

Prepared by DigitalTrade4.EU

Enhancing Chemical Export Controls through Digital Trust and Sustainability

Feedback to the EU Commission

July 2025

About Us

The **DigitalTrade4.EU consortium** envisions a **seamlessly interconnected Europe** and **neighbouring regions** powered by harmonized standards for the digitalisation of trade documents and processes. By fostering the digital transformation of trade, we aim to promote economic integration, enhance cooperation, and ensure long-term trade facilitation across borders.

Our consortium is made up of **experts in their field**, including **107 full partners**—trade associations, logistics providers, shipping lines, banks and insurances, technology innovators, etc.—**from 17 European Union countries** (*France, Belgium, Netherlands, Austria, Estonia, Finland, Italy, Latvia, Spain, Germany, Sweden, Poland, Luxembourg, Lithuania, Slovenia, Denmark, Bulgaria*) and **22 non-EU countries** (*United Kingdom, Switzerland, Montenegro, Japan, Singapore, Hong Kong, Australia, New Zealand, India, Nepal, Canada, United States of America, Cameroon, Morocco, Egypt, Kenya, Pakistan, Nigeria, Brazil, Uzbekistan, Turkey, Ukraine*).

Our consortium is already **aligned with the fundamentals** of the **EU Competitiveness Compass**. Learn more:

- How DigitalTrade4.EU Can Help Achieve the Objectives of the EU Competitiveness Compass (February 2025)

<https://www.digitaltrade4.eu/how-digitaltrade4-eu-can-help-achieve-the-objectives-of-the-eu-competitiveness-compass/>

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Glossary of Terms

- **DPP (Digital Product Passport):** a digital record providing verifiable data on a product's composition, origin, lifecycle, and environmental footprint, as defined in (EU) Regulation 2024/1781 (Ecodesign for Sustainable Products Regulation).
- **LEI (Legal Entity Identifier):** a globally unique, ISO 17442-compliant identifier for legal entities, governed by a global, accredited operating entity.
- **vLEI (Verifiable Legal Entity Identifier):** ISO 17442-3, is a digitally signed credential compatible with Regulation (EU) 2024/1183 (eIDAS 2.0), enabling secure and automated entity identification and authorisation, issued by an authorized global operating entity within the LEI ecosystem.
- **REACH:** Regulation (EC) No 1907/2006, governing the registration, evaluation, authorization, and restriction of chemicals within the European Union to protect human health and the environment.
- **SVHC (Substance of Very High Concern):** A chemical substance identified as posing significant risks to human health or the environment due to its hazardous properties.
- **CMR (Carcinogenic, Mutagenic, or Toxic for Reproduction):** Substances classified as capable of causing cancer, genetic mutations, or adverse effects on reproductive health.

Executive Summary

The DigitalTrade4.EU consortium welcomes the European Commission's draft delegated regulation amending Regulation (EU) No 649/2012. As the EU strengthens its oversight of hazardous chemical exports and imports, it is essential to align such measures with Europe's broader **green-digital policy objectives**. This feedback proposes five key recommendations to ensure the regulation supports not only environmental protection and international obligations, but also the **development of transparent, interoperable, and sustainable supply chains**.

Key messages include:

- **Integrating Digital Product Passports (DPPs)** with chemical export procedures to improve traceability and verifiability.
- **Linking compliance with ESG metrics** to incentivize cleaner production and enable access to sustainable finance.
- **Adopting LEIs and vLEIs** to improve digital trust and secure cross-border regulatory processes.
- **Aligning with international digital frameworks** such as DEPA and UNECE to ensure consistency and reduce trade friction.
- **Supporting SMEs through targeted training** to help them adapt to digital compliance systems under Regulation 649/2012.

This feedback aligns with the DigitalTrade4.EU roadmap on green-digital trade leadership and encourages the Commission to take further steps to modernize the implementation of chemical legislation through digital means.

DigitalTrade4.EU brings together experts from trade, logistics, technology, and finance to drive the digital and sustainability transformation of European trade systems.

Introduction

This introduction provides background on the regulation and explains the context in which the DigitalTrade4.EU consortium is submitting its feedback. It outlines the regulatory framework governing hazardous chemical trade and highlights the opportunities for digital and sustainability integration.

The DigitalTrade4.EU consortium welcomes the opportunity to provide feedback on the draft delegated act amending **Regulation (EU) No 649/2012** concerning the export and import of hazardous chemicals. As an alliance committed to advancing a green and digital European trade ecosystem, we see this revision as an important step in enhancing **sustainability, transparency**, and trust in global supply chains.

The regulation of hazardous chemicals in cross-border trade is central to protecting both human health and the environment. The European Union's legal framework is strongly influenced by **international conventions** and global best practices. In particular, the **Rotterdam Convention** on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, and the **Stockholm Convention** on Persistent Organic Pollutants (POPs), both of which the EU is a party to, serve as key reference points for the Union's own rules. The Rotterdam Convention establishes a system for information exchange and consent between exporting and importing countries for certain hazardous chemicals, thereby improving transparency and risk management on a global scale. The Stockholm Convention, meanwhile, focuses on eliminating or restricting the production and use of **persistent organic pollutants**—chemicals that remain in the environment for long periods and pose significant risks to human health and ecosystems.

Within the EU, the **REACH Regulation** (Regulation (EC) No 1907/2006) provides a comprehensive system for the **Registration, Evaluation, Authorisation, and Restriction of Chemicals**. REACH not only sets high standards for chemical safety within the EU but also impacts exporters and importers by placing obligations on those wishing to place substances on the market. These frameworks are interlinked: Regulation (EU) No 649/2012 builds upon **international commitments** and the rigorous requirements of REACH, ensuring that exports

of hazardous chemicals from the Union are subject to robust controls, equivalent to the standards required for substances used within the EU itself.

We commend the Commission's efforts to align chemical listings with evolving Union law, international agreements such as the **Rotterdam** and **Stockholm Conventions**, and obligations under the **REACH Regulation**. This alignment is crucial, as it guarantees that EU action remains consistent with international norms, prevents “dumping” of banned or severely restricted substances in third countries, and enhances the EU's credibility as a leader in **green and responsible trade**.

At the same time, the ongoing evolution of **digital technologies**, sustainability standards, and international trade frameworks offers a strategic opportunity to further modernize and future-proof chemical export controls. The intersection of green and digital policy goals can unlock new synergies, including improved data traceability, real-time monitoring, and more effective compliance through **interoperable digital systems**.

However, we also see a strategic opportunity to further embed green-digital synergies in the regulation's implementation. By integrating digital tools such as **Digital Product Passports (DPPs)**, **Legal Entity Identifiers (LEIs)**, and international digital compliance frameworks, the EU can strengthen both the **effectiveness** and **efficiency** of its chemical export regime. This will not only reinforce the goals of the **Green Deal** and **Digital Decade**, but also help position Europe as a global standard-setter for sustainable and trusted trade.

Note: In this document, the terms **Small and Medium-sized Enterprises (SMEs)** and **Micro, Small and Medium-sized Enterprises (MSMEs)** are used interchangeably and carry the same meaning and weight. This clarification is important because different sources and contexts may refer to these groups using either acronym, but both encompass the full range of smaller business categories critical for economic development.

Approach and Recommendations

1. Digital Product Passports (DPPs) for Chemical Traceability

Recommendation: Integrate Digital Product Passports (DPPs) into the export notification and compliance processes under Regulation 649/2012.

Justification:

- The Digital Product Passport (DPP) framework under the EU Sustainable Products Initiative provides traceability and integrates environmental data, which can significantly improve chemical tracking compared to current Chemical Abstracts Service (CAS)-based systems.
- Harmonizing 649/2012 procedures with DPP architecture will support more verifiable declarations for export notifications and better monitoring of hazardous substances along the value chain.
- This is particularly relevant for substances now subject to bans or severe restrictions under REACH and Regulation (EU) 2019/1021, Persistent Organic Pollutants (POPs) legislation.

2. ESG-Linked Trade Finance and Export Incentives

Recommendation: Consider aligning chemical export compliance with environmental, social, and governance (ESG) metrics to improve access to green trade finance.

Justification:

- Several chemicals now restricted under the draft regulation (e.g. SVHCs or CMRs) pose significant ESG risks. Several chemicals now restricted under the draft regulation (e.g., Substances of Very High Concern (SVHCs) or Carcinogenic, Mutagenic, or Toxic for Reproduction (CMRs)) pose significant environmental, social, and governance (ESG) risks due to their impact on human health and ecosystems.

- Enterprises proactively avoiding such substances should be eligible for improved access to sustainable finance (e.g., InvestEU, green bond guarantees) or receive recognition in Carbon Border Adjustment Mechanism (CBAM) adjustment schemes. This would not only reduce financial barriers for sustainable businesses but also create a level playing field by rewarding responsible chemical trade practices.
- Linking compliance with ESG performance will reinforce the Green Deal's goals and incentivize sustainable production and sourcing.

3. The Need for Transparent Party Identification

Recommendation: Mandate or promote the use of LEIs and vLEIs for exporters and importers under Regulation 649/2012. ISO standard 17442 (Legal Entity Identifier) can solve the critical problem of insufficient transparency in party identification in Digital Product Passports. Requiring consistent use of a global entity identification standard – ISO 17442 – enhances trust, traceability, and accountability across digital ecosystems.

Justification:

- **LEIs** and **vLEIs** provide trusted and unique digital identification for legal entities engaged in cross-border trade.
- **vLEIs** use **Authentic Chained Data Containers (ACDC)** to create cryptographically secure, machine-readable credentials that verify business roles and relationships.
- Enable “**graduated disclosure**,” allowing entities to share only necessary information in a secure, step-by-step manner.
- Strengthen both **technical and human trust** through robust governance by recognized issuers such as **GLEIF**¹.
- Streamline export notification processes and improve interoperability between customs and regulatory systems.
- Reduce the risk of fraud and errors in chemical shipments and compliance documentation.

¹ GLEIF – Global Legal Entity Identifier Foundation
<https://www.gleif.org/en>

- Support the EU's goals for digital trust and secure trade facilitation, in line with **eIDAS 2.0**.

Incorporating **LEI** and **vLEI** into **EU digital infrastructure** is already aligned with broader legislative efforts—such as **Digital Operational Resilience Act (DORA)** and the **Anti-Money Laundering (AML) Regulation**—to create a secure, resilient, and interoperable digital **Single Market**. These globally recognized identifiers are essential for the EU's ambitions in **green-digital trade**, **military mobility**, and **strategic autonomy**, providing the backbone for trustworthy, cross-border data flows and supply chain transparency.

4. Global Harmonisation through DEPA and UNECE

Recommendation: Align substance listings and procedural standards with those developed in **Digital Economy Partnership Agreement (DEPA)**², **UNECE Recommendation No. 49 ("Transparency at Scale")**³, and other emerging international digital trade frameworks.

Justification:

- Several Asian and Latin American trading partners are adopting UNECE's digital traceability protocols.
- Coordination with the DEPA and UNECE CEFACT efforts would reduce friction and enhance mutual recognition of hazardous substance controls. This would also support EU exporters in navigating diverse international regulatory landscapes and reduce compliance costs.
- EU-Singapore and EU-ASEAN digital agreements offer pathways to advance such regulatory alignment.

5. Training and Capacity Building for SMEs

Recommendation: Launch a dedicated SME education and training initiative on Regulation 649/2012 in the context of digital and sustainable trade.

² Digital Economy Partnership Agreement (DEPA)

<https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/The-Digital-Economy-Partnership-Agreement>

³ United Nations Economic and Social Council. Recommendation No. 49: Transparency at Scale – Fostering Sustainable Value Chains (March 2025)

<https://unece.org/sites/default/files/2025-05/ECE-TRADE-C-CEFACT-2025-03E.pdf>

Justification:

- Small and medium-sized enterprises (SMEs) often encounter disproportionately high compliance burdens under chemical regulations due to limited awareness, technical capacity, and resource constraints.
- Integrating Regulation 649/2012 into EU-supported training platforms (e.g., a Green-Digital Trade Academy or Erasmus+ modules) would improve uptake of sustainable practices across supply chains.
- Support should be multilingual and sector-specific to reach SMEs across all Member States and major EU trading partners.

Specific Changes to the Legislation

1. New Recital (after Recital 15):

Proposed Amendment: *In view of the Union’s digital and environmental priorities, this Regulation should encourage the use of interoperable digital tools, such as Digital Product Passports under Regulation (EU) 2024/1781 (Ecodesign for Sustainable Products Regulation) and Legal Entity Identifiers (LEI), including the emerging verifiable Legal Entity Identifier (vLEI) framework, to improve transparency, traceability, and regulatory compliance in international chemical trade.*

Justification: This provides a legal basis for integrating new instruments like DPPs and LEIs without altering the substance of existing obligations. It creates regulatory coherence with the Sustainable Products Initiative, CBAM, and REACH.

2. New Article 4 – Digital Compliance Facilitation:

Proposed Amendment: Article 4 – Digital Compliance Facilitation

- 1. The Commission shall promote interoperability between export notification systems under this Regulation and the Digital Product Passport framework under the Sustainable Products Initiative.*
- 2. The Commission shall encourage the use of Legal Entity Identifiers (LEIs) and Verifiable Legal Entity Identifiers (vLEIs) for all entities subject to obligations under this Regulation.*
- 3. The Commission may issue guidance, in consultation with stakeholders, on digital tools supporting traceability, entity identification, and ESG risk disclosure in the context of this Regulation.*

Justification: This optional but forward-looking clause would provide a clear legal basis for adopting modern compliance tools that are already under development (e.g. eFTI, DPP, vLEI). It also supports the Commission’s own goals under eIDAS 2 and UNECE’s work on digital credentials in trade.

3. Annotation to Annex I:

Proposed Amendment: *In Annex I Part 1, add an asterisk to substances also listed in Annex XIV to REACH or Annex I to Regulation (EU) 2019/1021. Include footnote:*

** For substances marked with (*), exporters are encouraged to reference digital traceability documentation such as a Digital Product Passport when submitting an export notification.*

Justification: This is a soft law encouragement rather than a mandate, guiding exporters to prepare for future regulatory integration and harmonising reporting with the DPP system.

4. New Recital on SME Support (insert after new Recital 16):

Proposed Amendment: *(17) To facilitate effective compliance, particularly for small and medium-sized enterprises (SMEs), the Commission should develop guidance and training initiatives on digital compliance tools, including entity identification, traceability protocols, and environmentally sustainable chemical substitution.*

Justification: SMEs face a disproportionately high burden in navigating chemical compliance due to limited resources, technical expertise, and awareness of evolving digital and regulatory requirements. Therefore, targeted capacity-building initiatives are essential to ensure equitable compliance across all business sizes. This recital supports the creation of dedicated helpdesks, webinars, or modular training under COSME, Erasmus+, or Digital Europe.

5. Optional Reference to ESG-Aligned Incentives (Article 1):

Proposed Amendment (in Article 1): *Add: Where appropriate, the Commission may consider the alignment of substance restrictions under this Regulation with environmental, social and governance (ESG) criteria used in EU trade and finance policy. Such alignment could help integrate chemical trade controls into broader EU sustainability frameworks, including the Corporate Sustainability Reporting Directive (CSRD) and the EU Taxonomy for Sustainable Activities.*

Justification: This allows linkages between chemical controls and ESG reporting frameworks under CSRD, CBAM, or the EU Taxonomy without making them binding under this regulation. It supports the development of incentives for sustainable exporters.

Conclusion and Next Steps

The proposed delegated regulation is a vital technical update to EU chemical legislation. However, it also presents a **timely opportunity to operationalise the EU's dual green and digital transition goals** in the area of trade controls.

To support this, we recommend that the Commission:

- Initiates a **dedicated impact assessment** on integrating DPPs into chemical export regulation.
- Explores **regulatory sandboxes or pilot projects** to test the use of vLEIs, digital wallets, and IoT tracking for listed chemicals.
- Encourages **cooperation with DG ENV, DG TRADE, and DG GROW** to streamline ESG-aligned trade finance frameworks.
- Provides **SME-targeted guidance documents** or multilingual toolkits via Enterprise Europe Network or Green Deal Industrial Plan channels.
- Hosts **multi-stakeholder dialogues** with industry, NGOs, and Member States to co-create interoperable chemical traceability systems that are consistent with UNECE and DEPA principles.

We reaffirm our support for the Commission's leadership in modernising trade and environmental regulation, and we remain available for further consultation or technical input.

Appendix 1. EU Green-Digital Trade Leadership Roadmap (DigitalTrade4.EU, 2025)

#	activity	objective	indicative metrics	tools/enablers
1	EU-Singapore DTA & Expand DEPA Partnerships	Strengthen digital trade diplomacy in Asia through high-standard agreements.	- 5+ new digital trade agreements with key Asian partners (e.g., Japan, India, ASEAN) by 2030 - 15% increase in EU-Asia digital services trade by 2028	DEPA framework, EU-Singapore DTA, Global Gateway Initiative, eIDAS 2.0
2	Implement Digital Product Passports (DPPs)	Ensure traceable, sustainable supply chains aligned with EU Green Deal.	- 50% adoption of DPPs by 2030 - 20% reduction in supply-chain carbon intensity by 2030	EU Sustainable Products Initiative, CBAM incentives, UNECE Recommendation 49
3	Fund Secure Digital Corridors in Asia	Build interoperable digital infrastructure for EU-Asia trade, prioritizing cybersecurity resilience	- ~€2B allocated via NDICI-Global Europe - 10+ blockchain-based traceability pilots by 2027	NDICI-Global Europe, ASEAN digital customs systems, EU Customs Data Hub, ENISA threat intelligence platforms
4	Harmonize Digital Standards (MLETR/eIDAS 2.0)	Enable cross-border recognition of e-documents and digital identities.	- 90% mutual recognition of e-signatures by 2028 - 70% SME adoption of eIDAS wallets	MLETR framework, eIDAS 2.0, EU Transport Law updates, UN/UNECE protocols
5	Implement LEI and vLEI for Supply Chain Trust	Harmonise and simplify legal entity identification across borders	- 90% entity coverage with LEI by 2030; 50% vLEI use in customs and eFTI transactions	ISO 17442, vLEI, eIDAS 2.0, UNECE UID
6	Launch Green-Digital Trade Academy	Upskill SMEs and officials on DPPs and carbon accounting.	- 40% increase in SME participation by 2027 - 60% cost savings for SMEs	Erasmus+ grants, COSME programme, tiered compliance thresholds
7	Integrate ESG into Trade Finance	Link trade finance to sustainability metrics for cheaper capital access.	- €10B/year unlocked for green trade finance - 30% lower Scope 3 emissions by 2030	InvestEU guarantees, CSRD-aligned reporting, FinTech platforms
8	Enforce Platform Interoperability	Prevent vendor lock-in and empower SMEs.	- 100% compliance with CJEU rulings by 2026 - 50% reduction in platform dominance	Court of Justice of the European Union (CJEU) Case C-233/23, DEPA, eIDAS 2.0, Digital Markets Act (DMA)
9	Global Digitalisation Projects with EU Standards	Extend EU digital infrastructure and norms globally.	- 20+ co-funded projects by 2030 - 80% interoperability with EU systems	Digital Europe Programme, CEF funding, EU-Asia Digital Standards Taskforce
10	Advance UNECE Transparency Protocols	Globalize EU sustainability standards for supply chains.	- 100% alignment with UNECE Rec. 49 by 2028 - 30% reduction in greenwashing claims	UNECE CEFAC, W3C Verifiable Credentials, EU CBAM registry
11	Pilot CBAM-DPP Corridors	Link trade finance to verifiable ESG metrics for tariff incentives.	- 20% CBAM compliance cost reduction - 50% DPP adoption by 2030	IoT carbon trackers, CBAM rebate schemes, EU Customs Single Window

Table 1. The DigitalTrade4.EU 2025 roadmap for EU Green-Digital Trade Leadership outlines strategic actions and measurable objectives to align chemical export controls with digital and sustainability goals, supporting the implementation of the European Commission's "International Digital Strategy".