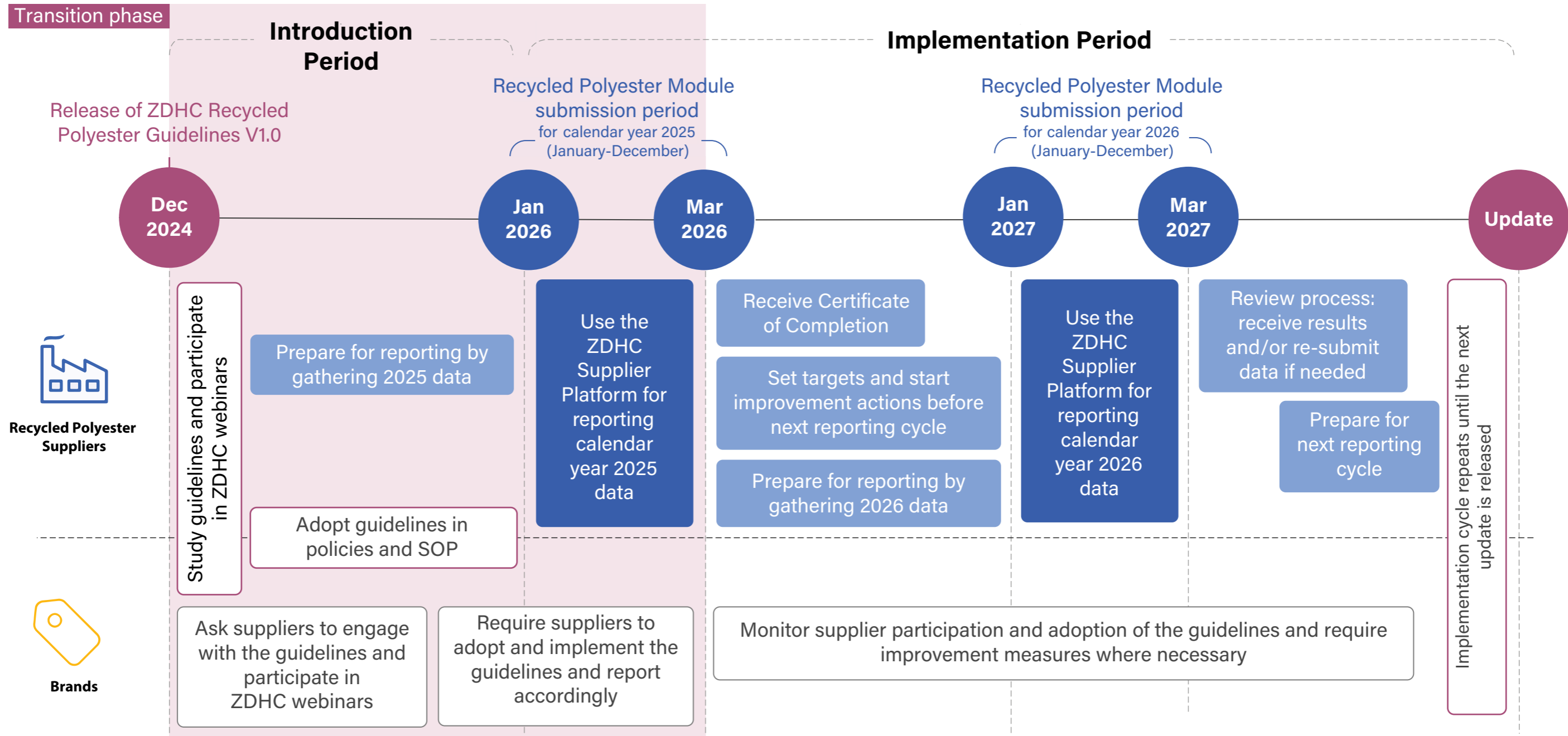
The key stakeholder group identified by ZDHC to implement these guidelines is:

- 1) Recycled polyester facilities (hereafter referred to as “recycled polyester suppliers”).

And the key stakeholder groups identified by ZDHC to engage with the implementation of these guidelines are:

- 1) Brands and retailers
- 2) Suppliers using recycled polyester
- 3) ZDHC Approved Wastewater Labs and ISO 17025 accredited wastewater labs

Industry Standard Implementation Approach – Overview



2.0 Introduction Period

The introduction period will run from December 2024 to December 2025. During this time, the ZDHC Recycled Polyester Guidelines V1.0 will be introduced to the industry through webinars aimed at raising awareness and informing key stakeholders in preparation for the implementation period. It is recommended that all relevant supply chain actors ensure responsible staff participate in these webinars.

The transition phase, which includes the introduction period, serves as a key step enabling the supply chain to adopt these guidelines, prepare for the first submission period and take proactive measures to enhance their chemical management practices.

Throughout the introduction period, stakeholders are expected to update their policy statements, such as chemical management policies and communicate these updates to both internal and external stakeholders, referencing the ZDHC Recycled Polyester Guidelines V1.0 to set clear expectations.

- Recycled polyester suppliers should prepare for reporting on the ZDHC Supplier Platform on the Recycled Polyester Module starting from January 2026.
- Brands and retailers should communicate with their supply chain that they have adopted the ZDHC Recycled Polyester Guidelines V1.0 and set clear requirements related to the guidelines, including requesting suppliers to begin preparing for reporting on the ZDHC Supplier Platform Recycled Polyester Module starting from January 2026.
- New wastewater labs are encouraged to seek ZDHC approval to facilitate testing logistics during the implementation period.

3.0 Implementation Period

The implementation period starts with the first reporting cycle for the ZDHC Recycled Polyester Guidelines V1.0, beginning on 1st January 2026 and ending on 31st March 2026. The general implementation period will continue with yearly assessment cycles until the publication of the next guidelines update. During this period, supply chain stakeholders must take concrete steps to put adoption measures into practice. These may include training, testing and tracking results, among other possible actions.

Year 1 (calendar year 2025) - transition phase

The first reporting cycle will be considered a transition phase in which suppliers will report on the ZDHC Supplier Platform via a self-assessment module based on the requirements in the guidelines. The assessment will not be verified by a third-party reviewer. Requirements for selecting wastewater testing labs can be found below. Suppliers will then receive a Recycled Polyester Module V1.0 Certificate of Completion.

Year 2 (calendar year 2026) and onwards - verified assessment

Starting with the second reporting cycle, the implementation of the guidelines will be carried out through a verified assessment module on the ZDHC Supplier Platform. Suppliers will receive a Certificate of Completion with the score achieved and an assessment report that can be used to identify opportunities for improvement.

In conclusion, the successful implementation of the Recycled Polyester Guidelines V1.0 entails the completion of its Supplier Platform Module. In year one suppliers

are to complete a self-assessment to receive a Certificate of Completion. From year two suppliers should complete a verified assessment to ensure they meet the guidelines requirements and achieve at least a Foundational Level outcome.

All relevant stakeholders are encouraged to implement and/or engage with the ZDHC Recycled Polyester Guidelines V1.0 during the implementation period through the following steps.

- Recycled polyester suppliers are expected to report annually on the ZDHC Supplier Platform via the Recycled Polyester Module between 1st January and 31st March each year.

→ By the end of the respective submission year, suppliers should have established or revised their improvement goals, repeating this process annually.

- Suppliers should approach ZDHC Approved Wastewater Labs in the respective regions to complete their wastewater testing. Only in the cases where there aren't any ZDHC Approved Wastewater Labs in the region, suppliers should find alternative laboratories to conduct wastewater testing. These must have an ISO 17025 accreditation with the relevant test methods included in the accreditation scope for the ZDHC Recycled Polyester Guidelines V1.0.*

- This means brands and retailers, as well as suppliers using recycled polyester, should engage with their recycled polyester suppliers to:

- Ensure the outlined requirements are being met.
- Assure improvement measures are being taken.
- Conduct monitoring and evaluation activities.

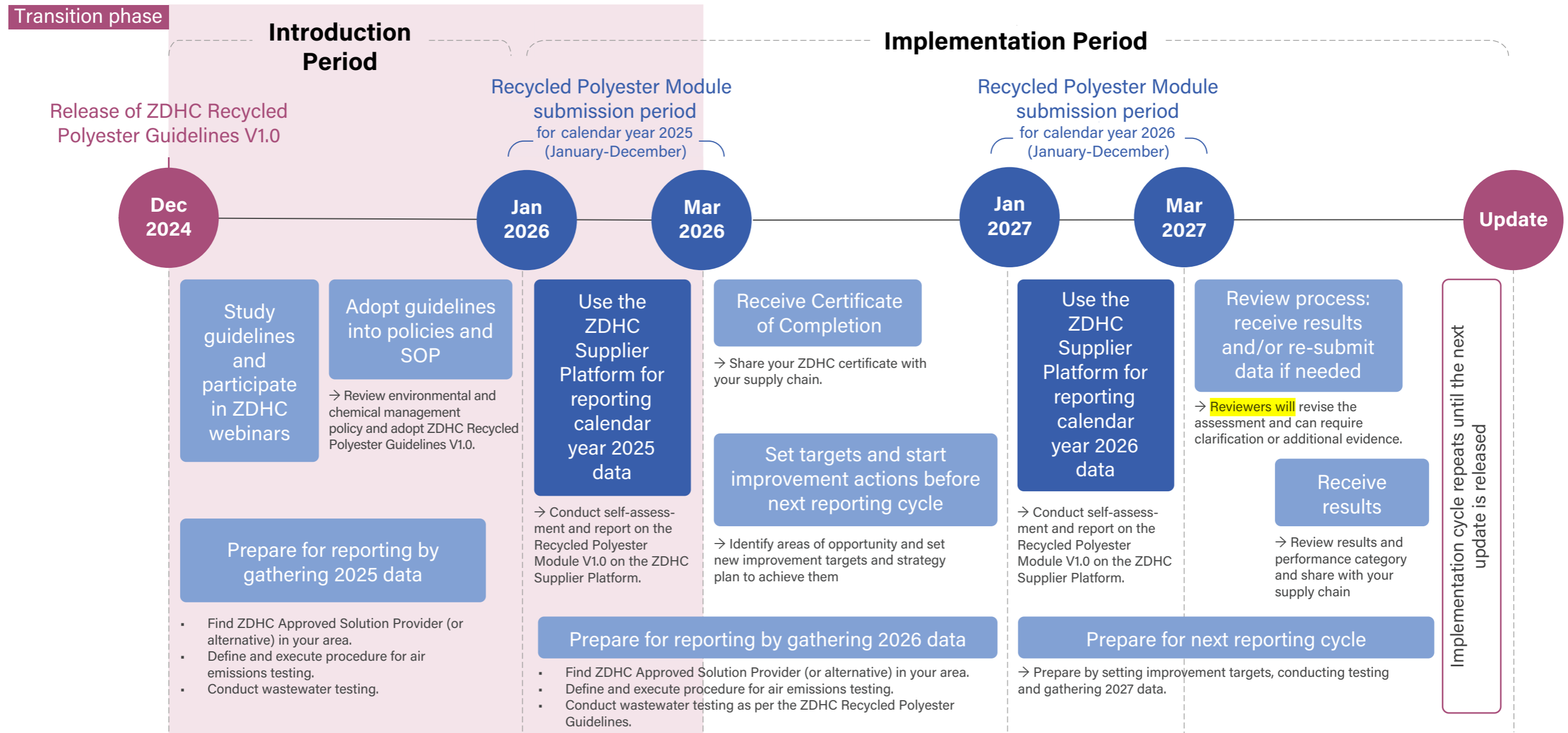
→ Open dialogue with suppliers is encouraged to better understand the reported data, identify opportunities for improvement and work on an informed improvement roadmap.

* Suppliers should inform ZDHC (support@zdhc.org) if they are using alternative test methods for wastewater.

Industry Standard Implementation Approach – Suppliers



Recycled Polyester Suppliers



Summary of Requirements



Recycled Polyester Suppliers

| Type of Recycling | Requirements | Implementation Approach |
|---|---|---|
| Input Management | | |
| Mechanical, thermomechanical, hydrothermal and all chemical recycling | <p>Mandatory requirements</p> <ul style="list-style-type: none"> Record input materials in a Material Inventory List (MIL). Record all purchased chemicals in the ZDHC Chemical Inventory List (CIL). Maintain Safety Data Sheets (SDS) and Technical Data Sheets (TDS) and record the information in the CIL. <p>Voluntary requirements (for guidance and preparation for future updates):</p> <ul style="list-style-type: none"> Assess input feedstock for hazardous substance risks. Familiarise with the ZDHC MRSL and encourage chemical suppliers to register their products on the ZDHC Gateway. | Upload comprehensive records of MIL and CIL onto the ZDHC Supplier Platform for the calendar year (1 st January to December 31 st). |
| Process Management | | |
| Mechanical, thermomechanical, hydrothermal and all chemical recycling. (solvent recovery applies only to chemical recycling facilities) | <p>Mandatory requirement</p> <p>Solvent recovery (applicable only to chemical recycling facilities)</p> <ul style="list-style-type: none"> Glycolysis process: Ethylene glycol recovery Glycolysis followed by transesterification: Ethylene glycol and methanol recovery Methanolysis process: Methanol recovery <p>Voluntary requirements (for guidance and preparation for future updates):</p> <ul style="list-style-type: none"> Safe chemical storage Chemical handling and worker safety Training plan for chemical management | Upload comprehensive records of solvent recovery onto the ZDHC Supplier Platform for the calendar year (1 st January to December 31 st). |
| Output Management | | |
| Mechanical, thermomechanical, hydrothermal and all chemical recycling | <p>Mandatory requirements</p> <p>Wastewater and sludge</p> <ul style="list-style-type: none"> Test wastewater for conventional parameters and heavy metals twice a year (April and October cycles). Undertake a Root Cause Analysis (RCA) and a Corrective Action Plan (CAP) for any non-conformities detected. Report the major sludge disposal pathway used. | Upload wastewater test report (twice a year) based on April and October cycles), RCA, CAP details and sludge disposal pathway declaration onto the ZDHC Supplier Platform. |
| Mechanical, thermomechanical, hydrothermal recycling | <p>Mandatory requirements</p> <p>Air emissions</p> <ul style="list-style-type: none"> Quantify, track and report GHG (Scope 1 and Scope 2) emissions on the ZDHC platform. | Upload comprehensive records of GHG emissions onto the ZDHC Supplier Platform for calendar year (1 st January to December 31 st). |
| Chemical recycling | <p>Mandatory requirements</p> <p>Air emissions</p> <ul style="list-style-type: none"> Quantify, track and report GHG (Scope 1 and Scope 2). Quantify, track, test and report VOC (methanol, ethylene glycol, acetaldehyde and non-methane total hydrocarbons) emissions. | Upload comprehensive records of GHG emissions. Add to the ZDHC Supplier Platform after emissions. Test VOC emissions and upload the report to the ZDHC Supplier Platform for calendar year (1 st January to December 31 st). |



Industry Standard Implementation Approach – Brands

