

Declaration on Waste Containing Nanomaterials

Manufactured nanomaterials (MNMs) are applied in rapidly growing amounts of every-day products. Their physical and chemical properties make them an attractive choice in product development, bringing the possibility of both functional and economic advantages. Yet, there are concerns about their adverse effects on human health and the environment.

One significant concern is the fate of nanomaterials in waste streams. This type of waste is already appearing in recycling and waste disposal processes as products reach the end of their use, and will go on increasing with the continuing creation of products containing MNMs. Discarded consumer products, waste from industrial and medical applications, and residues from waste- or wastewater treatment processes can contain various forms of nanomaterials that are hard to characterise and quantify. This can result in environmental and human exposure to a class of substances whose toxicity are not yet fully understood. Given the uncertainty about the risks of MNMs, their dispersion within waste streams and into the environment should be controlled.

Policies and regulations should adopt a precautionary approach and aim at minimising human and environmental exposure to waste containing MNMs.

The undersigned civil society organisations and research institutes call upon governments, research and innovation funding institutions, and companies, in their individual capacities to:

- **Implement full producer responsibility to ensure safe management of waste containing MNMs.** More stringent duties, such as waste characterisation and waste declaration, should be required of producers. This will also require establishing nano-specific requirements and standards on occupational health and safety protection for workers.
- **Restrict transboundary movements of waste containing certain MNMs.** The EU's legal framework should implement strict control mechanisms for exporting waste containing MNMs, similar to existing requirements on the management of hazardous waste.
- **Enable transparent quantification and characterisation of waste flows containing MNMs through an EU-wide public nano-product registry.** Such a register will be instrumental in providing quantitative information on the presence of MNMs in products and in serving as a basis for the monitoring of waste flows that contain nanomaterials in various forms.
- **Stimulate innovation on waste prevention.** Source reduction of waste containing MNMs ought to become a standard requirement for any publicly funded research and development project involving nanotechnologies.
- **Foster the development of safe and effective recycling and disposal technologies for products containing MNMs.** Such technologies should ensure the environmentally safe elimination or demobilisation of MNMs in residues from waste and wastewater treatment.
- **Develop and establish verifiable end-of-waste criteria for recyclable materials containing MNMs.** The presence of nanomaterials in recycling feedstock must not thwart the safe and economically viable recovery of secondary materials. Setting the framework to avoid cross contamination of recycled materials with MNMs is essential to support EU circular economy efforts.
- **Innovators should explore how advanced properties of MNMs can be employed in support of the circular economy without introducing new environmental risks or aggravating existing ones.** Demonstrate, for example, how functional materials can be applied to make repair, re-manufacturing, and recyclability of products more viable (e.g. use of switchable adhesives for easy product disassembly).

Signatories of the Declaration on Waste containing Nanomaterials

Europe

Agir Pour l'Environnement, France
Alliance for Cancer Prevention, United Kingdom
Association Toxicologie Chimie Paris, France
Association de veille et d'information civique sur les enjeux des nanosciences et des nanotechnologies (AVICENN), France
Bond Beter Leefmilieu Vlaanderen, Belgium
Bund für Umwelt und Naturschutz Deutschland (BUND), Germany
Center for International Environmental Law (CIEL), Switzerland
Collectif Citoyen Nanotechnologies du Plateau de Saclay (CNanoS), France
Comisiones Obreras (CCOO), Spain
European Environmental Bureau (EEB)
European Environmental Citizens' Organisation for Standardisation (ECOS)
Fondation Sciences Citoyennes, France
Foundation for Environmental Education (FEE), Latvia
France Nature Environnement, France
Friends of the Earth-Latvia
Friends of the Earth-Spain
Health Care Without Harm (HCWH) Europe
Inter-Environnement Wallonie (IEW), Belgium
International Coalition to Protect the Polish Countryside (ICPPC), Poland
HEJ Support, Germany
Generation Cobayes, France
Inter Environnement Wallonie, Belgium
International Coalition to Protect the Polish Countryside, Poland
IVAM Research and Consultancy on Sustainability (IVAM), the Netherlands
Leefmilieu, the Netherlands
Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE)
Mouvement Générations Cobayes, France
Öko-Institut, Germany
ppm, Austria
Resource Association, UK
SEPANSO Aquitaine, France
SEU - Socio-ecological Union International Sviatoslav Zabelin, Romania Socio-Ecological Union International, Russia
The Danish Ecological Council, Denmark
Women in Europe for a Common Future (WECF)
Zero Waste Europe

North America

Alaska Community Action on Toxics, USA
Centro de Análisis y Acción en Tóxicos y sus Alternativas (CAATA), Mexico
Fair World Project, USA
Friends of the Earth US, USA
Institute for Agriculture and Trade Policy, USA
International Center for Technology Assessment, USA
International University of Environmental Sciences, Mexico
Kentucky Environmental Foundation, USA
Midwest Environmental Justice Organization, USA
Red de Acción sobre Plaguicidas y Alternativas en México (RAPAM), Mexico

South America

ACPO - Associação de Combate aos Poluentes Santos – SP, Brazil
AMAR Environment Defense Association, Brazil
APROMAC Environment Protection Association, Brazil
Rede de Pesquisa em Nanotecnologia, Sociedade e Meio Ambiente (RENANOSOMA), Brazil
ReLANS Latin American Nanotechnology & Society Network
TOXISPHERA Environmental Health Association, Brazil

Asia

Armenian Women for Health and a Healthy Environment, Armenia
Arulagam, India
BaliFokus Foundation, Indonesia
Biodiversity Conservation Center, Russia
Eco-Accord, Russia
Buryat Regional Association on Lake Baikal, Russia
Center for Environmental Solution, Belarus
Center for Public Health and Environment Development (CEPHED), Nepal
Citizens Against Chemicals Pollution (CACP), Japan
Consumers Korea, Republic of Korea
Ecoclub Fergana, Uzbekistan
Ecologist Club, Kyrgyzstan
Eco-Social Development Organization (ESDO), Bangladesh
EcoWaste Coalition, Philippines
Environmental Quality Protection Foundation (EQPF), Republic of China, Taiwan
Friends of Siberian forests, Russia
Indonesian Toxics-Free Network, Indonesia
IndyACT Lebanon, Lebanon
PAN Asia and Pacific, Malaysia
Toxic Links India
ToxicsWatch Alliance (TWA), India
Volgograd-Ecopress Information Centre, Russia
Zabbaleen, Egypt

Africa

AAEFG, Tunisia
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Ako Foundation, Ghana
Carbone Guinée, Guinea
Centre for Environment Justice and Development (CEJAD), Kenya
Ecological Restorations Ghana
Foundation for the Conservation of the Earth (FOCONE), Nigeria
Friends of the Environment, Nigeria
Global Initiative for Hazardous Waste Management and Disposal, Nigeria
Irrigation Training and Economic Empowerment Organization (IRTECO), Tanzania
Kasa Initiative Ghana
National Association of Professional Environmentalists (NAPE), Uganda
Pan African Vision for the Environment (PAVE), Nigeria
Pesticide Action Network-Africa
Pesticide Action Network-Ethiopia, Ethiopia
Pollution Control Association of Liberia (POCAL), Liberia
South Durban Community Environmental Alliance, South Africa

Sustainable Research and Action for Environmental Development (SRADev Nigeria), Nigeria
Welfare Togo, Togo
Zimbabwe Congress of Trade Union, Zimbabwe

Oceania

National Toxics Network, Australia
Island Sustainability Alliance CIS Inc. (ISACI), Cook Islands

International

Basel Action Network (BAN)
International POPs Elimination Network (IPEN)
International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations (IUF)
Pesticides Action Network (PAN) Asia-Pacific
Women International for a Common Future (WICF)

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