

HPD UNIQUE IDENTIFIER: 134731610112

CLASSIFICATION: 05 12 16 Fabricated Fire Protected Steel Columns

PRODUCT DESCRIPTION: This HPD covers Fire Trol® fireproof column from Fire-Trol Company a branch of United Steel Inc.,. Specifically, it covers column configuration RH, OH and SH respectively [Rectangular shell casing with interior H-flange structural column], [Round shell casing with interior H-flange structural column], and [Square shell casing with interior H-flange structural column]. Fire Trol® columns are designed as a prefabricated fireproof unit consisting of a load-bearing steel column encased in a concrete and vermiculite materials which is permanently protected by an outer shell of non-load-bearing steel. Fire Trol® columns are rated and labeled by Underwriters Laboratories for fire retardant classification of 2, 3 and 4 hour rating as per ASTM E 119, as well as the latest specifications of the American Institute of Steel Construction (AISC), and the American Concrete institute (ACI).

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

| Inventory Reporting Format | Threshold Level | Residuals/Impurities Evaluation | For all contents above the threshold, the manufacturer has: |
|--|--|---|--|
| <input checked="" type="radio"/> Nested Materials Method | <input type="radio"/> 100 ppm | Completed in 5 of 5 Materials | Characterized <input checked="" type="radio"/> Yes <input type="radio"/> No |
| <input type="radio"/> Basic Method | <input checked="" type="radio"/> 1,000 ppm | Explanation(s) provided for Residuals/Impurities? <input checked="" type="radio"/> Yes <input type="radio"/> No | <i>Provided weight and role.</i> |
| Threshold Disclosed Per | <input type="radio"/> Per GHS SDS | | Screened <input checked="" type="radio"/> Yes <input type="radio"/> No |
| <input type="radio"/> Material | <input type="radio"/> Other | | <i>Provided screening results using HPDC-approved methods.</i> |
| <input checked="" type="radio"/> Product | | | Identified <input checked="" type="radio"/> Yes <input type="radio"/> No |
| | | | <i>Provided name and CAS RN or other identifier.</i> |

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

Number of Greenscreen BM-4/BM3 contents ... 4

Contents highest-concern GreenScreen score(s) (BM-1, LT-1, LT-P1) ... LT-P1, BM-1, LT-1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

NESTED MATERIAL | MATERIAL OR SUBSTANCE | RESIDUAL OR IMPURITY

GREENSCREEN SCORE | HAZARD TYPE

STEEL PIPE AND STEEL TUBE PARTS [IRON, ELEMENTAL LT-P1]
 END **MANGANESE LT-P1** | END | MUL | REP | MAM | AQU **CARBON LT-UNK PHOSPHORUS BM-2** | MAM | PHY | EYE | AQU | SKI **SULFUR, PRECIPITATED LT-UNK** | SKI | MAM **COPPER LT-P1** | MUL | AQU | MAM **SILICON, ELEMENTAL LT-UNK CHROMIUM LT-P1** | END | SKI | MAM | REP | RES **NICKEL LT-1** | CAN | MUL | RES | MAM | SKI | AQU **ALUMINUM BM-1** | END | MAM | PHY **MOLYBDENUM LT-UNK** | MAM | SKI | REP **NITROGEN NoGS**] **WIDE FLANGE STEEL PARTS [IRON, ELEMENTAL LT-P1** | END **ALUMINUM BM-1** | END | MAM | PHY **SILICON, ELEMENTAL LT-UNK MANGANESE LT-P1** | END | MUL | REP | MAM | AQU **NICKEL LT-1** | CAN | MUL | RES | MAM | SKI | AQU **COPPER LT-P1** | MUL | AQU | MAM **CARBON LT-UNK CHROMIUM LT-P1** | END | SKI | MAM | REP | RES **SULFUR, PRECIPITATED LT-UNK** | SKI | MAM **MOLYBDENUM LT-UNK** | MAM | SKI | REP **VANADIUM, ELEMENTAL LT-1** | CAN | MUL | GEN **NIObIUM LT-UNK TIN LT-P1** | MAM | EYE | AQU **PHOSPHORUS BM-2** | MAM | PHY | EYE | AQU | SKI **BORON LT-UNK** | MAM **TITANIUM LT-UNK** | PHY **TITANIUM LT-UNK** | PHY] **WATER [WATER BM-4**] **VERMICULITE [SILICON DIOXIDE BM-1** | CAN | MAM **MAGNESIUM OXIDE BM-3dg** | CAN | MAM **ALUMINUM OXIDE BM-2** | MAM **FERRIC OXIDE BM-1** | CAN | MAM **POTASSIUM OXIDE BM-2 CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8) BM-2** | SKI | MAM | EYE **TITANIUM DIOXIDE BM-1** | CAN | END | MAM **SODIUM OXIDE BM-2 DICHRONIUM TRIOXIDE BM-1** | SKI | MAM **MANGANESE (II) OXIDE LT-P1** | SKI | EYE | MAM **PHOSPHORUS PENTOXIDE LT-P1** | SKI | EYE | MAM **QUARTZ BM-1** | CAN | MAM | GEN] **CEMENT [PORTLAND CEMENT LT-P1** | CAN | END | MAM **CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8) BM-2** | SKI | MAM | EYE **SILICON**

This HPD has been prepared using a Nested Materials Inventory with a product threshold at 1000 ppm and group various configuration of Fire-trol® fireproof columns which introduces ranges in content inventory. Fire-trol® fireproof column include different steel based materials provided by many suppliers. It was chosen in this HPD to group all steel pipe and steel tube parts regardless of the steel used. Steel based components are similar and the variation comes from alloying elements and/or surface treatment which both represent small quantities in the overall steel products. More details about how residuals and impurities were considered available in the appropriate sections. Guidelines for reporting Specials Conditions materials are still under development by HPDC. Fire-Trol® company will update the HPD accordingly once these guidelines are published. Please note that warning BM-1, provided by the HPD Builder tool, applies to Quartz sand (Silicon dioxide) used only in its dry form, when not activated by water. This warning must be observed when mixing with water or when aggravated during (including, but not limited to, cutting, drilling, chipping, crushing or grinding).

DIOXIDE BM-1 | CAN | MAM LIMESTONE BM-3dg ALUMINUM OXIDE
BM-2 | MAM SULFUR TRIOXIDE BM-2 | MAM FERRIC OXIDE BM-1 |
CAN | MAM MAGNESIUM OXIDE BM-3dg | CAN | MAM POTASSIUM
OXIDE BM-2 SODIUM OXIDE BM-2 |

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE *See Section 3 for additional listings.*

VOC emissions: CDPH Standard Method - Not tested

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Option 1.

Pre-checked for LEED v4.1 Option 1.

Third Party Verified?

Yes

No

PREPARER: Vertima

VERIFIER:

VERIFICATION #:

SCREENING DATE: 2025-03-17

PUBLISHED DATE: 2025-03-17

EXPIRY DATE: 2028-03-17

Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.3, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-3-standard

STEEL PIPE AND STEEL TUBE PARTS %: 0.0000 - 51.0000

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Metal

RESIDUALS AND IMPURITIES NOTES: Only residuals and impurities present within the chosen disclosure threshold have provided by suppliers. Some suppliers report residuals and impurities were considered under 100 ppm threshold. Based on steel suppliers, the recycled content (RC) is declared 24.8% - 36.9% for BOF and 76.0% for EAF.

OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe.

IRON, ELEMENTAL

ID: 7439-89-6

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:24**

%: **98.6000** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Structure component**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---------------------------------------|-------------------------------|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

MANGANESE

ID: 7439-96-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:25**

%: **0.0000 - 0.7100** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 3 |
| AQU | GHS - Japan | H401 - Toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 2] |
| AQU | GHS - Japan | H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|--|--|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

CARBON

ID: 7440-44-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:25**

#: **0.0000 - 0.2300**

GreenScreen: **LT-UNK**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|--|
| None found | | No warnings found on HPD Priority Hazard Lists |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---------------------------------------|---|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |

SUBSTANCE NOTES: Please refer to Other Material Notes.

PHOSPHORUS

ID: 7723-14-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:26**

%: **0.0000 - 0.1100** GreenScreen: **BM-2** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|---|
| MAM | US EPA - EPCRA Extremely Hazardous Substances | Extremely Hazardous Substances |
| MAM | GHS - New Zealand | Specific target organ toxicity - repeated exposure category 1 |
| PHY | GHS - New Zealand | Pyrophoric solids category 1 |
| EYE | GHS - New Zealand | Serious eye damage category 1 |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - acute category 1 |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 1 |
| MAM | Québec CSST - WHMIS 1988 | Class D1A - Very toxic material causing immediate and serious toxic effects |
| SKI | GHS - New Zealand | Skin corrosion category 1A |
| MAM | GHS - New Zealand | Acute dermal toxicity category 1 |
| MAM | GHS - New Zealand | Acute inhalation toxicity category 1 |
| MAM | GHS - New Zealand | Acute oral toxicity category 1 |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|---|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

SULFUR, PRECIPITATED

ID: 7704-34-9

%: **0.0000 - 0.1000** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---|--|
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| SKI | GHS - New Zealand | Skin irritation category 2 |
| SKI | GHS - Australia | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |

SUBSTANCE NOTES: Please refer to Other Material Notes.

COPPER

ID: **7440-50-8**

%: **0.0000 - 0.0700** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|--|
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2] |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|--|
| RESTRICTED LIST | Perkins+Will (P+W) | P&W - Precautionary List Precautionary list of substances recommended for avoidance |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

SILICON, ELEMENTAL

ID: 7440-21-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:24**

#: **0.0000 - 0.0700** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|--|
| None found | | No warnings found on HPD Priority Hazard Lists |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

CHROMIUM

ID: 7440-47-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:26**

#: **0.0000 - 0.0600** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---------------------------------------|--|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| REP | GHS - New Zealand | Reproductive toxicity category 2 |
| RES | GHS - Japan | H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled [Respiratory sensitization - Category 1A] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|--|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

NICKEL

ID: **7440-02-0**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:27**

#: **0.0000 - 0.0500**

GreenScreen: **LT-1**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|---|
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| CAN | IARC | Group 1 - Agent is Carcinogenic to humans |
| CAN | CA EPA - Prop 65 | Carcinogen |
| CAN | US NIH - Report on Carcinogens | Known to be a human Carcinogen |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| RES | MAK | Sensitizing Substance Sah - Danger of airway & skin sensitization |
| CAN | EU - GHS (H-Statements) Annex 6 Table 3-1 | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| MAM | EU - GHS (H-Statements) Annex 6 Table 3-1 | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| CAN | GHS - New Zealand | Carcinogenicity category 2 |
| CAN | GHS - Japan | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| CAN | EU - Annex VI CMRs | Carcinogen Category 2 - Suspected human Carcinogen |
| SKI | GHS - New Zealand | Skin sensitisation category 1 |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - acute category 1 |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 1 |
| CAN | GHS - Australia | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|--|--|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Certain Metals |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Footwear, Apparel & Jewelry Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 All Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPH) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

ALUMINUM

ID: 7429-90-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:27**

%: **0.0000 - 0.0400**

GreenScreen: **BM-1**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---------------------------------------|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| PHY | GHS - Japan | H261 - In contact with water releases flammable gas [Substances and mixtures, which in contact with water, emit flammable gases - Category 2] |
| PHY | GHS - Malaysia | H250 - Catches fire spontaneously if exposed to air [Pyrophoric liquids; Pyrophoric solids - Category 1] |
| PHY | GHS - Australia | H250 - Catches fire spontaneously if exposed to air [Pyrophoric liquids; Pyrophoric solids - Category 1] |
| PHY | GHS - New Zealand | Pyrophoric solids category 1 |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|--|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

MOLYBDENUM

ID: 7439-98-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:28**

#: **0.0000 - 0.0200** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|---|
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| SKI | GHS - Japan | H315 - Causes skin irritation [Skin corrosion / irritation - Category 2] |
| REP | GHS - New Zealand | Reproductive toxicity category 2 |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|--|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |
| SUBSTANCE NOTES: Please refer to Other Material Notes. | | |

NITROGEN

ID: 7727-37-9

| | | | | |
|--|--|---|-----------------|--------------------------------------|
| HAZARD DATA SOURCE: Pharos Chemical and Materials Library | | HAZARD SCREENING DATE: 2025-03-17 6:39:29 | | |
| %: 0.0000 - 0.0100 | GreenScreen: NoGS | RC: Both | NANO: No | SUBSTANCE ROLE: Alloy element |
| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS | | |
| None found | | No warnings found on HPD Priority Hazard Lists | | |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION | | |
| EXEMPT | European Union / European Commission (EU EC) | EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety | | |
| SUBSTANCE NOTES: Please refer to Other Material Notes. | | | | |

WIDE FLANGE STEEL PARTS

%: 29.0000 - 44.0000

| | | |
|---|--|----------------------|
| PRODUCT THRESHOLD: 1000 ppm | RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes | MATERIAL TYPE: Metal |
| RESIDUALS AND IMPURITIES NOTES: Only residuals and impurities present within the chosen disclosure threshold have provided by suppliers. Some suppliers report residuals and impurities were considered under 100 ppm threshold. Based on steel suppliers, the recycled content (RC) is declared 32.7% for BOF and 93.3% for EAF. | | |
| OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe. | | |

IRON, ELEMENTAL

ID: 7439-89-6

| | | | | |
|--|---------------------------------------|--|-----------------|--|
| HAZARD DATA SOURCE: Pharos Chemical and Materials Library | | HAZARD SCREENING DATE: 2025-03-17 6:39:29 | | |
| %: 89.4000 - 98.0000 | GreenScreen: LT-P1 | RC: Both | NANO: No | SUBSTANCE ROLE: Structure component |
| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS | | |
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor | | |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION | | |
| None found | | No listings found on Additional Hazard Lists | | |
| SUBSTANCE NOTES: Please refer to Other Material Notes. | | | | |

ALUMINUM

ID: 7429-90-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:30**

%: **0.0100 - 2.7000** GreenScreen: **BM-1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| PHY | GHS - Japan | H261 - In contact with water releases flammable gas [Substances and mixtures, which in contact with water, emit flammable gases - Category 2] |
| PHY | GHS - Malaysia | H250 - Catches fire spontaneously if exposed to air [Pyrophoric liquids; Pyrophoric solids - Category 1] |
| PHY | GHS - Australia | H250 - Catches fire spontaneously if exposed to air [Pyrophoric liquids; Pyrophoric solids - Category 1] |
| PHY | GHS - New Zealand | Pyrophoric solids category 1 |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

SILICON, ELEMENTAL

ID: 7440-21-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:31**

%: **0.1000 - 2.4000** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|--|
| None found | | No warnings found on HPD Priority Hazard Lists |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

MANGANESE

ID: 7439-96-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:28**

%: **0.0000 - 2.0000** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 3 |
| AQU | GHS - Japan | H401 - Toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 2] |
| AQU | GHS - Japan | H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|--|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:29**

%: **0.0000 - 2.0000** GreenScreen: **LT-1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|---|
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| CAN | IARC | Group 1 - Agent is Carcinogenic to humans |
| CAN | CA EPA - Prop 65 | Carcinogen |
| CAN | US NIH - Report on Carcinogens | Known to be a human Carcinogen |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| RES | MAK | Sensitizing Substance Sah - Danger of airway & skin sensitization |
| CAN | EU - GHS (H-Statements) Annex 6 Table 3-1 | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| MAM | EU - GHS (H-Statements) Annex 6 Table 3-1 | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| CAN | GHS - New Zealand | Carcinogenicity category 2 |
| CAN | GHS - Japan | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| CAN | EU - Annex VI CMRs | Carcinogen Category 2 - Suspected human Carcinogen |
| SKI | GHS - New Zealand | Skin sensitisation category 1 |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - acute category 1 |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 1 |
| CAN | GHS - Australia | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|--|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Certain Metals |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Footwear, Apparel & Jewelry Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 All Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

COPPER

ID: 7440-50-8

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:30**

#: **0.0000 - 1.5000** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|--|
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2] |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|--|
| RESTRICTED LIST | Perkins+Will (P+W) | P&W - Precautionary List Precautionary list of substances recommended for avoidance |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

CARBON

ID: 7440-44-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:31**

%: **0.0000 - 1.1000** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|--|
| None found | | No warnings found on HPD Priority Hazard Lists |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---------------------------------------|---|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |

SUBSTANCE NOTES: Please refer to Other Material Notes.

CHROMIUM

ID: 7440-47-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:32**

%: **0.0000 - 1.1000** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---------------------------------------|--|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| REP | GHS - New Zealand | Reproductive toxicity category 2 |
| RES | GHS - Japan | H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled [Respiratory sensitization - Category 1A] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|--|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

SULFUR, PRECIPITATED

ID: 7704-34-9

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:29**

#: **0.0000 - 0.4000**

GreenScreen: **LT-UNK**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---|--|
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| SKI | GHS - New Zealand | Skin irritation category 2 |
| SKI | GHS - Australia | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |

SUBSTANCE NOTES: Please refer to Other Material Notes.

MOLYBDENUM

ID: 7439-98-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:30**

#: **0.0000 - 0.4000** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|----------------------|---|
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| SKI | GHS - Japan | H315 - Causes skin irritation [Skin corrosion / irritation - Category 2] |
| REP | GHS - New Zealand | Reproductive toxicity category 2 |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

VANADIUM, ELEMENTAL

ID: 7440-62-2

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:31**

#: **0.0000 - 0.2000** GreenScreen: **LT-1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|--|---|--|
| CAN | MAK | Carcinogen Group 2 - Considered to be carcinogenic for man |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| GEN | MAK | Germ Cell Mutagen 2 |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |
| SUBSTANCE NOTES: Please refer to Other Material Notes. | | |

NIOBIUM

ID: 7440-03-1

| HAZARD DATA SOURCE: Pharos Chemical and Materials Library | | HAZARD SCREENING DATE: 2025-03-17 6:39:32 | | |
|--|----------------------------|--|-----------------|--------------------------------------|
| %: 0.0000 - 0.1500 | GreenScreen: LT-UNK | RC: Both | NANO: No | SUBSTANCE ROLE: Alloy element |
| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS | | |
| None found | | No warnings found on HPD Priority Hazard Lists | | |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION | | |
| None found | | No listings found on Additional Hazard Lists | | |
| SUBSTANCE NOTES: Please refer to Other Material Notes. | | | | |

TIN

ID: 7440-31-5

| HAZARD DATA SOURCE: Pharos Chemical and Materials Library | | HAZARD SCREENING DATE: 2025-03-17 6:39:31 | | |
|--|---------------------------|---|-----------------|--------------------------------------|
| %: 0.0000 - 0.1500 | GreenScreen: LT-P1 | RC: Both | NANO: No | SUBSTANCE ROLE: Alloy element |
| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS | | |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] | | |
| EYE | GHS - New Zealand | Eye irritation category 2 | | |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] | | |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - acute category 1 | | |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 1 | | |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|---|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

PHOSPHORUS

ID: 7723-14-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:32**

%: **0.0000 - 0.1500** GreenScreen: **BM-2** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|---|
| MAM | US EPA - EPCRA Extremely Hazardous Substances | Extremely Hazardous Substances |
| MAM | GHS - New Zealand | Specific target organ toxicity - repeated exposure category 1 |
| PHY | GHS - New Zealand | Pyrophoric solids category 1 |
| EYE | GHS - New Zealand | Serious eye damage category 1 |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - acute category 1 |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 1 |
| MAM | Québec CSST - WHMIS 1988 | Class D1A - Very toxic material causing immediate and serious toxic effects |
| SKI | GHS - New Zealand | Skin corrosion category 1A |
| MAM | GHS - New Zealand | Acute dermal toxicity category 1 |
| MAM | GHS - New Zealand | Acute inhalation toxicity category 1 |
| MAM | GHS - New Zealand | Acute oral toxicity category 1 |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|---|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

BORON

ID: 7440-42-8

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:39:32**%: **0.0000 - 0.1000**GreenScreen: **LT-UNK**RC: **Both**NANO: **No**SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---|--|
| MAM | GHS - Japan | H371 - May cause damage to organs [Specific target organs/systemic toxicity following single exposure - Category 2] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

TITANIUM

ID: 7440-32-6

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:39:32**%: **0.0000 - 0.1000**GreenScreen: **LT-UNK**RC: **Both**NANO: **No**SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|----------------------|--|
| PHY | GHS - Japan | H225 - Highly flammable liquid and vapour [Flammable solids - Category 1] |
| PHY | GHS - Japan | H250 - Catches fire spontaneously if exposed to air [Pyrophoric solids - Category 1] |
| PHY | GHS - Japan | H251 - Self-heating;; may catch fire [Self-heating substances and mixtures - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

TITANIUM

ID: 7440-32-6

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:39:33**

%: 0.0000 - 0.1000

GreenScreen: **LT-UNK**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|--|----------------------|--|
| PHY | GHS - Japan | H225 - Highly flammable liquid and vapour [Flammable solids - Category 1] |
| PHY | GHS - Japan | H250 - Catches fire spontaneously if exposed to air [Pyrophoric solids - Category 1] |
| PHY | GHS - Japan | H251 - Self-heating;; may catch fire [Self-heating substances and mixtures - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |
| SUBSTANCE NOTES: Please refer to Other Material Notes. | | |

WATER

%: 21.0000 - 30.0000

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: No known residuals and impurities above the 1000 pm threshold.

OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe. Water drawn from the mains of city.

WATER

ID: 7732-18-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:34**

%: 100.0000 GreenScreen: **BM-4** RC: **None** NANO: **No** SUBSTANCE ROLE: **Solvent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|--|--|---|
| None found | | No warnings found on HPD Priority Hazard Lists |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| EXEMPT | European Union / European Commission (EU EC) | EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety |
| SUBSTANCE NOTES: Please refer to Other Material Notes. | | |

VERMICULITE

%: 7.0000 - 11.0000

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: No known potential residuals/impurities for Vermiculite above 1000 ppm threshold based information provided by suppliers.

SILICON DIOXIDEID: **7631-86-9**HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:39:32**%: **36.0000 - 44.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Desiccant**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---------------------------------------|---|
| CAN | GHS - Japan | H350 - May cause cancer [Carcinogenicity - Category 1A] |
| CAN | GHS - Australia | H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B] |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |

SUBSTANCE NOTES: Please refer to Other Material Notes.

MAGNESIUM OXIDEID: **1309-48-4**HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:39:33**%: **17.0000 - 22.0000** GreenScreen: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Stabilizer**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|----------------------|---|
| CAN | MAK | Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

ALUMINUM OXIDEID: **1344-28-1**

#: **10.0000 - 15.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Stabilizer**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|--|---|
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP II) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP II) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP II) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

FERRIC OXIDE

ID: **1309-37-1**

#: **9.0000 - 13.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Catalyst**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|----------------------|---|
| CAN | MAK | Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

POTASSIUM OXIDE

ID: 12136-45-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:39:36**%: **3.0000 - 6.0000**GreenScreen: **BM-2**RC: **None**NANO: **No**SUBSTANCE ROLE: **Fixing agent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|----------------------|--|
| None found | | No warnings found on HPD Priority Hazard Lists |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8)

ID: 60873-85-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:39:33**%: **0.5000 - 3.0000**GreenScreen: **BM-2**RC: **None**NANO: **No**SUBSTANCE ROLE: **Reagent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---------------------------------------|---|
| SKI | GHS - Australia | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| SKI | GHS - New Zealand | Skin corrosion category 1C |
| EYE | GHS - New Zealand | Serious eye damage category 1 |
| EYE | GHS - Japan | H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1] |
| SKI | GHS - Japan | H315 - Causes skin irritation [Skin corrosion / irritation - Category 2] |
| EYE | GHS - Australia | H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |

SUBSTANCE NOTES: Please refer to Other Material Notes.

TITANIUM DIOXIDE

ID: 13463-67-7

%: **1.0000 - 3.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Absorbent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|--|---|---|
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | CA EPA - Prop 65 | Carcinogen - specific to chemical form or exposure route |
| CAN | IARC | Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources |
| CAN | MAK | Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value |
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| CAN | MAK | Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| CAN | EU - GHS (H-Statements) Annex 6 Table 3-1 | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| CAN | GHS - Japan | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Formulated Consumer Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products |
| POSITIVE LIST | US Environmental Protection Agency (US EPA) | US EPA - DfE Safer Chemicals Ingredients list (SCIL) Colorants - Green Circle (Verified Low Concern) |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products |
| SUBSTANCE NOTES: Please refer to Other Material Notes. | | |

SODIUM OXIDEID: **1313-59-3**

%: **0.1000 - 0.3000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Activator**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|--|
| None found | | No warnings found on HPD Priority Hazard Lists |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

DICHRONIUM TRIOXIDE

ID: **1308-38-9**

%: **0.1000 - 0.2000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Reagent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|---|
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |

| | | |
|-----|-------------|---|
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
|-----|-------------|---|

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--------------|
|---------------------|----------------------|--------------|

| | | |
|-----------------|---|--|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
|-----------------|---|--|

| | | |
|-----------------|---|--|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
|-----------------|---|--|

| | | |
|-----------------|---|---|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |
|-----------------|---|---|

SUBSTANCE NOTES: Please refer to Other Material Notes.

MANGANESE (II) OXIDE

ID: **1344-43-0**

%: **0.1000 - 0.2000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adsorbent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---|--|
| SKI | GHS - New Zealand | Skin irritation category 2 |
| EYE | GHS - New Zealand | Eye irritation category 2 |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CP11) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

PHOSPHORUS PENTOXIDE

ID: 1314-56-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:37**

%: **0.1000 - 0.2000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Desiccant**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|--|
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C] |
| EYE | GHS - New Zealand | Serious eye damage category 1 |
| EYE | GHS - Japan | H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1] |
| SKI | GHS - Japan | H314 - Causes severe skin burns and eye damage [Skin corrosion / irritation - Category 1] |
| SKI | GHS - Australia | H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C] |
| SKI | GHS - Korea | H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1] |
| SKI | GHS - New Zealand | Skin corrosion category 1B |
| MAM | Québec CSST - WHMIS 1988 | Class D1A - Very toxic material causing immediate and serious toxic effects |
| MAM | GHS - Korea | H330 - Fatal if inhaled [Acute toxicity (inhalation) - Category 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

QUARTZ

ID: 14808-60-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:35**

%: **0.0000 - 0.0010** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Impurity/Residual**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|-----------------------------------|---|
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | CA EPA - Prop 65 | Carcinogen - specific to chemical form or exposure route |
| CAN | US NIH - Report on Carcinogens | Known to be Human Carcinogen (respirable size - occupational setting) |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| CAN | IARC | Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources |
| CAN | IARC | Group 1 - Agent is Carcinogenic to humans |
| CAN | CA EPA - Prop 65 | Carcinogen |
| CAN | US NIH - Report on Carcinogens | Known to be a human Carcinogen |
| CAN | GHS - Japan | H350 - May cause cancer [Carcinogenicity - Category 1A] |
| CAN | GHS - Australia | H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B] |
| CAN | GHS - New Zealand | Carcinogenicity category 1 |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| GEN | GHS - Japan | H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2] |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| MAM | GHS - New Zealand | Specific target organ toxicity - repeated exposure category 1 |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

CEMENT

%: 6.0000 - 10.0000

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: Potential impurity of Portland Cement and various geological materials, based on information provided by suppliers and Pharos CML.

OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe.

PORTLAND CEMENT

ID: 65997-15-1

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:36**

%: **89.0000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Binder**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---------------------------------------|---|
| CAN | MAK | Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification |
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8)

ID: 60873-85-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:37**

%: **0.0000 - 6.8700** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Reagent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|---------------------------------------|---|
| SKI | GHS - Australia | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| SKI | GHS - New Zealand | Skin corrosion category 1C |
| EYE | GHS - New Zealand | Serious eye damage category 1 |
| EYE | GHS - Japan | H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1] |
| SKI | GHS - Japan | H315 - Causes skin irritation [Skin corrosion / irritation - Category 2] |
| EYE | GHS - Australia | H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |

SUBSTANCE NOTES: Please refer to Other Material Notes.

SILICON DIOXIDE

ID: 7631-86-9

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:38**

#: **0.0000 - 2.0500** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Desiccant**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|---|
| CAN | GHS - Japan | H350 - May cause cancer [Carcinogenicity - Category 1A] |
| CAN | GHS - Australia | H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B] |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---------------------------------------|---|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List Antimicrobials |

SUBSTANCE NOTES: Please refer to Other Material Notes.

LIMESTONE

ID: 1317-65-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:34**

#: **0.0000 - 0.5200** GreenScreen: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Filler**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|--|
| None found | | No warnings found on HPD Priority Hazard Lists |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

ALUMINUM OXIDE

ID: 1344-28-1

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:35**

#: **0.0000 - 0.5100** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Filler**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|----------------------|---|
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|---|--|
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products |

SUBSTANCE NOTES: Please refer to Other Material Notes.

SULFUR TRIOXIDE

ID: 7446-11-9

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:36**

%: **0.0000 - 0.3500** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Reagent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|-------------|---|--------------------------------|
| MAM | US EPA - EPCRA Extremely Hazardous Substances | Extremely Hazardous Substances |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---------------------|----------------------|--|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

FERRIC OXIDE

ID: 1309-37-1

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:39:37**

%: **0.0000 - 0.3200** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Catalyst**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---------------------|----------------------|---|
| CAN | MAK | Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to Other Material Notes.

MAGNESIUM OXIDE

ID: 1309-48-4

| HAZARD DATA SOURCE: Pharos Chemical and Materials Library | | HAZARD SCREENING DATE: 2025-03-17 6:39:38 | | |
|--|----------------------------|---|-----------------|-----------------------------------|
| %: 0.0000 - 0.2300 | GreenScreen: BM-3dg | RC: None | NANO: No | SUBSTANCE ROLE: Stabilizer |
| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS | | |
| CAN | MAK | Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels | | |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] | | |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION | | |
| None found | | No listings found on Additional Hazard Lists | | |

SUBSTANCE NOTES: Please refer to Other Material Notes.

POTASSIUM OXIDE

ID: 12136-45-7

| HAZARD DATA SOURCE: Pharos Chemical and Materials Library | | HAZARD SCREENING DATE: 2025-03-17 6:39:36 | | |
|--|--------------------------|--|-----------------|-------------------------------------|
| %: 0.0000 - 0.1000 | GreenScreen: BM-2 | RC: None | NANO: No | SUBSTANCE ROLE: Fixing agent |
| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS | | |
| None found | | No warnings found on HPD Priority Hazard Lists | | |
| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION | | |
| None found | | No listings found on Additional Hazard Lists | | |

SUBSTANCE NOTES: Please refer to Other Material Notes.

SODIUM OXIDE

ID: **1313-59-3**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:39:37**

%: **0.0000 - 0.0400**

GreenScreen: **BM-2**

RC: **None**

NANO: **No**

SUBSTANCE ROLE: **Activator**

HAZARD TYPE

LIST NAME AND SOURCE

WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS

LIST NAME AND SOURCE

NOTIFICATION

None found

No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS

CDPH Standard Method - Not tested

CERTIFYING PARTY: Self-declared

ISSUE DATE: 2025-02-25 00:00:00

CERTIFIER OR LAB: None

APPLICABLE FACILITIES: All FIRE TROL® fireproof columns facilities in CT, USA

EXPIRY DATE:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

The inner load-bearing core column can be a wide-flange, (WF), pipe or hollow steel section, (HSS) shape, meeting current ASTM grades, when HSS is specified, 4K psi concrete is pumped into the core column to maintain the UL fire rating. All core column fabrication is within accordance with American Institute of Steel Construction, (AISC), standards and practices.

MANUFACTURER INFORMATION

MANUFACTURER: **United Steel, Inc**
 ADDRESS: **164 School Street**
East Hartford, Connecticut 06108
 COUNTRY: **USA**

WEBSITE: **www.Fire-Trol.com**
 CONTACT NAME: **Tricia Brindle**
 TITLE: **National Sales Manager**
 PHONE: **+1 (860) 810-5703**
 EMAIL: **Trish@Fire-Trol.com**

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

| | | |
|---------------------------------------|---|--|
| AQU Aquatic toxicity | LAN Land toxicity | PHY Physical hazard (flammable or reactive) |
| CAN Cancer | MAM Mammalian/systemic/organ toxicity | REP Reproductive |
| DEV Developmental toxicity | MUL Multiple | RES Respiratory sensitization |
| END Endocrine activity | NEU Neurotoxicity | SKI Skin sensitization/irritation/corrosivity |
| EYE Eye irritation/corrosivity | NF Not found on Priority Hazard Lists | UNK Unknown |
| GEN Gene mutation | OZO Ozone depletion | |
| GLO Global warming | PBT Persistent, bioaccumulative, and toxic | |

GreenScreen (GS)

| | |
|---|--|
| BM-4 Benchmark 4 (prefer-safer chemical) | LT-P1 List Translator Possible 1 (Possible Benchmark-1) |
| BM-3 Benchmark 3 (use but still opportunity for improvement) | LT-1 List Translator 1 (Likely Benchmark-1) |
| BM-2 Benchmark 2 (use but search for safer substitutes) | LT-UNK List Translator Benchmark Unknown |
| BM-1 Benchmark 1 (avoid - chemical of high concern) | NoGS No GreenScreen. |
| BM-U Benchmark Unspecified (due to insufficient data) | |

GreenScreen Benchmark scores sometimes also carry subscripts, which provide more context for how the score was determined. These are DG (data gap), TP (transformation product), and CoHC (chemical of high concern). For more information, see 2.2.2.4 GreenScreen® for Safer Chemicals, www.greenscreenchemicals.org, and Best Practices for Hazard Screening on the HPDC website (hpd-collaborative.org).

Recycled Types

PreC Pre-consumer recycled content
PostC Post-consumer recycled content
UNK Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms:

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- *a method for the assessment of exposure or risk associated with product handling or use,*
- *a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.*

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and

