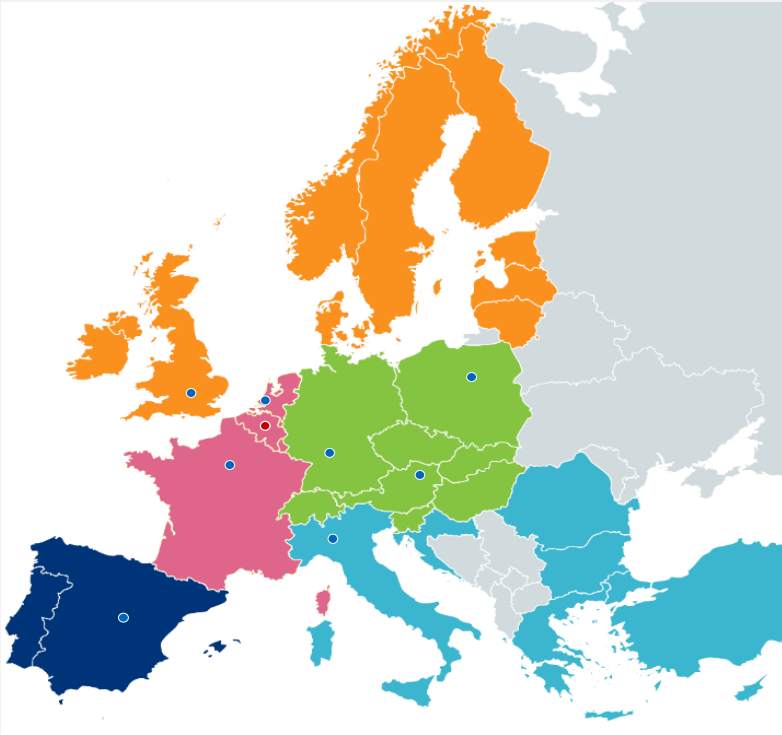


Who we are

PlasticsEurope is the pan-European organisation (with more than 100 member companies) representing the plastics manufacturers at the EU, regional and national level.



Plastics Manufacturers Efforts to Tackling Microplastics in the Environment and Human Health

PlasticsEurope Vision

We are firmly committed to the principle that **plastics do not belong in the world's oceans and should not be littered** -- plastics should be responsibly used, reused, recycled and finally recovered for their energy value.

Declaration of the Global Plastics Associations for Solutions on Marine Litter, since 2011

No Plastics leakage into the Oceans

Plastics are a precious resource that must be contained at all stages of its lifecycle

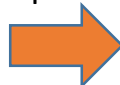
What are we doing on microplastics?

- Preventing spillages into the environment – Operation Clean Sweep®
- Scientific engagement:
 - **Ensure evidence-based information is available to answer critical scientific questions, and**
 - **Be able to complete environmental and human health risk assessments.**
 - **Multi-year scientific plan under development**
- Project types
 - PlasticsEurope-directed
 - EU project co-sponsorship
 - Advisory board member on H2020 projects
- Global coordination to limit redundancy and accelerate scientific developments



- A voluntary **free** initiative **aimed at improving awareness, promoting best practices and providing guidance and tools** to prevent plastic raw material loss (i.e. pellets, powders and flakes).
- First introduced in the US for safety reasons. Implemented in EU since 2014.
- As of 2022, companies from the entire plastics value chain will be audited by **third party auditors** to establish compliance and **be OCS certified**.
- By signing the OCS pledge, each company handling raw materials recognises the **importance of preventing spillages into the environment** and commits by implementing the following 6 actions:
 1. Improve our worksite(s) set-up to prevent and address spills;
 2. Create and publish internal procedures to achieve «zero pellet loss» goals;
 3. Provide employee training and accountability for spill prevention, containment, clean-up and disposal;
 4. Audit our performance regularly;
 5. Comply with all applicable local and national regulations governing pellet containment;
 6. Encourage our partners (contractors, transporters, etc.) to pursue the same objectives.

Operation Clean Sweep® is trademarked by PLASTICS Industry Association



EU website: www.opcleansweep.eu

PLASTICSEUROPE - directed scientific projects

Environ Toxicol Chem. 2020 Jun; 39(6): 1119–1137.
Published online 2020 May 22. doi: [10.1002/etc.4718](https://doi.org/10.1002/etc.4718)

PMCID: PMC7383496
PMID: [32223000](https://pubmed.ncbi.nlm.nih.gov/32223000/)

Toward an Improved Understanding of the Ingestion and Trophic Transfer of Microplastic Particles: Critical Review and Implications for Future Research

Todd Gouin¹

- The average number of microplastic particles/individual across all studies estimated to be 4, with studies typically reporting averages ranging from 0 to 10 particles/individual.
- Although strong evidence exists for the biological ingestion of microplastic particles, they do not bioaccumulate and do not appear to be subject to biomagnification as a result of trophic transfer through food webs.
- >99% of observations from field-based studies reporting that microplastic particles are located within the gastrointestinal tract.
- The development and application of standardized analytical methods are urgently needed to better understand spatial and temporal trends.
- Study supported by ECETOC, Cefic LRI & PlasticsEurope.

- Development of hazard and uptake assessment tools to support further improvement of Human Health studies

NANO/MICROPLASTIC PARTICLE TOXICITY STUDY ASSESSMENT TOOL (NMP-TSAT)

Particle Characterization

- 1) Size
- 2) Shape
- 3) Type
- 4) Source
- 5) Surface Chemistry
- 6) Purity
- 7) Microbial Contamination

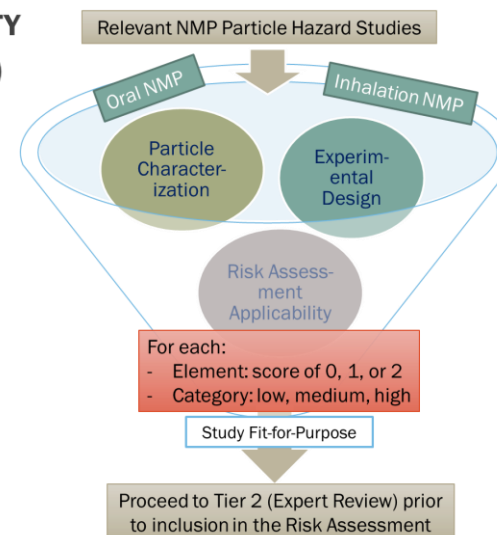
Applicability for Risk Assessment

- 1) Statistical Analysis
- 2) Endpoints
- 3) Dose-response Relationship
- 4) Concentration Range
- 5) Effect Thresholds
- 6) Test Particle Relevance

Experimental Design

- 1) Particle Concentration Units
- 2) Particle Stability
- 3) Test Medium/Vehicle
- 4) Administered Dose/Concentration
- 5) Homogeneity of Exposure
- 6) Administration Route
- 7) Test Species
- 8) Feeding/Housing Conditions
- 9) Sample Size
- 10) Frequency & Duration of Exposure
- 11) Controls (Vehicle and/or Particle)
- 12) Replicates
- 13) Confirmation of internal dose

Red criteria = Critical. If answered with a 0 then study unreliable and concluded not fit-for-purpose for a risk assessment.



- Approach being used by California State Water Resources Control Board to screen hazard studies for consideration in their human health risk assessment (Science lead: Todd Gouin)

PRIORITY

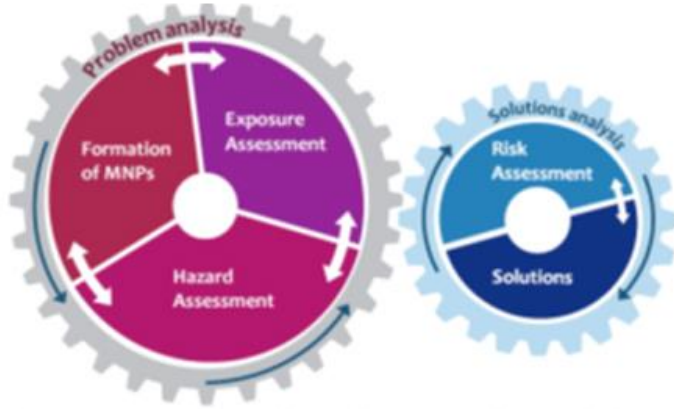
- Engaging with stakeholders to develop a five years project aiming to generate critical elements required to conduct human health risk assessment for oral exposure route:

(Microplastics release from prioritized uses, Uptake, Distribution, Hazard, Exposure modeling,...)

➔ **DEVELOP ASSESSMENT FRAMEWORK**

EU projects co-sponsorships

- Momentum is a public-private-partnership project that will primarily work on potential human health effect of microplastics with the final objective to propose solutions to minimize health impact (if any).
 - Coordinated by TNO the University of Utrecht



- Microplastics@food (Cornet) is two years public-private-partnership project that aims to develop qualitative and quantitative detection of microplastics in food
 - Initiated by: ecoplus Lebensmittel Cluster Niederösterreich; DECHEMA e.V. - Gesellschaft für Chemische Technik und Biotechnologie e.V.
 - Science partners: OFI - Österreichisches Forschungsinstitut für Chemie und Technik; Science Lama; UBT – Universität Bayreuth; IPF - Leibniz-Institut für Polymerforschung Dresden e.V.

Global Industry Coordination

- Contribute and accelerate science development (minimize redundancy and ensuring absence of gaps)

