SECTION V — ANNEX 5

GreenScreen Benchmark Data Requirements

GreenScreen Benchmark Data Requirements

A5.1 **Benchmark-1:** Compare the hazard summary table for the chemical being assessed to the Benchmark-1 data requirements in Table A5.1 below.

TABLE A5.1: **Data Requirements for Benchmark-1**

Benchmark Score	Data Requirements and Permissible Data Gaps by Hazard Endpoint Category
Benchmark-1	A chemical may be assigned Benchmark-1 with data on as few as one endpoint. For example, if a chemical is definitively classified as a GHS Category 1 (High in GreenScreen) for the Group I endpoint Carcinogenicity, it would be assigned Benchmark-1 even if other endpoints had data gaps. If a chemical is not classified as Benchmark-1 based on hazard, then it must meet the data requirements for Benchmark-2.

A5.2 **Benchmark-2:** Compare the hazard summary table for the chemical being assessed to the Benchmark-2 data requirements in Table A5.2 below.

A5.2.1 If the chemical meets the data requirements for Benchmark-2 in addition to the Benchmark Criteria for Benchmark-2 (Annex 3 or 4), the chemical is assigned a final score of Benchmark-2.

A5.2.2 If the chemical does not meet the minimum data requirements for Benchmark-2, it is assigned a final score of Benchmark-U (Unspecified).

TABLE A5.2: **Data Requirements for Benchmark-2**

Benchmark Score	Data Requirements and Permissible Data Gaps by Hazard Endpoint Category			
Benchmark- 2	Group I Human	Group II and II* Human	Ecotoxicity& Fate	Physical Properties
	Data required for 3 out of 5 endpoints. Permissible data gaps include: 1. Endocrine Activity 2. Reproductive or Developmental Toxicity	Data required for 4 out of 7 endpoints. Permissible data gaps include: 1. Skin OR Respiratory Sensitization 2, Skin OR Eye Irritation 3. One other hazard endpoint	Data required for 3 out of 4 endpoints. Permissible data gaps include: 1. Acute OR Chronic Aquatic Toxicity	Data required for both endpoints.[1]

A5.3 **Benchmark-3:** Compare the hazard summary table for the chemical being assessed to the Benchmark-3 data requirements in Table A5.3 below.

A5.3.1 If the chemical meets the data requirements for Benchmark-3 in addition to the Benchmark Criteria for Benchmark-3 (Annex 3 or 4), the chemical is assigned a final score of Benchmark-3.

A5.3.2 If the chemical meets the Benchmark Criteria for Benchmark-3 but does not meet the minimum data requirements for Benchmark-3, the chemical is assigned the next lower Benchmark score for which the minimum data requirements are met with a subscript "DG".

A5.3.2.1 If the chemical meets the data requirements for Benchmark-2, the chemical is assigned a final score of Benchmark-2$_{DG}$.

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1 i.   It is sufficient to classify flammability based on data in as few as one relevant sub-category (e.g., flammable liquid); and

   ii.   It is sufficient to classify reactivity based on data in as few as one relevant sub-category (e.g., explosivity). If a chemical is not explosive, it meets the requirement for non-reactivity as long as there are no data stating otherwise.

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A5.3.2.2 If the chemical does not meet the minimum data requirements for Benchmark-2, the chemical is assigned a final score of Benchmark-U (Unspecified).

TABLE A5.3: **Data Requirements for Benchmark-3**

Benchmark Score	Data Requirements and Permissible Data Gaps by Hazard Endpoint Category			
Benchmark-3	**Group I Human**	**Group II and II* Human**	**Ecotoxicity & Fate**	**Physical Properties**
	Data required for 4 out of 5 endpoints (max 1 data gap). Permissible data gap is: Endocrine Activity	Data required for 5 out of 7 endpoints (max 2 data gaps). Permissible data gaps include: 1. Skin OR Respiratory Sensitization 2. One other hazard endpoint	Data required for all 4 endpoints (max zero data gaps).	Data required for both endpoints (max zero data gaps).[2]

A5.4 **Benchmark-4:** Review the hazard summary table of the chemical being assessed and identify whether there are any data gaps. To achieve Benchmark-4, the chemical must have sufficient data to assess all eighteen hazard endpoints (no data gaps allowed).

A5.4.1 If the chemical meets the data requirements for Benchmark-4 in addition to the Benchmark Criteria for Benchmark-4 (Annex 3 or 4), the chemical is assigned a final score of Benchmark-4.

A5.4.1.1 Assessments based entirely on estimated values may not be sufficient to achieve Benchmark-4 based on expert judgment.

A5.4.2 If the chemical meets the Benchmark Criteria for Benchmark-4 but does not meet the minimum data requirements for Benchmark-4, the chemical is assigned the next lower Benchmark score for which the minimum data requirements are met with a subscript "DG".

A5.4.2.1 If the chemical meets the data requirements for Benchmark-3, the chemical is assigned a final score of Benchmark-3$_{DG}$.

A5.4.2.2 If the chemical meets the data requirements for Benchmark-2, the chemical is assigned a final score of Benchmark-2$_{DG}$.

A5.4.2.3 If the chemical does not meet the minimum data requirements for Benchmark-2, the chemical is assigned a final score of Benchmark-U (Unspecified).

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2   i.   It is sufficient to classify flammability based on data in as few as one relevant sub-category (e.g., flammable liquid);

ii. It is sufficient to classify reactivity based on data in as few as one relevant sub-category (e.g., explosivity). If a chemical is not explosive, it meets the requirement for non-reactivity as long as there are no data stating otherwise.