

HPD UNIQUE IDENTIFIER: 28134

CLASSIFICATION: 08 44 00 Curtain Wall and Glazed Assemblies

PRODUCT DESCRIPTION: VDS Curtain Wall by Forster is a comprehensive steel curtain wall system that offers monumental advantages. Ideal for applications that require high-span, self-supporting construction. VDS Curtain Wall by Forster can meet the demand for fire resistance and a barrier to radiant heat in both interior and exterior openings. The versatile VDS Curtain Wall by Forster features a thermal break which adds to the overall performance of this fire-rated system.

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

<p><b>Inventory Reporting Format</b></p> <p><input checked="" type="radio"/> Nested Materials Method <input type="radio"/> Basic Method</p> <p><b>Threshold Disclosed Per</b></p> <p><input type="radio"/> Material <input checked="" type="radio"/> Product</p>	<p><b>Threshold Level</b></p> <p><input type="radio"/> 100 ppm <input checked="" type="radio"/> 1,000 ppm <input type="radio"/> Per GHS SDS <input type="radio"/> Other</p>	<p><b>Residuals/Impurities</b></p> <p>Considered in 11 of 11 Materials</p> <p><b>Explanation(s) provided for Residuals/Impurities?</b></p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p><i>All Substances Above the Threshold Indicated Are:</i></p> <p><b>Characterized</b> <input type="radio"/> Yes Ex/SC <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><i>% weight and role provided for all substances.</i></p> <p><b>Screened</b> <input type="radio"/> Yes Ex/SC <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><i>All substances screened using Priority Hazard Lists with results disclosed.</i></p> <p><b>Identified</b> <input type="radio"/> Yes Ex/SC <input type="radio"/> Yes <input checked="" type="radio"/> No</p> <p><i>One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.</i></p>
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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 2 [ CARBON BLACK BM-1 | CAN ETHYLENE/PROPYLENE/DIENE TERPOLYMER (EPDM) LT-UNK LIMESTONE, CALCIUM CARBONATE BM-3dg ACTIVE DICUMYL PEROXIDE LT-P1 | MUL | RES | SKI | EYE | AQU | PHY CALCIUM OXIDE BM-2 HYDROTREATED HEAVY PARAFFINIC PETROLEUM DISTILLATES (MINERAL OIL) LT-1 | CAN | MUL RESIDUAL OILS, PETROLEUM, HYDROTREATED LT-1 | CAN | PBT | MUL ] PRESSURE PLATE [ IRON LT-P1 | END MANGANESE LT-P1 | END | MUL | REP SILICON LT-UNK CARBON LT-UNK PHOSPHORUS BM-2 | MAM | PHY NITROGEN NoGS NICKEL LT-1 | CAN | RES | MUL | SKI | MAM CHROMIUM LT-P1 | END | SKI | RES SULFUR LT-UNK | SKI ] WELDING WIRE [ IRON LT-P1 | END VANADIUM LT-1 | MUL | CAN | GEN SILICON LT-UNK NICKEL LT-1 | CAN | RES | MUL | SKI | MAM TITANIUM LT-UNK MOLYBDENUM LT-UNK CARBON LT-UNK MANGANESE LT-P1 | END | MUL | REP COPPER LT-P1 | GEN CHROMIUM LT-P1 | END | SKI | RES ] COVER CAP [ 3003-H14 ALUMINUM BM-1 | END | RES | PHY MAGNESIUM LT-UNK | PHY SILICON LT-UNK IRON LT-P1 | END MANGANESE LT-P1 | END | MUL | REP TITANIUM LT-UNK ZINC LT-P1 | AQU | PHY | END | MUL CHROMIUM LT-P1 | END | SKI | RES COPPER LT-P1 | GEN ] STAINLESS STEEL [ IRON LT-P1 | END NITROGEN NoGS NICKEL LT-1 | CAN | RES | MUL | SKI | MAM CHROMIUM LT-P1 | END | SKI | RES SULFUR LT-UNK | SKI PHOSPHORUS BM-2 | MAM | PHY SILICON LT-UNK CARBON LT-UNK MANGANESE LT-P1 | END | MUL | REP ] SCREWS [ IRON LT-P1 | END NICKEL LT-1 | CAN | RES | MUL | SKI | MAM MANGANESE LT-P1 |**

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.

END | MUL | REP **CHROMIUM** LT-P1 | END | SKI | RES **CARBON** LT-UNK  
**SILICON** LT-UNK **PHOSPHORUS** BM-2 | MAM | PHY **SULFUR** LT-UNK |  
SKI **BORON** LT-UNK ] **PUTTY** [ **PN-1 RESIN** LT-UNK **TALC** BM-1 | CAN  
**STYRENE** BM-1 | END | CAN | RES | MUL | REP | SKI | EYE | 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  
**CHLORITE** NoGS **TITANIUM DIOXIDE** LT-1 | CAN | END ] **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

**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](http://www.hpd-collaborative.org/hpd-2-2-standard)

### HOT ROLLED STEEL

#: 56.5000 - 56.6900

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 10:31:44

#: 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: The substance ranges based on alloy composition provided by the supplier.

### NICKEL

ID: 7440-02-0

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2022-03-22 12:26:31

#: 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: The substance ranges based on alloy composition provided by the supplier.

## MOLYBDENUM

ID: 7439-98-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:18**  
 %: **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: The substance ranges based on alloy composition provided by the supplier.

## VANADIUM

ID: 7440-62-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:19**  
 %: **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: The substance ranges based on alloy composition provided by the supplier.

## BORON

ID: 7440-42-8

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

#: **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: The substance ranges based on alloy composition provided by the supplier.

## NIOBIUM

ID: 7440-03-1

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:19**

#: **0.0000 - 0.0001** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Tensile strength additive**

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

SUBSTANCE NOTES: The substance ranges based on alloy composition provided by the supplier.

## COPPER

ID: 7440-50-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-03-22 12:26:32**

#: **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: The substance ranges based on alloy composition provided by the supplier.

## CHROMIUM

ID: 7440-47-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-03-22 12:26:31**

#: **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: The substance ranges based on alloy composition provided by the supplier.

### TITANIUM

ID: 7440-32-6

HAZARD SCREENING METHOD: <b>Pharos Chemical and Materials Library</b>	HAZARD SCREENING DATE: <b>2022-03-22 12:26:30</b>
%: <b>0.0000 - 0.0250</b>	GS: <b>LT-UNK</b> RC: <b>UNK</b> NANO: <b>No</b> SUBSTANCE ROLE: <b>Alloy element</b>

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

SUBSTANCE NOTES: The substance ranges based on alloy composition provided by the supplier.

### 3003-H14 ALUMINUM

ID: 7429-90-5

HAZARD SCREENING METHOD: <b>Pharos Chemical and Materials Library</b>	HAZARD SCREENING DATE: <b>2022-03-22 12:26:30</b>
%: <b>0.0000 - 0.0320</b>	GS: <b>BM-1</b> RC: <b>UNK</b> NANO: <b>No</b> SUBSTANCE ROLE: <b>Alloy element</b>

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: The substance ranges based on alloy composition provided by the supplier.

### NITROGEN

ID: 7727-37-9

HAZARD SCREENING METHOD: <b>Pharos Chemical and Materials Library</b>	HAZARD SCREENING DATE: <b>2022-03-22 12:26:29</b>
%: <b>0.0000 - 0.0360</b>	GS: <b>NoGS</b> RC: <b>UNK</b> NANO: <b>No</b> SUBSTANCE ROLE: <b>Corrosion inhibitor</b>

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

SUBSTANCE NOTES: The substance ranges based on composition provided by the supplier.

### SULFUR

ID: 7704-34-9

HAZARD SCREENING METHOD: <b>Pharos Chemical and Materials Library</b>	HAZARD SCREENING DATE: <b>2022-03-22 12:26:33</b>
%: <b>0.0000 - 0.0060</b>	GS: <b>LT-UNK</b> RC: <b>UNK</b> NANO: <b>No</b> SUBSTANCE ROLE: <b>Chelating agent</b>

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: The substance ranges based on alloy composition provided by the supplier.

### PHOSPHORUS

ID: 7723-14-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:13**

#: **Impurity/Residual** GS: **BM-2** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Impurity/Residual**

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: The substance ranges based on alloy composition provided by the supplier.

### SILICON

ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:07**

#: **0.0000 - 0.0120** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Antioxidant**

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

SUBSTANCE NOTES: The substance ranges based on composition provided by the supplier.

### MANGANESE

ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:12**

#: **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: The substance ranges based on alloy composition provided by the supplier.

### CARBON

ID: 7440-44-0

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

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

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

**CARBON BLACK**

ID: 1333-86-4

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-04-08 10:31:48

%: 30.0000 - 40.0000

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.

**ETHYLENE/PROPYLENE/DIENE TERPOLYMER (EPDM)**

ID: 25038-36-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-04-08 10:31:49

%: 25.0000 - 35.0000

GS: LT-UNK

RC: UNK

NANO: No

SUBSTANCE ROLE: Plasticizer

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

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

**LIMESTONE, CALCIUM CARBONATE**

ID: 1317-65-3

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-03-22 12:26:11

%: 10.0000 - 20.0000

GS: BM-3dg

RC: UNK

NANO: No

SUBSTANCE ROLE: Filler

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

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

**ACTIVE DICUMYL PEROXIDE**

ID: 80-43-3

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-04-08 10:31:58

%: 1.0000 - 3.0000

GS: LT-P1

RC: UNK

NANO: No

SUBSTANCE ROLE: Curing agent



HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
RES	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
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]
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]
PHY	EU - GHS (H-Statements) Annex 6 Table 3-1	H242 - Heating may cause a fire [Self-reactive substances and mixtures; and Organic peroxides - Types C or D or E or F]

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

#### CALCIUM OXIDE

ID: 1305-78-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:00**

#: **0.5000 - 2.0000** GS: **BM-2** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Humectant**

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

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

#### HYDROTREATED HEAVY PARAFFINIC PETROLEUM DISTILLATES (MINERAL OIL)

ID: 64742-54-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:17**

#: **0.0000 - 25.0000** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Lubricant**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	EU - REACH Annex XVII CMRs	Carcinogen Category 2 - Substances which should be regarded as if they are Carcinogenic to man
CAN	EU - Annex VI CMRs	Carcinogen Category 1B - Presumed Carcinogen based on animal evidence
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
CAN	GHS - Australia	H350 - May cause cancer [Carcinogenicity - Category 1A or 1B]
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H350 - May cause cancer [Carcinogenicity - Category 1A or 1B]

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.. Purified and free of PAH, therefore classified as non-dangerous (DMSO-extract below 3 %wt).

## RESIDUAL OILS, PETROLEUM, HYDROTREATED

ID: 64742-57-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:18**

%: **0.0000 - 25.0000** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Lubricant**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	EU - REACH Annex XVII CMRs	Carcinogen Category 2 - Substances which should be regarded as if they are Carcinogenic to man
CAN	EU - Annex VI CMRs	Carcinogen Category 1B - Presumed Carcinogen based on animal evidence
PBT	EC - CEPA DSL	Persistent, Bioaccumulative and inherently Toxic (PBiTH) to humans
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
CAN	GHS - Australia	H350 - May cause cancer [Carcinogenicity - Category 1A or 1B]
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H350 - May cause cancer [Carcinogenicity - Category 1A or 1B]

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier. Substance ranges based on supplier documentation. Purified and free of PAH, therefore classified as non-dangerous (DMSO-extract below 3 %wt).

## PRESSURE PLATE

%: **12.3100 - 12.4100**

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 10:31:46**

%: **71.5200 - 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: The substance ranges based on alloy composition provided by the supplier.

## MANGANESE

ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:16**

%: **0.0000 - 1.5800** 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: The substance ranges based on alloy composition provided by the supplier.

### SILICON

ID: 7440-21-3

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-08 10:32:16		
#: 0.0000 - 0.4000	GS: LT-UNK	RC: UNK	NANO: No	SUBSTANCE ROLE: Antioxidant
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

### CARBON

ID: 7440-44-0

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-08 10:32:17		
#: 0.0000 - 0.0200	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: The substance ranges based on alloy composition provided by the supplier.

### PHOSPHORUS

ID: 7723-14-0

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-08 10:32:21		
#: 0.0000 - 0.0340	GS: BM-2	RC: UNK	NANO: No	SUBSTANCE ROLE: Tensile strength additive
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: The substance ranges are based on information provided by the raw material supplier.

### NITROGEN

ID: 7727-37-9

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-08 10:32:29		
#: 0.0000 - 0.0450	GS: NoGS	RC: UNK	NANO: No	SUBSTANCE ROLE: Corrosion inhibitor

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

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

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

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-08 10:32:29		
%: 0.0000 - 8.1000	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: The substance ranges based on alloy composition provided by the supplier.

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

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-08 10:32:30		
%: 0.0000 - 18.3000	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: The substance ranges based on alloy composition provided by the supplier.

**SULFUR**

ID: 7704-34-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:30**%: **0.0000 - 0.0010** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Chelating agent**

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: The substance ranges based on alloy composition provided by the supplier.

**WELDING WIRE**%: **6.5000 - 6.7000**

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 10:31:45**%: **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: The substance ranges based on alloy composition provided by the supplier.

**VANADIUM**

ID: 7440-62-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-03-22 12:26:43**%: **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: The substance ranges based on alloy composition provided by the supplier.

**SILICON**

ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:24**%: **0.0000 - 1.0000** 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: The substance ranges are based on information provided by the raw material supplier.

**NICKEL**

ID: 7440-02-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:25**%: **0.0000 - 3.0000** 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: The substance ranges based on alloy composition provided by the supplier.

**TITANIUM**

ID: 7440-32-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:26**%: **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: The substance ranges based on alloy composition provided by the supplier.

**MOLYBDENUM**

ID: 7439-98-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:27**%: **0.0000 - 4.0000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Corrosion inhibitor**

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

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

**CARBON**

ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:27**%: **0.0000 - 1.5000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Tensile strength additive**

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

SUBSTANCE NOTES: The substance ranges based on alloy composition provided by the supplier.

**MANGANESE**

ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:28**%: **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: The substance ranges based on alloy composition provided by the supplier.

**COPPER**

ID: 7440-50-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:28**%: **0.0000 - 1.0000** 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: The substance ranges based on alloy composition provided by the supplier.

**CHROMIUM**

ID: 7440-47-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:28**%: **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: The substance ranges based on alloy composition provided by the supplier.

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

**3003-H14 ALUMINUM**

ID: 7429-90-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: 2022-04-08 10:31:45%: 98.0000 - 99.2500 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: The substance ranges based on alloy composition provided by the supplier.

**MAGNESIUM**

ID: 7439-95-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: 2022-04-08 10:32:01%: 0.3500 - 0.6000 GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Tensile strength additive**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
PHY	EU - GHS (H-Statements) Annex 6 Table 3-1	H260 - In contact with water releases flammable gases which may ignite spontaneously [Substances and mixtures which, in contact with water, emit flammable gases - Category 1]
PHY	EU - GHS (H-Statements) Annex 6 Table 3-1	H250 - Catches fire spontaneously if exposed to air [Pyrophoric liquids; Pyrophoric solids - Category 1]

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

**SILICON**

ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: 2022-04-08 10:32:02%: 0.3000 - 0.6000 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: The substance ranges are based on information provided by the raw material supplier.

**IRON**

ID: 7439-89-6

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



#: 0.1000 - 0.3000

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: The substance ranges based on alloy composition provided by the supplier.

**MANGANESE**

ID: 7439-96-5

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2018-11-30 16:11:15

#: 0.0000 - 0.1000

GS: LT-P1

RC: UNK

NANO: No

SUBSTANCE ROLE: Tensile strength additive

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: The substance ranges are based on information provided by the raw material supplier.

**TITANIUM**

ID: 7440-32-6

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-04-08 10:32:14

#: 0.0000 - 0.1000

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: The substance ranges based on alloy composition provided by the supplier.

**ZINC**

ID: 7440-66-6

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2018-11-30 16:11:15

#: 0.0000 - 0.1500

GS: LT-P1

RC: UNK

NANO: No

SUBSTANCE ROLE: Alloy element

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
AQU	EU - GHS (H-Statements)	H400 - Very toxic to aquatic life
AQU	EU - GHS (H-Statements)	H410 - Very toxic to aquatic life with long lasting effects
PHY	EU - GHS (H-Statements)	H250 - Catches fire spontaneously if exposed to air
PHY	EU - GHS (H-Statements)	H260 - In contact with water releases flammable gases which may ignite spontaneously
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters

SUBSTANCE NOTES: The substance ranges based on alloy composition provided by the supplier.

**CHROMIUM**

ID: 7440-47-3

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

#: **0.0000 - 0.0500** 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: The substance ranges based on alloy composition provided by the supplier.

## COPPER

ID: **7440-50-8**

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

#: **0.0000 - 0.1000** 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: The substance ranges based on alloy composition provided by the supplier.

## STAINLESS STEEL

#: **1.1000 - 1.1600**

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 10:31:47**

#: **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: The substance ranges based on alloy composition provided by the supplier.

## NITROGEN

ID: **7727-37-9**

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

#: **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: The substance ranges based on alloy composition provided by the supplier.

**NICKEL**

ID: 7440-02-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:23**%: **0.0000 - 8.1000** 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: The substance ranges based on alloy composition provided by the supplier.

**CHROMIUM**

ID: 7440-47-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:22**%: **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: The substance ranges based on alloy composition provided by the supplier.

**SULFUR**

ID: 7704-34-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:22**%: **0.0000 - 0.0010** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Chelating agent**

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: The substance ranges based on alloy composition provided by the supplier.

### PHOSPHORUS

ID: 7723-14-0

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

#: **0.0000 - 0.0320** 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: The substance ranges based on alloy composition provided by the supplier.

### SILICON

ID: 7440-21-3

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

#: **0.0000 - 0.5000** 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: The substance ranges are based on information provided by the raw material supplier.

### CARBON

ID: 7440-44-0

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

#: **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: The substance ranges based on alloy composition provided by the supplier.

### MANGANESE

ID: 7439-96-5

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

#: **0.0000 - 1.2100** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Tensile strength additive**

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: The substance ranges are based on information provided by the raw material supplier.

## SCREWS

#: 0.1900

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 10:31:46

#: 70.0620 - 98.8040      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: The substance ranges based on alloy composition provided by the supplier.

## NICKEL

ID: 7440-02-0

#: **11.1200** 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: The substance ranges based on alloy composition provided by the supplier.

## MANGANESE

ID: **7439-96-5**

#: **0.8000 - 0.8490** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Tensile strength additive**

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: The substance ranges based on alloy composition provided by the supplier.

## CHROMIUM

ID: **7440-47-3**

#: **0.0740 - 17.9600** 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: The substance ranges based on alloy composition provided by the supplier.

### CARBON

ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:06**  
 %: **0.0150 - 0.1670** 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: The substance ranges based on alloy composition provided by the supplier.

### SILICON

ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:05**  
 %: **0.0150 - 0.0840** 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: The substance ranges are based on information provided by the raw material supplier.

### PHOSPHORUS

ID: 7723-14-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:06**  
 %: **0.0090 - 0.0270** 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: The substance ranges based on alloy composition provided by the supplier.

### SULFUR

ID: 7704-34-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:07**  
 %: **0.0010 - 0.0100** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Chelating agent**

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.

**BORON**

ID: 7440-42-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-03-22 12:47:32**  
 %: **0.0000 - 0.0030** GS: **LT-UNK** RC: **None** 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: The substance ranges based on alloy composition provided by the supplier.

**PUTTY**

%: 0.0400 - 0.0900

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 100 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.

**PN-1 RESIN**

ID: 26123-45-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:52**  
 %: **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: The substance ranges based on putty composition provided by the supplier.

**TALC**

ID: 14807-96-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:54**

%: **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: The substance ranges are based on putty composition provided by the supplier.

**STYRENE**

ID: 100-42-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:54**

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

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: The substance ranges are based on putty composition provided by the supplier.

**MAGNESIUM CARBONATE**

ID: 546-93-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:55**%: **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: The substance ranges are based on putty composition provided by the supplier.

**CONTINUOUS FILAMENT GLASS FIBER, NON-RESPIRABLE**

ID: 65997-17-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:56**%: **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: The substance ranges are based on putty composition provided by the supplier.

**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 10:31:59**%: **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: The substance ranges are based on putty composition provided by the supplier.

**LIMESTONE**

ID: 1317-65-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:59**%: **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: The substance ranges are based on putty composition provided by the supplier.

**QUARTZ**

ID: 14808-60-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:04**%: **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: The substance ranges are based on putty composition provided by the supplier.

### CHLORITE

ID: 1318-59-8

HAZARD SCREENING METHOD: <b>Pharos Chemical and Materials Library</b>		HAZARD SCREENING DATE: <b>2022-04-08 10:32:03</b>		
#: <b>0.1000 - 2.0000</b>	GS: <b>NoGS</b>	RC: <b>None</b>	NANO: <b>No</b>	SUBSTANCE ROLE: <b>Brightener</b>
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		

SUBSTANCE NOTES: The substance ranges are based on putty composition provided by the supplier.

### TITANIUM DIOXIDE

ID: 13463-67-7

HAZARD SCREENING METHOD: <b>Pharos Chemical and Materials Library</b>		HAZARD SCREENING DATE: <b>2022-04-08 10:32:03</b>		
#: <b>0.1000 - 1.0000</b>	GS: <b>LT-1</b>	RC: <b>None</b>	NANO: <b>No</b>	SUBSTANCE ROLE: <b>Brightener</b>
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		

### PAINT PRIMER

CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
PRODUCT THRESHOLD: 1000 ppm	RESIDUALS AND IMPURITIES CONSIDERED: Yes	MATERIAL TYPE: Other: Paint

SUBSTANCE NOTES: The substance ranges are based on putty composition provided by the supplier.  
 RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were not considered as not all substances in this material are screened down to 1,000 ppm.

**UNDISCLOSED**

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:47**

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

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

SUBSTANCE NOTES: This material is considered proprietary by the paint supplier thus it is screened by not disclosed.

**TITANIUM DIOXIDE**

ID: **13463-67-7**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:50**

#: **20.6200 - 20.7500** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Opacifier**

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: The substance ranges are based on information provided by the raw material supplier.

**BUTYL ACETATE**

ID: **123-86-4**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:51**

#: **18.4600 - 18.8800** 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: The substance ranges are based on information provided by the raw material supplier.

**METHYL N-AMYL KETONE**

ID: **110-43-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:55**

#: **8.4000 - 8.5000** GS: **BM-U** 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: The substance ranges are based on information provided by the raw material supplier.

**ZINC OXIDE**

ID: 1314-13-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:58**

#: **2.5400 - 2.6600** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Brightener**

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: The substance ranges are based on information provided by the raw material supplier.

**PAINT CATALYST**

#: **0.0000 - 4.6700**

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 10:31:45**

#: **74.7000 - 74.9000** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Catalyst**

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

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

**BUTYL ACETATE**

ID: 123-86-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:49**

#: **25.0000 - 25.5000** GS: **LT-UNK** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Catalyst**

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

SUBSTANCE NOTES: The substance ranges are based on information provided by the raw material supplier.

**1,6-HEXAMETHYLENE DIISOCYANATE**

ID: 822-06-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:32:02**

#: **0.3000 - 0.3300** 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: The substance ranges are based on information provided by the raw material supplier.

**PAINT TOP COAT**

#: **0.0000 - 4.6700**

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.

**TITANIUM DIOXIDE**

ID: 13463-67-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:48**

#: **29.9500 - 30.0500** 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: The substance ranges are based on information provided by the raw material supplier.

**UNDISCLOSED**

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:50**

#: **23.3200 - 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 by not disclosed as the per the paint supplier.

**CYCLOHEXANONE**

ID: 108-94-1

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:51**

#: **19.5100 - 19.6500** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Detergent**

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: The substance ranges are based on information provided by the raw material supplier.

**BUTYL ACETATE**

ID: 123-86-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:52**

#: **11.4600 - 11.6600** 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: The substance ranges are based on information provided by the raw material supplier.

### METHYL ETHYL KETONE

ID: 78-93-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:56**

#: **6.0300 - 6.1300** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Emulsifier**

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: The substance ranges are based on information provided by the raw material supplier.

### TOLUENE

ID: 108-88-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:57**

#: **4.4500 - 4.5000** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Viscosity modifier**

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: The substance ranges are based on information provided by the raw material supplier.

### XYLENES

ID: 1330-20-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-08 10:31:57**



%: 2.7900 - 2.8500

GS: BM-1

RC: UNK

NANO: No

SUBSTANCE ROLE: Detergent

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: The substance ranges are based on information provided by the raw material supplier.

**ETHYLBENZENE**

ID: 100-41-4

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-04-08 10:32:01

%: 0.4900 - 0.5100

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: The substance ranges are based on information provided by the raw material supplier.

## 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	ISSUE DATE: 2022-03-	EXPIRY DATE: 2024-	CERTIFIER OR LAB: N/A
APPLICABLE FACILITIES: N/A	22	03-22	
CERTIFICATE URL:			
CERTIFICATION AND COMPLIANCE NOTES: VOC testing is not applicable in this product			
OTHER	UL Certificate of Compliance		
CERTIFYING PARTY: Third Party	ISSUE DATE: 2014-	EXPIRY DATE: 2023-	CERTIFIER OR LAB: UL
APPLICABLE FACILITIES: All	03-14	03-14	
CERTIFICATE URL:			
<a href="https://vetrotech.showpad.com/share/0DtpAJGbt4N8qTTEoWAr1">https://vetrotech.showpad.com/share/0DtpAJGbt4N8qTTEoWAr1</a>			
CERTIFICATION AND COMPLIANCE NOTES: Impact and Storm Resistance			

## 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.*

CONTRAFLAM 60, 90, AND 120	HPD URL: <a href="https://www.greenliteglass.com/dat/files/46.pdf">https://www.greenliteglass.com/dat/files/46.pdf</a>
CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:	
No other condition recommended or required.	

## 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](http://www.vetrotech.com). To learn about how Vetrotech can contribute to green building labels, visit [greenbuilding.sant-gobain.com](http://greenbuilding.sant-gobain.com).

**MANUFACTURER INFORMATION**

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CONTACT NAME: **Lori Jerome**  
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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**

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

**GreenScreen (GS)**

<b>BM-4</b> Benchmark 4 (prefer-safer chemical)	<b>LT-1</b> List Translator 1 (Likely Benchmark-1)
<b>BM-3</b> Benchmark 3 (use but still opportunity for improvement)	<b>LT-UNK</b> 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.)
<b>BM-2</b> Benchmark 2 (use but search for safer substitutes)	
<b>BM-1</b> Benchmark 1 (avoid - chemical of high concern)	
<b>BM-U</b> Benchmark Unspecified (due to insufficient data)	
<b>LT-P1</b> List Translator Possible 1 (Possible Benchmark-1)	<b>NoGS</b> 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.*