

Supplementary material

Exercise participants

Participants in the Nanosafety School training session featured in this manuscript came from different sectors (academia, industry, regulation). In Table 1 the distribution of participants among these sectors and their level of experience are reported.

For the purposes of the conducted exercise each participant was assigned to a specific stakeholder category among manufacturers, consumers and regulators. All participants from industry were assigned to manufacturers as well as all regulators were assigned to the regulators category. Participants from academia were mostly assigned to consumers even though some were appointed as industry or regulators to better simulate real life conditions.

Table 1: Distribution of participants among sectors and their experience level

Sector	Participants	Early career	Experienced
Academia	48	33	15
Industry	11	6	5
Regulation	13	3	10

Criteria and scores

The illustrative case study proposed for the exercise during the Nanosafety Training School presented three alternatives, namely: Baseline, Low-end and High-end. The assessment criteria which were considered are reported in Table 1 alongside their scores for each of the proposed alternatives. Scores reported in the table were created so to emphasise the expected differences among the three alternatives in order to make the exercise as illustrative as possible.

Categories' scores were obtained by aggregating criteria through simple average. Results were rounded to integer numbers to reflect the initial scoring scale [1-5] as reported in Table 1 of the main text.

Table 2: Criteria organization and scores used for the application of the MAVT assessment.

Category	Criteria	Baseline	Low-end	High-end
EHS	Degradability	5	4	1
EHS	AOP	5	3	2
EHS	CPM's	5	4	5
EHS	Persistence	4	5	2
EHS	Hazard, Exposure, Risk	3	3	2
EHS	PC characteristics	5	5	2
EHS	Types of processes and activities	5	3	4
EHS	Binding affinity	5	2	1
EHS	Reactivity	5	4	3
EHS	Dissolution	5	2	2
Sustainability	Release	5	2	2
Sustainability	Bioaccumulation and biomagnification	5	4	1

Sustainability	Toxicity	5	2	1
Sustainability	Recyclability	5	2	2
Sustainability	education	5	1	1
Sustainability	Public opinion	5	1	2
Sustainability	Recycling	5	1	1
Sustainability	Job opportunities	4	4	2
Sustainability	Child labour	5	2	2
Sustainability	Fair salaries	3	3	1
Sustainability	Affordable Purchase costs	4	5	3
Sustainability	Circular economy	5	2	1
Sustainability	Healthcare costs	4	4	1
Sustainability	Profits	4	2	1
Sustainability	Advantage of reuse, recycle cost	5	5	1
Functionality	Responsiveness	1	1	5
Functionality	Reactivity	1	1	5
Functionality	Strength	2	4	4
Functionality	Luminescence	1	2	4
Functionality	Charge	2	3	5
Functionality	Solubility	1	5	5

21 The participants were asked to propose new criteria missing in the proposed list according to their
22 experience. Such criteria are considered for future applications of the methodology and are reported in
23 Table 2 below.

24 *Table 3: Criteria proposed by the participants of the Nanosafety Training School session.*

Category	Criteria
Environment	Genotoxicity
Environment	Interaction with other substances
Environment	Accumulation
Social	Long term aspects taking into account next generations
Social	Increased performance and safety
Social	Risk benefit ratio
Social	Gender issues
Social	Well-being
Economic	Resources, materials and energies costs
Economic	Taxes
Economic	Market leadership
Economic	Regulatory issues

25 Stakeholders' weights profiles

26 The participants were asked to propose their weight profiles for the assessed categories: EHS,
27 Sustainability and Functionality.

28 Each participant was assigned to a specific typology among manufacturers, consumers and regulators.
 29 The collected weights are reported in Table 2 where for each proposed weight in [1-5] the
 30 corresponding number of votes are reported.

31 Aggregated weights were calculated by weighted average of weights by the numbers of votes and were
 32 rounded to integer numbers to reflect the initial weighting scale [1-5] as reported in Table 1 of the main
 33 text.

34 *Table 4: Stakeholders' weights profiles by stakeholder categories*

Stakeholder	Category	Weight	Votes
Manufacturers	EHS	1	3
Manufacturers	EHS	2	8
Manufacturers	EHS	3	2
Manufacturers	EHS	4	0
Manufacturers	EHS	5	0
Manufacturers	Sustainability	1	9
Manufacturers	Sustainability	2	2
Manufacturers	Sustainability	3	2
Manufacturers	Sustainability	4	0
Manufacturers	Sustainability	5	0
Manufacturers	Functionality	1	0
Manufacturers	Functionality	2	0
Manufacturers	Functionality	3	1
Manufacturers	Functionality	4	3
Manufacturers	Functionality	5	9
Consumers	EHS	1	0
Consumers	EHS	2	5
Consumers	EHS	3	7
Consumers	EHS	4	13
Consumers	EHS	5	7
Consumers	Sustainability	1	1
Consumers	Sustainability	2	2
Consumers	Sustainability	3	5
Consumers	Sustainability	4	11
Consumers	Sustainability	5	13
Consumers	Functionality	1	0
Consumers	Functionality	2	5
Consumers	Functionality	3	5
Consumers	Functionality	4	13
Consumers	Functionality	5	9
Regulators	EHS	1	0
Regulators	EHS	2	0
Regulators	EHS	3	2
Regulators	EHS	4	9

Regulators	EHS	5	16
Regulators	Sustainability	1	0
Regulators	Sustainability	2	0
Regulators	Sustainability	3	2
Regulators	Sustainability	4	4
Regulators	Sustainability	5	21
Regulators	Functionality	1	6
Regulators	Functionality	2	15
Regulators	Functionality	3	4
Regulators	Functionality	4	2
Regulators	Functionality	5	0