**GreenScreen® Chemical Assessment**

**[Insert *Chemical Name (CASRN)*]**

**Method Version: GreenScreen® Version 1.4[[1]](#footnote-1)**

**Assessment Details[[2]](#footnote-2):**

|  |  |
| --- | --- |
| **Assessment Type:** |  |
| **Assessment Prepared By:** |  |
| **Assessment Prepared For:** |  |
| **Date Assessment Completed:** |  |
| **Assessment Expiration Date:** |  |
| **Assessor Type:**  (Licensed GreenScreen Profiler or equivalent, Authorized GreenScreen Practitioner or Unaccredited) |  |

# GreenScreen BenchmarkTM Summary:

This chemical assessment report includes a GreenScreen BenchmarkTM score and results for [Insert Chemical Name, CASRN] only.[[3]](#footnote-3)

No marketing claims can be made without licensing through Clean Production Action.

**GreenScreen Benchmark Score:**

**[***Chemical name*] was assigned a Benchmark Score of [*#*] based on ... [*add rationale*].

# Hazard Classification Summary

**Table 1. GreenScreen Hazard Summary Table:[[4]](#footnote-4),[[5]](#footnote-5)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **GreenScreen Hazard Summary Table for [Insert Chemical Name]** | | | | | | | | | | | | | | | | | | | |
| **Group I Human** | | | | | **Group II and II\* Human** | | | | | | | | | **Ecotox** | | **Fate** | | **Physical** | |
| **Carcinogenicity** | **Genotoxicity/Mutagenicity** | **Reproductive Toxicity** | **Developmental Toxicity** | **Endocrine Activity** | **Acute Toxicity** | **Systemic Toxicity** | | **Neurotoxicity** | | **Skin Sensitization\*** | **Respiratory Sensitization\*** | **Skin Irritation** | **Eye Irritation** | **Acute Aquatic Toxicity** | **Chronic Aquatic Toxicity** | **Persistence** | **Bioaccumulation** | **Reactivity** | **Flammability** |
|  |  |  |  |  |  | single | repeat\* | single | repeat\* | \* | \* |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Note: Hazard levels (Very High (vH), High (H), Moderate (M), Low (L), Very Low (vL)) in *italics* reflect lower confidence in the hazard classification while hazard levels in **BOLD** font reflect higher confidence in the hazard classification. Group II Human Health endpoints differ from Group II\* Human Health endpoints in that Group II Human Health endpoints have four hazard scores (i.e., vH, H, M and L) instead of three (i.e., H, M and L), and are based on single exposures instead of repeated exposures. Group II\* Human Health endpoints are indicated by an \* after the name of the hazard endpoint or after “repeat” for repeated exposure sub-endpoints.

# Scope of Assessment

**Chemical Name (CASRN):**

**Also Called (List Synonyms):**

**Chemical Structure:**

**Suitable analogs or moieties of chemicals used in this assessment (CASRN(s)):**

For each analog, please include the hazard endpoint(s) evaluated and the rationale for selecting the analog(s). If a suitable analog(s) was not identified, please describe what analog(s) was considered and your rationale for not using the analog.

**Chemical Structure(s) of suitable analog(s) and/or moieties:**

**For Inorganic Chemicals and relevant particulate organics (*if not relevant, list NA*)**

**Define Properties:**

1. Particle size (e.g., silica of respirable size)
2. Structure (e.g., amorphous vs. crystalline)
3. Mobility (e.g., water solubility, volatility)
4. Bioavailability

**Identify potential applications/functional uses of the chemical:**

(e.g., used as an input in the production of cleaning products)

1.

2.

**Table 2. Environmental Transformation Products Summary**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Life Cycle Stage** | **Transformation Pathway** | **Environmental**  **Transformation Product** | **CAS #** | **Feasible**  **(Yes or No)** | **Relevant**  **(Yes or No)** | **GreenScreen List Translator Score or GreenScreen Benchmark Score** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Report rationale for each determination as to whether an identified environmental transformation product is feasible and relevant:

# Hazard Classification Summary[[6]](#footnote-6),[[7]](#footnote-7)

## Group I Human Health Effects (Group I Human)

### Carcinogenicity (C):

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for carcinogenicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Mutagenicity/Genotoxicity (M):

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for mutagenicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Reproductive Toxicity (R):

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for reproductive toxicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Developmental Toxicity incl. Developmental Neurotoxicity (D):

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for developmental toxicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Endocrine Activity (E):

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for endocrine activity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

## Group II and II\* Human Health Effects (Group II and II\* Human)

*Note: Group II and Group II\* endpoints are distinguished in the v1.4 Benchmark system (the asterisk indicates repeated exposure). For Systemic Toxicity and Neurotoxicity, Group II and II\* are considered sub-endpoints. See GreenScreen Guidance v1.4, Annex 2 for more details.*

### Acute Mammalian Toxicity (AT):

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for acute mammalian toxicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Systemic Toxicity/Organ Effects incl. Immunotoxicity (ST-single)

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for single dose systemic toxicity/organ effects based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Systemic Toxicity/Organ Effects incl. Immunotoxicity (ST-repeat) (Group II\*)

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for repeated dose systemic toxicity/organ effects based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Neurotoxicity (N-single)

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for single dose neurotoxicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Neurotoxicity (N-repeated) (Group II\*)

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for repeated dose neurotoxicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Skin Sensitization (SnS) (Group II\*)

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for skin sensitization based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Respiratory Sensitization (SnR) (Group II\*)

[*Chemical name*] was assigned a hazard classification level of [H, M, or L] for respiratory sensitization based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Skin Irritation/Corrosivity (IrS)

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for skin irritation/corrosivity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Eye Irritation/Corrosivity (IrE):

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for eye irritation/corrosivity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

## Ecotoxicity (Ecotox)

### Acute Aquatic Toxicity (AA):

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for acute aquatic toxicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Chronic Aquatic Toxicity (CA):

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for chronic aquatic toxicity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

## Environmental Fate (Fate)

### Persistence (P):

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, L, or vL] for persistence based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Bioaccumulation (B):

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, L, or vL] for bioaccumulation based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

## Physical Hazards (Physical)

### Reactivity (Rx):

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for reactivity based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

### Flammability (F):

[*Chemical name*] was assigned a hazard classification level of [vH, H, M, or L] for flammability based on [*summarize results relative to Hazard Criteria, the type of data used, and professional judgment used. Include comprehensive information in the following sections*].

Data

* Lists
  + *Authoritative:*
  + *Screening:*
* Measured Data
* Estimated Data

# References

(may be provided under each hazard endpoint or at the end of document)

# Appendix A: Hazard Classification Acronyms

**(alphabetical order)**

**(AA) Acute Aquatic Toxicity**

**(AT) Acute Mammalian Toxicity**

**(B) Bioaccumulation**

**(C) Carcinogenicity**

**(CA) Chronic Aquatic Toxicity**

**(D) Developmental Toxicity**

**(E) Endocrine Activity**

**(F) Flammability**

**(IrE) Eye Irritation/Corrosivity**

**(IrS) Skin Irritation/Corrosivity**

**(M) Mutagenicity and Genotoxicity**

**(N) Neurotoxicity**

**(P) Persistence**

**(R) Reproductive Toxicity**

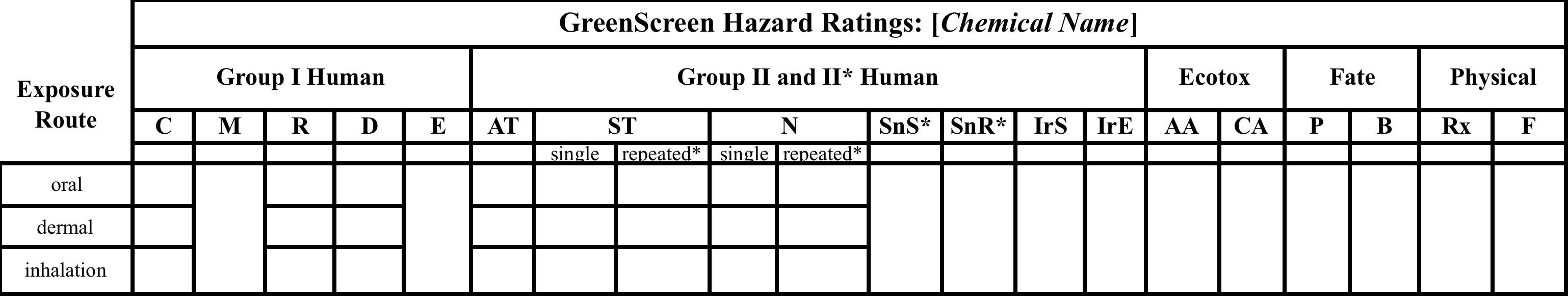
**(Rx) Reactivity**

**(SnS) Sensitization- Skin**

**(SnR) Sensitization- Respiratory**

**(ST) Systemic/Organ Toxicity**

# Appendix B – Optional Hazard Summary Table



# Appendix C – Modeling Results

**Attach:**

* **EPISuite Results for Chemical Name (CASRN)**
* **ECOSAR Results for Chemical Name (CASRN)**
* **Other**

1. Use GreenScreen® Chemical Hazard Assessment Guidance (Guidance) v1.4 in Section I [↑](#footnote-ref-1)
2. **Assessment Type**: GreenScreen reports are either “UNACCREDITED” (by unaccredited person), “AUTHORIZED” (by Authorized GreenScreen Practitioner), or “CERTIFIED” (by Licensed GreenScreen Profiler or equivalent);

   **Assessment Prepared By**: Licensed GreenScreen Profilers must provide name of organization; Authorized GreenScreen Practitioners must provide their name;

   **Assessment Prepared For**: Optional for Licensed GreenScreen Profilers, mandatory for Authorized Practitioners;

   **Date Assessment Completed**: Assessments by Licensed GreenScreen Profilers require quality control tracked via internal documentation;

   **Assessment Expiration Date**: Assessments expire three years from the date of completion. [↑](#footnote-ref-2)
3. Assessors shall use Template 2, 3, 4 or 5 to document results for products that have content that varies by manufacturer (e.g., a chemical substance that contains known impurities). [↑](#footnote-ref-3)
4. See Appendix A for a glossary of hazard endpoint acronyms. [↑](#footnote-ref-4)
5. See Appendix B for alternative GreenScreen Hazard Summary Table (Classification presented by exposure route). If such summaries are presented, they must be included in addition to the Hazard Summary Table above and placed in an Appendix to the report. [↑](#footnote-ref-5)
6. Include computer-modeling outputs in Appendix C. [↑](#footnote-ref-6)
7. References may be provided under each hazard endpoint or at the end of document. [↑](#footnote-ref-7)