**HPD UNIQUE IDENTIFIER:** 28133
**CLASSIFICATION:** 08 44 00 Curtain Wall and Glazed Assemblies
**PRODUCT DESCRIPTION:** VDS Lite by Forster is a narrow style framing system that meets fire ratings of 20-90 minutes. This non-insulated option provides architects with modern design opportunities where a fire rating is required.

## Section 1: Summary

**Nested Method / Product Threshold**

### CONTENT INVENTORY

**Inventory Reporting Format**
- (•) Nested Materials Method
- ( ) Basic Method

**Threshold Disclosed Per**
- ( ) Material
- (•) Product

**Threshold Level**
- ( ) 100 ppm
- (•) 1,000 ppm
- ( ) Per GHS SDS
- ( ) Other

**Residuals/Impurities**
Considered in 10 of 10 Materials

**Explanation(s) provided for Residuals/Impurities?**
(•) Yes ( ) No

*All Substances Above the Threshold Indicated Are:*

**Characterized** ( ) Yes Ex/SC (•) Yes ( ) No

*% weight and role provided for all substances.*

**Screened** ( ) Yes Ex/SC (•) Yes ( ) No

*All substances screened using Priority Hazard Lists with results disclosed.*

**Identified** ( ) Yes Ex/SC ( ) Yes (•) No

*One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.*

### 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.

MATERIAL | SUBSTANCE | *RESIDUAL OR IMPURITY* GREENSCREEN SCORE | HAZARD TYPE

HOT ROLLED STEEL [ IRON LT-P1 | END NICKEL LT-1 | CAN | RES | MUL | SKI | MAM MOLYBDENUM LT-UNK VANADIUM LT-1 | MUL | CAN | GEN BORON LT-UNK NIOBIUM LT-UNK COPPER LT-P1 | GEN CHROMIUM LT-P1 | END | SKI | RES TITANIUM LT-UNK 3003-H14 ALUMINUM BM-1 | END | RES | PHY NITROGEN NoGS SULFUR LT-UNK | SKI PHOSPHORUS BM-2 | MAM | PHY SILICON LT-UNK MANGANESE LT-P1 | END | MUL | REP CARBON LT-UNK ] GASKET 1 [ NEOPRENE LT-UNK ALUMINA TRIHYDRATE BM-2 | RES CHLORINATED PARAFFIN WAXES – GENERIC LT-P1 | CAN | END | AQU | PBT CARBON BLACK BM-1 | CAN ANTIMONY TRIOXIDE BM-1 | MUL | CAN ZINC OXIDE BM-1 | END | RES | MUL | AQU 2-THIAZOLIDINETHIONE, 3-METHYL- NoGS ] STEEL BEAD [ IRON LT-P1 | END SULFUR LT-UNK | SKI PHOSPHORUS BM-2 | MAM | PHY MANGANESE LT-P1 | END | MUL | REP SILICON LT-UNK CARBON LT-UNK COPPER LT-P1 | GEN 3003-H14 ALUMINUM BM-1 | END | RES | PHY NICKEL LT-1 | CAN | RES | MUL | SKI | MAM CHROMIUM LT-P1 | END | SKI | RES TITANIUM LT-UNK VANADIUM LT-1 | MUL | CAN | GEN NITROGEN NoGS ] HOT DIPPED GALVANIZED STEEL [ IRON LT-P1 | END CHROMIUM LT-P1 | END | SKI | RES PHOSPHORUS BM-2 | PHY | MAM NICKEL LT-1 | CAN | RES | MAM | MUL | SKI TITANIUM LT-UNK VANADIUM LT-1 | MUL | CAN | GEN NITROGEN NoGS 3003-H14 ALUMINUM BM-1 | END | RES | PHY COPPER LT-P1 | GEN SULFUR LT-UNK | SKI MANGANESE LT-P1 | END | MUL | REP SILICON LT-UNK CARBON LT-UNK ] WELDING WIRE [ IRON LT-P1 | END CARBON LT-UNK MOLYBDENUM LT-UNK VANADIUM LT-1 | MUL | CAN | GEN TITANIUM LT-UNK NICKEL LT-1 | CAN | RES | MAM | MUL | SKI SILICON LT-UNK COPPER LT-UNK CHROMIUM LT-P1 | END | SKI | RES MANGANESE LT-P1 | END | MUL | REP ] STAINLESS STEEL [ IRON LT-P1 | END NITROGEN NoGS CARBON LT-UNK SILICON LT-UNK MANGANESE LT-P1 | END | MUL | REP PHOSPHORUS BM-2 | PHY | MAM SULFUR LT-UNK | SKI CHROMIUM LT-P1 | END | SKI | RES NICKEL LT-1 | CAN | RES | MAM | MUL | SKI ] PUTTY [ PN-1 RESIN LT-UNK TALC BM-1 | CAN STYRENE BM-1 | END | CAN | RES | MUL | REP | SKI | EYE |

Number of Greenscreen BM-4/BM3 contents ... 2

Contents highest concern GreenScreen Benchmark or List translator Score ... BM-1

Nanomaterial ... No

**INVENTORY AND SCREENING NOTES:**

All substances have been disclosed to at least 1,000 ppm of their respective material. Proprietary substances were disclosed by the suppliers with percentages, roles and hazards provided and entered accordingly. Not all substance name and identifiers are disclosed due to their proprietary nature to the supplier or manufacturer, however all substances are screened with their hazards reported.

MAM | DEV MAGNESIUM CARBONATE BM-3dg CONTINUOUS FILAMENT GLASS FIBER, NON-RESPIRABLE LT-UNK QUATERNARY AMMONIUM COMPOUNDS, BIS(HYDROGENATED TALLOWALKYL)DIMETHYL, MONTMORILLONITES NoGS LIMESTONE BM-3dg *QUARTZ* BM-1 | CAN TITANIUM DIOXIDE (PRIMARY CASRN IS 13463-67-7) LT-1 | CAN | END CHLORITE NoGS ] PAINT PRIMER [ UNDISCLOSED BM-3 TITANIUM DIOXIDE LT-1 | CAN | END BUTYL ACETATE LT-UNK METHYL N-AMYL KETONE BM-U ZINC OXIDE BM-1 | END | RES | MUL | AQU ] PAINT CATALYST [ HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER (HDI HOMOPOLYMER) LT-P1 BUTYL ACETATE LT-UNK 1,6-HEXAMETHYLENE DIISOCYANATE LT-UNK | RES | SKI | EYE | MAM ] PAINT TOP COAT [ TITANIUM DIOXIDE LT-1 | CAN | END UNDISCLOSED BM-3 CYCLOHEXANONE LT-P1 | CAN | END BUTYL ACETATE LT-UNK METHYL ETHYL KETONE LT-P1 | END | EYE | PHY TOLUENE BM-1 | END | DEV | MUL | REP | SKI | PHY | MAM XYLENES BM-1 | END | MUL | REP | SKI ETHYLBENZENE BM-1 | END | SKI | CAN | REP | PHY | MAM ]

**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: N/A

Other: UL Certificate of Compliance Fire Resistance

**CONSISTENCY WITH OTHER PROGRAMS**

Pre-checked for LEED v4 Material Ingredients Option 1

Third Party Verified?

- ○ Yes
- ◉ No

PREPARER: Self-Prepared
VERIFIER:
VERIFICATION #:

SCREENING DATE: 2022-04-08
PUBLISHED DATE: 2022-04-08
EXPIRY DATE: 2025-04-08

## 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 2.2, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-2-standard*

**HOT ROLLED STEEL** **%: 34.8500 - 34.9500**

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

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were investigated for this material, however based on supplier documentation it was confirmed that no residuals or impurities are present above 1,000 ppm of the product.

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

**IRON** ID: 7439-89-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:21**

%: **99.4330 - 100.0000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**NICKEL** ID: 7440-02-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:45**

%: **0.0000 - 0.0290** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| 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 |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| RES | MAK | Sensitizing Substance Sah - Danger of airway & skin sensitization |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H317 - May cause an allergic skin reaction [Skin sensitization - Category 1] |
| 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] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**MOLYBDENUM** ID: **7439-98-7**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:47**

%: **0.0000 - 0.0040** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**VANADIUM** ID: **7440-62-2**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:46**

%: **0.0000 - 0.0010** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| CAN | MAK | Carcinogen Group 2 - Considered to be carcinogenic for man |
| GEN | MAK | Germ Cell Mutagen 2 |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## BORON

ID: 7440-42-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:46**

%: **0.0000 - 0.0001** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## NIOBIUM

ID: 7440-03-1

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:46**

%: **0.0000 - 0.0001** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## COPPER

ID: 7440-50-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-03-22 13:42:59**

%: **0.0000 - 0.0260** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| GEN | GHS - New Zealand | Germ cell mutagenicity category 1 |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## CHROMIUM

ID: 7440-47-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:44**

%: **0.0000 - 0.0270** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## TITANIUM

ID: 7440-32-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:44**

%: **0.0000 - 0.0250** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**3003-H14 ALUMINUM** ID: **7429-90-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:43**

%: **0.0000 - 0.0320** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H228 - Flammable solid [Flammable solids - Category 1 or 2] |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H261 - In contact with water releases flammable gases [Substances and mixtures which, in contact with water, emit flammable gases - Category 2 or 3] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**NITROGEN** ID: **7727-37-9**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:43**

%: **0.0000 - 0.0360** GS: **NoGS** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**SULFUR** ID: **7704-34-9**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:42**

%: **0.0000 - 0.0060** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**PHOSPHORUS** ID: **7723-14-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:50**

%: **0.0000 - 0.0130** GS: **BM-2** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| MAM | US EPA - EPCRA Extremely Hazardous Substances | Extremely Hazardous Substances |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H228 - Flammable solid [Flammable solids - Category 1 or 2] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**SILICON** ID: **7440-21-3**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:50**

%: **0.0000 - 0.0120** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**MANGANESE** ID: **7439-96-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:51**

%: **0.0000 - 0.3300** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**CARBON** ID: **7440-44-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:51**

%: **0.0000 - 0.0660** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**GASKET 1** **%: 20.2700 - 20.3700**

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes MATERIAL TYPE: Polymeric Material

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were investigated for this material, however based on supplier documentation it was confirmed that no residuals or impurities are present above 1,000 ppm of the product.

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

## NEOPRENE

ID: 9010-98-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:24**

%: **40.0000 - 50.0000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Lubricant**

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

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## ALUMINA TRIHYDRATE

ID: 21645-51-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:24**

%: **35.0000 - 45.0000** GS: **BM-2** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Flame retardant**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## CHLORINATED PARAFFIN WAXES – GENERIC

ID: 63449-39-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:31**

%: **5.0000 - 10.0000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Flame retardant**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | MAK | Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification |
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| END | ChemSec - SIN List | Endocrine Disruption |
| AQU | US EPA - PPT Chemical Action Plans | Highly toxic to aquatic organisms |
| PBT | EC - CEPA DSL | Persistent, Bioaccumulative and inherently Toxic (PBiTE) to the Environment (based on aquatic organisms) |
| PBT | OSPAR - Priority PBTs & EDs & equivalent concern | PBT - Substance of Possible Concern |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## CARBON BLACK

ID: 1333-86-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:34**

%: **2.0000 - 8.0000** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Filler**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | MAK | Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification |
| 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 |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## ANTIMONY TRIOXIDE

ID: 1309-64-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:35**

%: **1.0000 - 2.5000** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Flame retardant**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| MUL | ChemSec - SIN List | CMR - Carcinogen, Mutagen &/or Reproductive Toxicant |
| CAN | CA EPA - Prop 65 | Carcinogen |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| CAN | MAK | Carcinogen Group 2 - Considered to be carcinogenic for man |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| CAN | GHS - Japan | H350 - May cause cancer [Carcinogenicity - Category 1B] |
| CAN | EU - GHS (H-Statements) Annex 6 Table 3-1 | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## ZINC OXIDE

ID: 1314-13-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:34**

%: **1.0000 - 3.0000** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Curing agent**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1] |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

**2-THIAZOLIDINETHIONE, 3-METHYL-** ID: **1908-87-8**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:36**

%: **0.5000 - 2.0000** GS: **NoGS** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Curing agent**

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

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

**STEEL BEAD** **%: 14.2200 - 14.4200**

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

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were investigated for this material, however based on supplier documentation it was confirmed that no residuals or impurities are present above 1,000 ppm of the product.

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

**IRON** ID: **7439-89-6**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:21**

%: **99.6120 - 100.0000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**SULFUR** ID: **7704-34-9**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:59**

%: **0.0000 - 0.0077** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**PHOSPHORUS** ID: **7723-14-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:49**

%: **0.0000 - 0.0104** GS: **BM-2** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| MAM | US EPA - EPCRA Extremely Hazardous Substances | Extremely Hazardous Substances |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H228 - Flammable solid [Flammable solids - Category 1 or 2] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## MANGANESE

ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:48**

%: **0.0000 - 0.2159** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## SILICON

ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:48**

%: **0.0000 - 0.0074** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## CARBON

ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:47**

%: **0.0000 - 0.0429** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## COPPER

ID: 7440-50-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:59**

%: **0.0000 - 0.0216** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| GEN | GHS - New Zealand | Germ cell mutagenicity category 1 |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**3003-H14 ALUMINUM** ID: **7429-90-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:04**

%: **0.0000 - 0.0312** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H228 - Flammable solid [Flammable solids - Category 1 or 2] |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H261 - In contact with water releases flammable gases [Substances and mixtures which, in contact with water, emit flammable gases - Category 2 or 3] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**NICKEL** ID: **7440-02-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:04**

%: **0.0000 - 0.0209** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| 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 |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| RES | MAK | Sensitizing Substance Sah - Danger of airway & skin sensitization |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H317 - May cause an allergic skin reaction [Skin sensitization - Category 1] |
| 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] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## CHROMIUM

ID: 7440-47-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:05**

%: **0.0000 - 0.0246** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## TITANIUM

ID: 7440-32-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:06**

%: **0.0000 - 0.0008** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

### VANADIUM

ID: 7440-62-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:06**

%: **0.0000 - 0.0012** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| CAN | MAK | Carcinogen Group 2 - Considered to be carcinogenic for man |
| GEN | MAK | Germ Cell Mutagen 2 |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

### NITROGEN

ID: 7727-37-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:06**

%: **0.0000 - 0.0030** GS: **NoGS** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## HOT DIPPED GALVANIZED STEEL

**%: 13.0000 - 13.1700**

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

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were investigated for this material, however based on supplier documentation it was confirmed that no residuals or impurities are present above 1,000 ppm of the product.

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

### IRON

ID: 7439-89-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:20**

%: **99.6120 - 100.0000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

### CHROMIUM

ID: 7440-47-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 0.0250** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## PHOSPHORUS

ID: 7723-14-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 0.0100** GS: **BM-2** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| PHY | EU - GHS (H-Statements) | H228 - Flammable solid |
| MAM | US EPA - EPCRA Extremely Hazardous Substances | Extremely Hazardous Substances |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## NICKEL

ID: 7440-02-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 0.0210** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | EU - GHS (H-Statements) | H351 - Suspected of causing cancer |
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| CAN | IARC | Group 1 - Agent is Carcinogenic to humans |
| CAN | US NIH - Report on Carcinogens | Known to be a human Carcinogen |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| MAM | EU - GHS (H-Statements) | H372 - Causes damage to organs through prolonged or repeated exposure |
| RES | MAK | Sensitizing Substance Sah - Danger of airway & skin sensitization |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| SKI | EU - GHS (H-Statements) | H317 - May cause an allergic skin reaction |
| CAN | CA EPA - Prop 65 | Carcinogen |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**TITANIUM** ID: **7440-32-6**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 0.0010** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**VANADIUM** ID: **7440-62-2**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:56**

%: **0.0000 - 0.0010** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| CAN | MAK | Carcinogen Group 2 - Considered to be carcinogenic for man |
| GEN | MAK | Germ Cell Mutagen 2 |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## NITROGEN

ID: 7727-37-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:00**

%: **0.0000 - 0.0030** GS: **NoGS** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## 3003-H14 ALUMINUM

ID: 7429-90-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:00**

%: **0.0000 - 0.0310** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H228 - Flammable solid [Flammable solids - Category 1 or 2] |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H261 - In contact with water releases flammable gases [Substances and mixtures which, in contact with water, emit flammable gases - Category 2 or 3] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## COPPER

ID: 7440-50-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:01**

%: **0.0000 - 0.0220** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| GEN | GHS - New Zealand | Germ cell mutagenicity category 1 |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## SULFUR

ID: 7704-34-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:01**

%: **0.0000 - 0.0080** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## MANGANESE

ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:02**

%: **0.0000 - 0.2160** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

### SILICON ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:03**

%: **0.0000 - 0.0070** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

### CARBON ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:03**

%: **0.0000 - 0.0430** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## WELDING WIRE %: 9.6600 - 9.8600

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

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were investigated for this material, however based on supplier documentation it was confirmed that no residuals or impurities are present above 1,000 ppm of the product.

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

### IRON ID: 7439-89-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:22**

%: **80.0000 - 100.0000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

### CARBON ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 1.5000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## MOLYBDENUM

ID: **7439-98-7**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 4.0000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## VANADIUM

ID: **7440-62-2**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 1.0000** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| CAN | MAK | Carcinogen Group 2 - Considered to be carcinogenic for man |
| GEN | MAK | Germ Cell Mutagen 2 |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## TITANIUM

ID: **7440-32-6**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 1.0000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## NICKEL

ID: **7440-02-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 3.0000** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | EU - GHS (H-Statements) | H351 - Suspected of causing cancer |
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| CAN | IARC | Group 1 - Agent is Carcinogenic to humans |
| CAN | US NIH - Report on Carcinogens | Known to be a human Carcinogen |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| MAM | EU - GHS (H-Statements) | H372 - Causes damage to organs through prolonged or repeated exposure |
| RES | MAK | Sensitizing Substance Sah - Danger of airway & skin sensitization |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| SKI | EU - GHS (H-Statements) | H317 - May cause an allergic skin reaction |
| CAN | CA EPA - Prop 65 | Carcinogen |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**SILICON** ID: **7440-21-3**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 1.0000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**COPPER** ID: **7440-50-8**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 1.0000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**CHROMIUM** ID: **7440-47-3**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-11-01 10:07:11**

%: **0.0000 - 10.0000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**MANGANESE** ID: **7439-96-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:33:02**

%: **0.0000 - 3.0000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**STAINLESS STEEL** **%: 2.5000 - 2.5300**

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

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were investigated for this material, however based on supplier documentation it was confirmed that no residuals or impurities are present above 1,000 ppm of the product.

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

**IRON** ID: **7439-89-6**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:23**

%: **67.1170 - 100.0000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**NITROGEN** ID: **7727-37-9**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 4.8000** GS: **NoGS** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## CARBON

ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 0.0400** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## SILICON

ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 0.5000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

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

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## MANGANESE

ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 1.2100** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| REP | Japan - GHS | Toxic to reproduction - Category 1B |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## PHOSPHORUS

ID: 7723-14-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 0.0320** GS: **BM-2** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| PHY | EU - GHS (H-Statements) | H228 - Flammable solid |
| MAM | US EPA - EPCRA Extremely Hazardous Substances | Extremely Hazardous Substances |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## SULFUR

ID: 7704-34-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 0.0010** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| SKI | EU - GHS (H-Statements) | H315 - Causes skin irritation |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## CHROMIUM

ID: 7440-47-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 18.2000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## NICKEL

ID: 7440-02-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-11-30 15:51:35**

%: **0.0000 - 8.1000** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Alloy element**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | EU - GHS (H-Statements) | H351 - Suspected of causing cancer |
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| CAN | IARC | Group 1 - Agent is Carcinogenic to humans |
| CAN | US NIH - Report on Carcinogens | Known to be a human Carcinogen |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| MAM | EU - GHS (H-Statements) | H372 - Causes damage to organs through prolonged or repeated exposure |
| RES | MAK | Sensitizing Substance Sah - Danger of airway & skin sensitization |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| SKI | EU - GHS (H-Statements) | H317 - May cause an allergic skin reaction |
| CAN | CA EPA - Prop 65 | Carcinogen |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**PUTTY** %: **0.1500 - 0.1800**

PRODUCT THRESHOLD: **1000 ppm** RESIDUALS AND IMPURITIES CONSIDERED: **Yes** MATERIAL TYPE: **Polymeric Material**

RESIDUALS AND IMPURITIES NOTES: **Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.**

OTHER MATERIAL NOTES: **The raw material range is based on content percent from a range of products and product lines that are supported by this HPD**

### PN-1 RESIN

ID: **26123-45-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:28**

%: **15.0000 - 40.0000** GS: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Polymer species**

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

SUBSTANCE NOTES: **Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.**

### TALC

ID: **14807-96-6**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:29**

%: **10.0000 - 30.0000** GS: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | MAK | Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |

SUBSTANCE NOTES: **Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.**

### STYRENE

ID: **100-42-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:29**

%: **10.0000 - 30.0000** GS: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Polymer species**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| END | ChemSec - SIN List | Endocrine Disruption |
| CAN | CA EPA - Prop 65 | Carcinogen |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| CAN | US NIH - Report on Carcinogens | Reasonably Anticipated to be Human Carcinogen |
| CAN | IARC | Group 2a - Agent is probably Carcinogenic to humans |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| CAN | MAK | Carcinogen Group 5 - Genotoxic carcinogen with very slight risk under MAK/BAT levels |
| END | EU - Priority Endocrine Disruptors | Category 1 - In vivo evidence of Endocrine Disruption Activity |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1A] |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| EYE | EU - GHS (H-Statements) Annex 6 Table 3-1 | H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A] |
| 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] |
| DEV | EU - GHS (H-Statements) Annex 6 Table 3-1 | H361d - Suspected of damaging the unborn child [Reproductive toxicity - Category 2] |

SUBSTANCE NOTES: Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.

## MAGNESIUM CARBONATE

ID: 546-93-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:30**

%: **7.0000 - 15.0000** GS: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

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

SUBSTANCE NOTES: Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.

## CONTINUOUS FILAMENT GLASS FIBER, NON-RESPIRABLE

ID: 65997-17-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:32**

%: **5.0000 - 10.0000** GS: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

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

SUBSTANCE NOTES: Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.

## QUATERNARY AMMONIUM COMPOUNDS, BIS(HYDROGENATED TALLOWALKYL)DIMETHYL, MONTMORILLONITES

ID: 68911-87-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:35**

%: **1.0000 - 5.0000** GS: **NoGS** RC: **None** NANO: **No** SUBSTANCE ROLE: **Polymer species**

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

SUBSTANCE NOTES: Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.

## LIMESTONE

ID: 1317-65-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:36**

%: **1.0000 - 5.0000** GS: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

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

SUBSTANCE NOTES: Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.

## QUARTZ

ID: 14808-60-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:39**

%: **Impurity/Residual** GS: **BM-1** RC: **None** NANO: **Unknown** SUBSTANCE ROLE: **Impurity/Residual**

| HAZARD TYPE | AGENCY AND LIST TITLES | 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 | 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 |

SUBSTANCE NOTES: Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.

**TITANIUM DIOXIDE (PRIMARY CASRN IS 13463-67-7)** ID: **946525-05-9**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:38**

%: **0.1000 - 1.0000** GS: **LT-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Brightener**

| HAZARD TYPE | AGENCY AND LIST TITLES | 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 | EU - GHS (H-Statements) Annex 6 Table 3-1 | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |

None found — No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Residuals and impurities were investigated for this material based on supplier documentation and were noted when present above 1000 ppm.

SUBSTANCE NOTES: This material has been screened but not disclosed as it is deemed proprietary by the supplier.

**CHLORITE** ID: **1318-59-8**
**TITANIUM DIOXIDE** ID: **13463-67-7**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:38**
HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:26**

%: **0.1000 - 2.0000** GS: **NoGS** RC: **None** NANO: **No** SUBSTANCE ROLE: **Brightener**
%: **20.6200 - 20.7200** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Brightener**

**PAINT PRIMER**

%: **0.0000 - 4.5100**

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes MATERIAL TYPE: Other: Paint

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were not considered as not all substances in this material are screened down to 1,000 ppm.

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

**UNDISCLOSED** ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:23**

%: **49.5000 - 50.5000** GS: **BM-3** RC: **None** NANO: **No** SUBSTANCE ROLE: **Pigment**

SUBSTANCE NOTES: This material has been screened but not disclosed as it is deemed proprietary by the supplier.

| HAZARD TYPE | AGENCY AND LIST TITLES | 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 | EU - GHS (H-Statements) Annex 6 Table 3-1 | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## BUTYL ACETATE

ID: 123-86-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:27**

%: **18.4600 - 18.6600** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Binder**

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

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## METHYL N-AMYL KETONE

ID: 110-43-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:30**

%: **8.4000 - 8.5000** GS: **BM-U** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Accelerator**

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

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## ZINC OXIDE

ID: 1314-13-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:33**

%: **2.5400 - 2.5500** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Curing agent**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| RES | AOEC - Asthmagens | Asthmagen (Rs) - sensitizer-induced |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1] |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

**PAINT CATALYST** **%: 0.0000 - 4.5100**

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes MATERIAL TYPE: Other: Catalyst

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were investigated for this material, however based on supplier documentation it was confirmed that no residuals or impurities are present above 1,000 ppm of the product.

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

## HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER (HDI HOMOPOLYMER)

ID: 28182-81-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:22**

%: **74.7000 - 74.8000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Binder**

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

SUBSTANCE NOTES: **HEXAMETHYLENE**

## BUTYL ACETATE

ID: 123-86-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:26**

%: **25.0000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Binder**

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

SUBSTANCE NOTES: **Substance ranges based on alloy composition.**

## 1,6-HEXAMETHYLENE DIISOCYANATE

ID: 822-06-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:37**

%: **0.3000 - 0.3500** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Catalyst**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| RES | AOEC - Asthmagens | Asthmagen (G) - generally accepted |
| RES | MAK | Sensitizing Substance Sah - Danger of airway & skin sensitization |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H317 - May cause an allergic skin reaction [Skin sensitization - Category 1] |
| EYE | EU - GHS (H-Statements) Annex 6 Table 3-1 | H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A] |
| RES | EU - GHS (H-Statements) Annex 6 Table 3-1 | H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled [Respiratory sensitization - Category 1] |
| MAM | EU - GHS (H-Statements) Annex 6 Table 3-1 | H331 - Toxic if inhaled [Acute toxicity (inhalation) - Category 3] |

SUBSTANCE NOTES: **Substance ranges based on supplier documentation.**

## PAINT TOP COAT

**%: 0.0000 - 4.5100**

PRODUCT THRESHOLD: **1000 ppm** RESIDUALS AND IMPURITIES CONSIDERED: **Yes** MATERIAL TYPE: **Other: Paint**

RESIDUALS AND IMPURITIES NOTES: **Residuals and impurities were not considered as not all substances in this material are screened down to 1,000 ppm.**

OTHER MATERIAL NOTES: The raw material range is based on content percent from a range of products and product lines that are supported by this HPD

## TITANIUM DIOXIDE

ID: 13463-67-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:25**

%: **29.9500 - 30.1500** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Brightener**

| HAZARD TYPE | AGENCY AND LIST TITLES | 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 | EU - GHS (H-Statements) Annex 6 Table 3-1 | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## UNDISCLOSED

ID: Undisclosed

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:25**

%: **25.3200 - 25.5200** GS: **BM-3** RC: **None** NANO: **No** SUBSTANCE ROLE: **Filler**

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

SUBSTANCE NOTES: This material is screened but not disclosed as it is deemed proprietary by the supplier.

## CYCLOHEXANONE

ID: 108-94-1

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:27**

%: **19.5100 - 19.7100** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Catalyst**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| CAN | MAK | Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification |
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |

SUBSTANCE NOTES: Substance ranges based on alloy composition.

## BUTYL ACETATE

ID: 123-86-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:28**

%: **11.4600 - 11.7600** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Binder**

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

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## METHYL ETHYL KETONE

ID: 78-93-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:31**

%: **6.0300 - 6.1300** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Catalyst**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| EYE | EU - GHS (H-Statements) Annex 6 Table 3-1 | H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A] |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2] |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## TOLUENE

ID: 108-88-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:32**

%: **4.4500 - 4.5500** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Catalyst**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| DEV | G&L - Neurotoxic Chemicals | Developmental Neurotoxicant |
| DEV | CA EPA - Prop 65 | Developmental toxicity |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| REP | CA EPA - Prop 65 | Reproductive Toxicity - Female |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1A] |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2] |
| MAM | EU - GHS (H-Statements) Annex 6 Table 3-1 | H304 - May be fatal if swallowed and enters airways [Aspiration hazard - Category 1] |
| DEV | EU - GHS (H-Statements) Annex 6 Table 3-1 | H361d - Suspected of damaging the unborn child [Reproductive toxicity - Category 2] |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## XYLENES

ID: 1330-20-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:33**

%: **2.7900 - 2.9900** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Binder**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | German FEA - Substances Hazardous to Waters | Class 2 - Hazard to Waters |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

**ETHYLBENZENE** ID: **100-41-4**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:37**

%: **0.4900 - 0.5900** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Binder**

| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| CAN | CA EPA - Prop 65 | Carcinogen |
| CAN | MAK | Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B] |
| REP | GHS - Japan | H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1A] |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2] |
| MAM | EU - GHS (H-Statements) Annex 6 Table 3-1 | H304 - May be fatal if swallowed and enters airways [Aspiration hazard - Category 1] |

SUBSTANCE NOTES: Substance ranges based on supplier documentation.

## 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** — **N/A**

CERTIFYING PARTY: Self-declared
APPLICABLE FACILITIES: All Facilities
CERTIFICATE URL:
ISSUE DATE: 2022-03-22
EXPIRY DATE: 2024-03-22
CERTIFIER OR LAB: None.

CERTIFICATION AND COMPLIANCE NOTES: VOC testing is not applicable to this product

**OTHER** — **UL Certificate of Compliance Fire Resistance**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: All Facilities
CERTIFICATE URL:
https://vetrotech.showpad.com/share/3im6d2KdVO2susrS7EqGD
ISSUE DATE: 2015-11-03
EXPIRY DATE: 2022-11-02
CERTIFIER OR LAB: UL

CERTIFICATION AND COMPLIANCE NOTES: UL Certificate of Compliance Fire Resistance
https://vetrotech.showpad.com/share/3im6d2KdVO2susrS7EqGD

## 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

Vetrotech takes our environmental responsibilities very seriously. We can offer our customers complete assurance that our glass solutions meet internationally recognized environmental standards at every stage of their life cycles. In terms of building sustainability, our solutions come with REACH certification and contribute to the building occupants' comfort and safety. We also support you in gaining points for sustainable building labels such as LEED, BREAM, WELL, DGNB, HQE and others by providing you EPDs and HPDs on demand.

For more information, visit www.vetrotech.com. To learn about how Vetrotech can contribute to green building labels, visit greenbuilding.sant-gobain.com.

# Section 6: References

## MANUFACTURER INFORMATION


MANUFACTURER: **Saint Gobain**
ADDRESS: **2108 B Street N.W. Suite 110**
**Auburn WA 98001, USA**
WEBSITE: **https://www.vetrotech.com/en/usa/downloads**

CONTACT NAME: **Lori Jerome**
TITLE: **Digital Marketing Analyst, North America**
PHONE: **+1 888 803 9533**
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*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
**CAN** Cancer
**DEV** Developmental toxicity
**END** Endocrine activity
**EYE** Eye irritation/corrosivity
**GEN** Gene mutation
**GLO** Global warming
**LAN** Land toxicity
**MAM** Mammalian/systemic/organ toxicity
**MUL** Multiple
**NEU** Neurotoxicity
**NF** Not found on Priority Hazard Lists
**OZO** Ozone depletion
**PBT** Persistent, bioaccumulative, and toxic
**PHY** Physical hazard (flammable or reactive)
**REP** Reproductive
**RES** Respiratory sensitization
**SKI** Skin sensitization/irritation/corrosivity
**UNK** Unknown

**GreenScreen (GS)**

**BM-4** Benchmark 4 (prefer-safer chemical)
**BM-3** Benchmark 3 (use but still opportunity for improvement)
**BM-2** Benchmark 2 (use but search for safer substitutes)
**BM-1** Benchmark 1 (avoid - chemical of high concern)
**BM-U** Benchmark Unspecified (due to insufficient data)
**LT-P1** List Translator Possible 1 (Possible Benchmark-1)
**LT-1** List Translator 1 (Likely Benchmark-1)
**LT-UNK** List Translator Benchmark Unknown (the chemical is present on at least one GreenScreen Specified List, but the information contained within the list did not result in a clear mapping to a LT-1 or LTP1 score.)
**NoGS** No GreenScreen.

**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 for compliance with the HPD standard noted.*