

octima

organizzazione per la chimica e per la tecnologia innovativa dei materiali avanzati
organization for chemistry and innovation technology of advanced materials

Prodotti chimici, materiali, nuove tecnologie e innovazione industriale dei materiali compositi di nuova generazione, relativa legislazione e circolarità



Federazione delle associazioni
scientifiche e tecniche
fondata nel 1897

15 MAGGIO 2024

GREEN DEAL

***the new European regulatory approach
towards non-toxic products and sustainable processes***

Alberto Cimadoro

Chimica&Ingegneria per MATERIALI COMPOSITI



AGENDA

STARTING POINT

- *European Green Deal 11.12.2019*
- *Chemical Strategy for Sustainability Towards a Toxic-free Environment*

IMPACT OF E.G.D. AND C.S.S. ON REGULATION

- *CLP*
- *REACH*
- *SDS*
- *Dir. 2004/37/CE*

GREEN PROJECTS

- *Green-Composites: Innovation & Development*
- *Tools*

EGD: A TRANSITION TO THE NEXT EUROPE

EUROPEAN COMMISSION – 11.12.2019



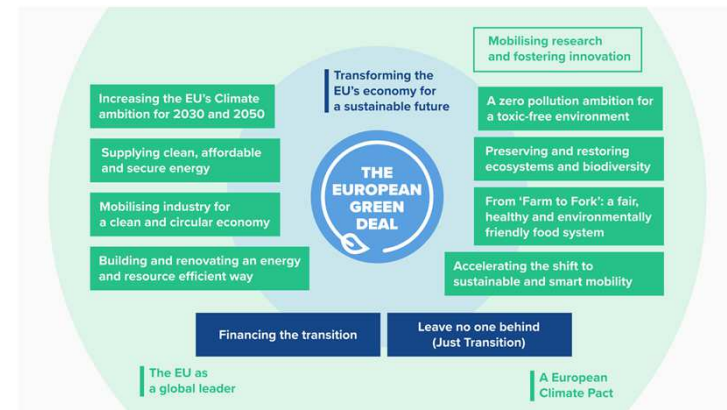
The **European Green Deal**

is a response to the climate and environmental-related challenges.

The EGD **aims to transform the EU** into a fair and prosperous **society**, with a modern, resource-efficient and competitive **economy** where there are **no net emissions** of greenhouse gases **in 2050** and where economic growth is **de-coupled from resource use**.

The EGD **aims to protect, conserve and enhance** the EU's **natural capital**, and **protect** the **health** and **well-being of citizens** from environment-related risks and impacts

It can build on its strengths as a **global leader on climate and environmental measures, consumer protection, and workers' rights**.



ELEMENTS OF THE EUROPEAN GREEN DEAL

Increasing the EU's Climate ambition for 2030 and 2050

A zero pollution ambition for a toxic-free environment

Supplying clean, affordable and secure energy

Preserving and restoring ecosystems and biodiversity

Mobilising industry for a clean and circular economy

From "Farm to Fork": a fair, healthy and environmentally friendly food system

Building and renovating an energy and resource efficient way

Accelerating the shift to sustainable and smart mobility

Mobilizing RESEARCH and fostering INNOVATION

Financing the Transition

Leave no one behind (just Transition)

ELEMENTS OF THE EUROPEAN GREEN DEAL

Increasing the EU's Climate ambition for 2030 and 2050

Supplying clean, affordable and secure energy

2.1.3 Mobilising industry for a clean and circular economy

Energy-intensive industries, such as Steel, Chemicals and Cement, are indispensable to Europe's economy, as they supply several key value chains. The decarbonisation and modernisation of this sector is essential...

2.1.8 A zero pollution ambition for a toxic-free environment

To ensure a toxic-free environment, the Commission will present a Chemicals Strategy for Sustainability - CSS

Preserving and restoring ecosystems and biodiversity

From "Farm to Fork": a fair, healthy and environmentally friendly food system

Accelerating the shift to sustainable and smart mobility

Mobilizing RESEARCH and fostering INNOVATION

Financing the Transition

Leave no one behind (just Transition)

THE «CHEMICAL GREEN DEAL»

EUROPEAN COMMISSION – 14.10.2020



CSS - Chemical Strategy for Sustainability Towards a Toxic-free Environment

Chemicals are everywhere in our daily life and **play a fundamental role** in most of our activities.

Chemical manufacturing is **the fourth largest industry** in the EU.

84% of Europeans are worried about the impact of chemicals present in everyday products **on their health**, and **90% are worried** about their impact **on the environment**

Innovation for the **green transition of the chemical industry** and its value chains must be stepped up and the existing **EU chemicals policy must evolve** and respond more rapidly and effectively to the challenges posed by hazardous chemicals

~**100.000** chemicals on the Market

~**22.600** chemicals with a use over 1 tonne/y

~**4.700** chemicals with a use over 100 tonnes/y prioritized in hazard characterization and evaluation

ELEMENTS OF THE CSS

Promoting safe and sustainable-by-design chemicals

Innovation and Development

Achieving safe products and non-toxic material cycles

Materials and Processes

Greening and digitalising the production of chemicals

Strengthening the EU's open strategic autonomy

Protect consumers, vulnerable groups and workers from the most harmful chemicals

Protecting people and the environment from the combination effects of chemicals

Towards zero chemical pollution in the environment

Consumers and Workers

One substance, one assessment

Environment and Workplaces

A zero tolerance approach to non-compliance

Improved availability of chemical data

CLP, REACH, SDS

A strengthened chemical science-policy interface

Strengthening international standards

Inside and Outside EU

Promoting safety and sustainability standards outside the EU

➤ **Regolamento (CE) n. 1272/2008 - CLP**

Reg.Delegato (UE) 2023/707 - Nuovi Criteri e Classi di Pericolo per le Sostanze

EDHH - Interferenti Endocrini per la Salute Umana

EDENV - Interferenti Endocrini per l' Ambiente

PBT - Persistenti Bioaccumulabili e Tossiche

vPvB - molto Persistenti molto Bioaccumulabili

PMT - Persistenti Mobili Tossiche

vPvM - molto Persistenti molto Mobili

NOTA:

Disallineamento Classi CLP vs GHS

Aggiornamenti al Progresso Tecnico:

- XVIII ATP **Reg. (UE) 2022/692**
- XIX ATP **Reg. (UE) 2023/1434**
- XX ATP **Reg (UE) 2023/1435**
- XXI ATP **Reg. Delegato (UE) 2024/197**
- XXII ATP - bozza gennaio 2024

NOTA: Aggiornamento SDS

**NOTA: Aggiornamento
Valutazione Rischio Chimico
nei Luoghi di Lavoro**

**D.Lgs 81/2008
Tit.IX Capi I e II**

➤ **Regolamento (CE) n.1907/2006 - REACH**

Restrizioni – All XVII

Reg. (UE) 2020/1149 – Diisocianati – n°74

Reg. (UE) 2021/2030 – N,N-dimetilformammide – n°76

Reg. (UE) 2023/14641 – Formaldeide – n°77

Reg. (UE) 2023/2055 – Microplastiche (particelle polimeriche < 5mm) – n°78

App.15: dimostrazione DEGRADABILITA'

App.16: dimostrazione della SOLUBILITA'

NOTA:

Adesivi e Sigillanti

Legni

Resine

Materiali da Riciclo

NOTA: Aggiornamento **SDS**

D.Lgs 81/2008

Tit.IX Capi I e II

NOTA: Aggiornamento
Valutazione Rischio Chimico
nei Luoghi di Lavoro

➤ **Regolamento (UE) 2020/878 – Allegato II REACH - SDS**

Strumento FONDAMENTALE di SCAMBIO INFORMAZIONI
all'interno della CATENA di APPROVVIGIONAMENTO

Nota:

Nuovi requisiti relativi alle proprietà di **INTERFERENZA ENDOCRINA**

Identificatore Unico di Formula – **UFI**

Nuovi requisiti relativi alle **NANOFORME**

NOTA: Aggiornamento
Valutazione Rischio Chimico
nei Luoghi di Lavoro

NOTA: Aggiornamento **SDS**

D.Lgs 81/2008
Tit.IX Capi I e II

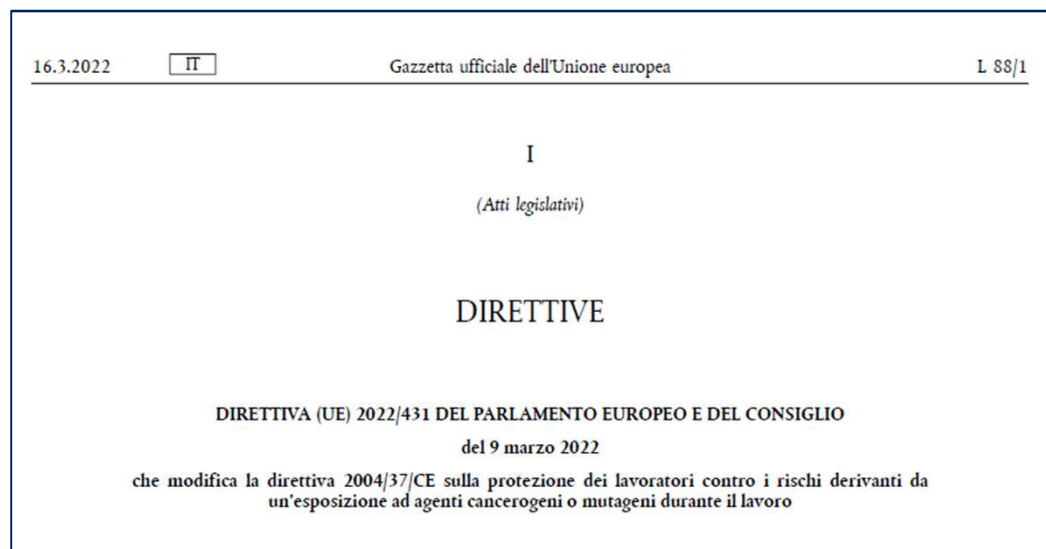
➤ **Direttiva 2022/431**

Legge 21 febbraio 2024, n.15
(in vigore dal 10/03/2024)

Modifica ed integra la

Direttiva 2004/37/CE

che diventa:



DIRETTIVA 2004/37/CE DEL PARLAMENTO EUROPEO E DEL CONSIGLIO, del 29 aprile 2004, sulla protezione dei lavoratori contro i rischi derivanti da un'esposizione ad **agenti cancerogeni, mutageni o a sostanze tossiche per la riproduzione** (*) durante il lavoro (sesta direttiva particolare ai sensi dell'articolo 16, paragrafo 1, della direttiva 89/391/CEE del Consiglio)

(*) 150 sostanze; rapporto INAIL 2022

<https://www.inail.it/cs/internet/docs/alg-pubbl-sostanze-chimiche-reprotossiche.pdf>

NOTA: Aggiornamento
Valutazione Rischio Chimico
nei Luoghi di Lavoro

NOTA: Aggiornamento **SDS**

D.Lgs 81/2008
Tit.IX Capi I e II

COMPOSITES

Materials, semi-finished/finished Products coming from the combination of two or more
Constituents:

- ...
- Abrasives
- Additives
- Adhesives
- Catalysts
- Expanded Cores
- Fibers
- Fillers
- Gelcoats
- Hardeners
- Honeycombs
- Laminated woods
- Sealants
- Solvents
- Thinners
- Paints
- Pastes
- Polymers
- Polishes
- Primers
- Resins
- Varnishes
- Woods
- ...



The biggest full-composite 175 feet serial yacht



<https://images.app.goo.gl/P6ZJi8ANnxL6mdE7>



hundreds of **CHEMICALS** on board

green COMPOSITES – Innovation & Development

PROJECTS compliant with EGD/CSS:
Some examples

Green Mobility

Composites can reduce significantly the **weight** of the vehicles

1g/km reduction of CO2 emission every 10 kg of car-weight reduction

TARGET: **reduction of environmental impact**

Bio Materials

Materials can be (partially) re-design starting from **renewable-bio-materials**

Starting from vegetable oils/seeds/fibers/plants

TARGET: **reduction of fossil materials use**

Recycled Materials

Materials can be (partially) re-designed starting from **recycled materials**

Starting from waste

TARGETS: **reduction of fossil materials use/circular economy**

Recyclable Composites

Composites can be (partially) **recycled**

Re-used in (less performing) new applications

TARGETS: **reduction of fossil materials use/circular economy**

green COMPOSITES – Innovation & Development

PROJECTS compliant with EGD/CSS:
Some examples

Low-Toxic Materials and Composites

Materials and Composites can be re-designed **without toxic materials**

Starting from alternative raw materials

TARGETS: **reduction of human unhealthy and environmental impact**

Low-Energy Composites Processing

Composites can be manufactured with (electric) energy coming from **water/wind/sun/hydrogen**

Substitution of energy sources

TARGETS: **decarbonization/reduction of environmental impact**

Low-Emission and low Impact Composites Processing

Composites can be manufactured with less **emissions, soil and water** consumption

Increasing of cycle production yield and efficiency

TARGET: **reduction of environmental impact**

Re-newal of Materials and Composites Processing

Materials and Composites can be manufactured with more **advanced production cycles**

Automation and digitalization of the production departments; job-trainings for workers

TARGET: **modernization of the sector**

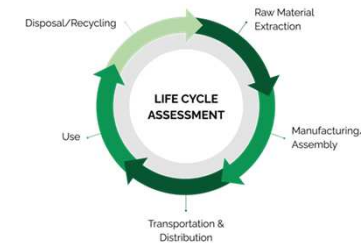
Tools

Monitoring, Quantification and Validation of the "Green Projects"

□ **Carbon Foot Print** (ISO14067) – environmental impact



□ **Life Cycle Assessment** (ISO14040-serie) – circular economy



□ **REGULATION (EC) N.66/2010** – ecolabel



□ **ISO 14020-2022** (series) – ISO/TC 207SC3 environmental labelling

Do not Forget:

□ **Directive (UE) 2024/825** – greenwashing

THANK YOU FOR YOUR KIND ATTENTION !

GRAZIE PER L'ATTENZIONE !

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