Section 1: Summary

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 8 of 8 Materials
- Yes Ex/SC
- Yes
- No

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
--- | --- | --- | --- | ---
PVC | POLYVINYL CHLORIDE | LT-P1 | RES | 1,2-PROPANE DIOL, POLYMER WITH 1,1'-METHYLENEBIS(4-ISOCYANATOBENZENE), 2-METHYLOXIRANE AND OXIRANE | NoGS, 1,3-BUTADIENE, 1-CHLORO-1,3-BUTADIENE, POLYMER WITH 1,3-BUTADIENE AND 2-CHLORO-1,3-BUTADIENE LT-UNK, 2-BUTENE LT-UNK | PHY, ACETYLENE, LT-UNK | PHYS, BUTENE, LT-UNK, ETHYLENE DICHLORIDE (1,2-DICHOROETHANE) LT-1 | CAN | PHY | SKI | EYE | MUL
HYDROCHLORIC ACID | BM-3 | RES | SKI | MAM IRON | LT-P1 | END
PROPYLENE | BM-U | PHY | END | SODIUM HYDROXIDE | LT-P1 | SKI | PHY |
POLYETHYLENE TEREPHTHALATE | [POLYETHYLENE TEREPHTHALATE] LT-UNK, ANTIMONY TRIOXIDE BM-3 | CAN | MUL | MANGANESE OXIDE LT-P1 | REP, NITROGEN NOGS, ZINC OXIDE BM-1 | RES | AOU | END | MUL |
PLASTICIZER | [DI(2-ETHYLHEXYL) TEREPTHALATE BM-3 | 2-ETHYLEXIL, METHYL, TEREPTHALATE NOGS] | CALCIUM CARBONATE | BM-3 | TITANIUM DIOXIDE | TITANIUM DIOXIDE LT-1 | CAN | END | ZINC STEARATE | OCTADECAANOIC ACID, ZINC SALT LT-UNK | ANTIMONY OXIDE | ANTIMONY OXIDE (ANTIMONY TRIOXIDE) BM-1 | CAN | AOU | MUL | ANTIMONY, ELEMENTAL LT-1 | AOU | CAN
ANTIMONY TRISULFIDE | LT-1 | AOU | CAN | ARSENIC, INORGANIC LT-1 | DEL | CAN | PBT | AOU | MAM | END | MUL | GEN COPPER LT-UNK | IRON LT-P1 | END | LEAD LT-1 | DEL | CAN | PBT | REP | MUL | END | GEN NICKEL (METALLIC) LT-1 | RES | CAN | SKI | MAM | MUL | ZINC PYRITHIONE | ZINC PYRITHIONE BM-1tG | MUL |

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: UL/GreenGuard Gold Certified
### CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients, Option 1

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| VERIFIER:             | PUBLISHED DATE: 2020-07-23 |
|                       |                           |
| VERIFICATION #:       |                           |

| SCREENING DATE:       |                           |
|                       |                           |
| PUBLISHED DATE:       |                           |
| EXPIRY DATE:          |                           |

<table>
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<th>hpdrepository.hpd-collaborative.org</th>
</tr>
</thead>
</table>

HPD v2.2 created via HPDC Builder Page 2 of 20
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 HPD website at: [www.hpd-collaborative.org/hpd-2-2-standard](http://www.hpd-collaborative.org/hpd-2-2-standard)

### PVC

<table>
<thead>
<tr>
<th>%: 40.0000 - 60.0000</th>
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<tbody>
<tr>
<td><strong>PRODUCT THRESHOLD:</strong> 100 ppm</td>
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<tr>
<td><strong>RESIDUALS AND IMPURITIES CONSIDERED:</strong> Yes</td>
</tr>
<tr>
<td><strong>MATERIAL TYPE:</strong> Polymeric Material</td>
</tr>
</tbody>
</table>

**RESIDUALS AND IMPURITIES NOTES:** Residuals and impurities were considered using the toxnet database. For more information about this database see RESIDUALS AND IMPURITIES SCREENING NOTES.

**OTHER MATERIAL NOTES:** Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

### POLYVINYL CHLORIDE

**ID:** 9002-86-2

<table>
<thead>
<tr>
<th>%: 40.0000 - 60.0000</th>
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<tbody>
<tr>
<td><strong>HAZARD SCREENING METHOD:</strong> Pharos Chemical and Materials Library</td>
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<tr>
<td><strong>HAZARD SCREENING DATE:</strong> 2019-04-08</td>
</tr>
<tr>
<td><strong>GS:</strong> LT-P1</td>
</tr>
<tr>
<td><strong>RC:</strong> UNK</td>
</tr>
<tr>
<td><strong>NANO:</strong> No</td>
</tr>
<tr>
<td><strong>SUBSTANCE ROLE:</strong> Coating</td>
</tr>
</tbody>
</table>

**HAZARD TYPE**

<table>
<thead>
<tr>
<th>AGENCY AND LIST TITLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOEC - Asthmagens</td>
</tr>
</tbody>
</table>

**WARNINGS**

- Asthmagen (Rs) - sensitizer-induced

**SUBSTANCE NOTES:** Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

Additional information about residuals can be found here. are all listed as occasional or rare without actual percentages: Tom Lent, Julie Silas, and Jim Vallette, Resilient Flooring & Chemical Hazards: A Comparative Analysis of Vinyl and Other Alternatives for Health Care, Healthy Building Network, April 2009. Available at: [http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf](http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf)

### 1,2-PROPANEDIOL, POLYMER WITH 1,1'-METHYLENEBIS(4-ISOCYNATOZOBENZENE), 2-METHYOXIRANE AND OXIRANE

**ID:** 68083-75-0

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<th>%: Impurity/Residual</th>
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<tbody>
<tr>
<td><strong>GS:</strong> NoGS</td>
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<tr>
<td><strong>RC:</strong> UNK</td>
</tr>
<tr>
<td><strong>NANO:</strong> No</td>
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**SUBSTANCE ROLE:** Impurity/Residual

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library

**HAZARD SCREENING DATE:** 2019-04-08

**HAZARD TYPE**

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<thead>
<tr>
<th>AGENCY AND LIST TITLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>None found</td>
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</table>

**WARNINGS**

- No warnings found on HPD Priority Hazard Lists
SUBSTANCE NOTES: Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

Additional information about residuals can be found here. All are listed as occasional or rare without actual percentages: Tom Lent, Julie Silas, and Jim Vallette, Resilient Flooring & Chemical Hazards: A Comparative Analysis of Vinyl and Other Alternatives for Health Care, Healthy Building Network, April 2009. Available at: http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf

1,3-BUTADIENE, 1-CHLORO-, POLYMER WITH 1,3-BUTADIENE AND 2-CHLORO-1,3-BUTADIENE

ID: 31900-55-7

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-04-08

%: Impurity/Residual
GS: LT-UNK
RC: UNK
NANO: No

SUBSTANCE ROLE: Impurity/Residual

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

SUBSTANCE NOTES: Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

Additional information about residuals can be found here. All are listed as occasional or rare without actual percentages: Tom Lent, Julie Silas, and Jim Vallette, Resilient Flooring & Chemical Hazards: A Comparative Analysis of Vinyl and Other Alternatives for Health Care, Healthy Building Network, April 2009. Available at: http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf

2-BUTENE

ID: 107-01-7

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-04-08

%: Impurity/Residual
GS: LT-UNK
RC: UNK
NANO: No

SUBSTANCE ROLE: Impurity/Residual

HAZARD TYPE
AGENCY AND LIST TITLES
WARNINGS
PHYSICAL HAZARD (REACTIVE) EU - GHS (H-Statements) H220 - Extremely flammable gas

SUBSTANCE NOTES: Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

Additional information about residuals can be found here. All are listed as occasional or rare without actual percentages: Tom Lent, Julie Silas, and Jim Vallette, Resilient Flooring & Chemical Hazards: A Comparative Analysis of Vinyl and Other Alternatives for Health Care, Healthy Building Network, April 2009. Available at: http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf

ACETYLENE

ID: 74-86-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-04-08

%: Impurity/Residual
GS: LT-UNK
RC: UNK
NANO: No

SUBSTANCE ROLE: Impurity/Residual

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### BUTENE

**ID:** 25167-67-3

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library

**HAZARD SCREENING DATE:** 2019-04-08

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<th>%</th>
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<tbody>
<tr>
<td>GS</td>
<td>LT-UNK</td>
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<tr>
<td>RC</td>
<td>UNK</td>
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<tr>
<td>NANO</td>
<td>No</td>
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</table>

**HAZARD TYPE:** None found

**AGENCY AND LIST TITLES:**

**WARNINGS:** No warnings found on HPD Priority Hazard Lists

**SUBSTANCE NOTES:** Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

Additional information about residuals can be found here. All are listed as occasional or rare without actual percentages: Tom Lent, Julie Silas, and Jim Vallette, Resilient Flooring & Chemical Hazards: A Comparative Analysis of Vinyl and Other Alternatives for Health Care, Healthy Building Network, April 2009. Available at: http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf

### ETHYLENE DICHLORIDE (1,2-DICHLOROETHANE)

**ID:** 107-06-2

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library

**HAZARD SCREENING DATE:** 2019-04-08

<table>
<thead>
<tr>
<th>%</th>
<th>Impurity/Residual</th>
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<tbody>
<tr>
<td>GS</td>
<td>LT-1</td>
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<td>RC</td>
<td>UNK</td>
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<tr>
<td>NANO</td>
<td>No</td>
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</tbody>
</table>

**HAZARD TYPE:** None found

**AGENCY AND LIST TITLES:**

**WARNINGS:** No warnings found on HPD Priority Hazard Lists

**SUBSTANCE NOTES:** Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

Additional information about residuals can be found here. All are listed as occasional or rare without actual percentages: Tom Lent, Julie Silas, and Jim Vallette, Resilient Flooring & Chemical Hazards: A Comparative Analysis of Vinyl and Other Alternatives for Health Care, Healthy Building Network, April 2009. Available at: http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf
<table>
<thead>
<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
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<tbody>
<tr>
<td>CANCER</td>
<td>IARC</td>
<td>Group 2b - Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>CANCER</td>
<td>CA EPA - Prop 65</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>CANCER</td>
<td>US CDC - Occupational Carcinogens</td>
<td>Occupational Carcinogen</td>
</tr>
<tr>
<td>CANCER</td>
<td>US NIH - Report on Carcinogens</td>
<td>Reasonably Anticipated to be Human Carcinogen</td>
</tr>
<tr>
<td>CANCER</td>
<td>EU - SVHC Authorisation List</td>
<td>Carcinogenic - Banned unless Authorised</td>
</tr>
<tr>
<td>PHYSICAL HAZARD (REACTIVE)</td>
<td>EU - GHS (H-Statements)</td>
<td>H225 - Highly flammable liquid and vapour</td>
</tr>
<tr>
<td>SKIN IRRITATION</td>
<td>EU - GHS (H-Statements)</td>
<td>H315 - Causes skin irritation</td>
</tr>
<tr>
<td>EYE IRRITATION</td>
<td>EU - GHS (H-Statements)</td>
<td>H319 - Causes serious eye irritation</td>
</tr>
<tr>
<td>CANCER</td>
<td>EU - GHS (H-Statements)</td>
<td>H350 - May cause cancer</td>
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<tr>
<td>CANCER</td>
<td>EU - REACH Annex XVII CMRs</td>
<td>Carcinogen Category 2 - Substances which should be regarded as if they are Carcinogenic to man</td>
</tr>
<tr>
<td>MULTIPLE</td>
<td>ChemSec - SIN List</td>
<td>CMR - Carcinogen, Mutagen &amp;/or Reproductive Toxicant</td>
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<tr>
<td>MULTIPLE</td>
<td>German FEA - Substances Hazardous to Waters</td>
<td>Class 3 - Severe Hazard to Waters</td>
</tr>
<tr>
<td>CANCER</td>
<td>MAK</td>
<td>Carcinogen Group 2 - Considered to be carcinogenic for man</td>
</tr>
<tr>
<td>CANCER</td>
<td>Korea - GHS</td>
<td>Carcinogenicity - Category 1 [H350 - May cause cancer]</td>
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<tr>
<td>CANCER</td>
<td>EU - Annex VI CMRs</td>
<td>Carcinogen Category 1B - Presumed Carcinogen based on animal evidence</td>
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<td>CANCER</td>
<td>Japan - GHS</td>
<td>Carcinogenicity - Category 1B</td>
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<tr>
<td>CANCER</td>
<td>Malaysia - GHS</td>
<td>H350 - May cause cancer</td>
</tr>
<tr>
<td>CANCER</td>
<td>Australia - GHS</td>
<td>H350 - May cause cancer</td>
</tr>
</tbody>
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SUBSTANCE NOTES: Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <0.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

Additional information about residuals can be found here. All are listed as occasional or rare without actual percentages: Tom Lent, Julie Silas, and Jim Vallette, Resilient Flooring & Chemical Hazards: A Comparative Analysis of Vinyl and Other Alternatives for Health Care, Healthy Building Network, April 2009. Available at: http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf

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**HYDROCHLORIC ACID**

ID: 7647-01-0

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2019-04-08

%: Impurity/Residual

GS: BM-2

RG: UNK

NANO: No

SUBSTANCE ROLE: Impurity/Residual
### HAZARD TYPE

#### RESPIRATORY
- AOEC - Asthmagens
- Asthmagen (Rr) - irritant-induced

#### SKIN IRRITATION
- EU - GHS (H-Statements)
- H314 - Causes severe skin burns and eye damage

#### MAMMALIAN
- EU - GHS (H-Statements)
- H331 - Toxic if inhaled

- US EPA - EPCRA Extremely Hazardous Substances
- Extremely Hazardous Substances

### SUBSTANCE NOTES:
Imurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPUURITY LEVEL IN VINYL CHLORIDE

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### IRON

- ID: 7439-89-6

#### HAZARD SCREENING METHOD:
Pharos Chemical and Materials Library

#### HAZARD SCREENING DATE:
2019-04-08

#### %: Impurity/Residual

#### HAZARD TYPE
- ENDOCRINE

#### AGENCY AND LIST TITLES
- TEDX - Potential Endocrine Disruptors

#### WARNINGS
- Potential Endocrine Disruptor

#### SUBSTANCE NOTES:
Imurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPUURITY LEVEL IN VINYL CHLORIDE

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### PROPYLENE

- ID: 115-07-1

#### HAZARD SCREENING METHOD:
Pharos Chemical and Materials Library

#### HAZARD SCREENING DATE:
2019-04-08

#### %: Impurity/Residual

#### HAZARD TYPE
- PHYSICAL HAZARD (REACTIVE)

#### AGENCY AND LIST TITLES
- EU - GHS (H-Statements)

#### WARNINGS
- H220 - Extremely flammable gas

#### ENDOCRINE

#### AGENCY AND LIST TITLES
- TEDX - Potential Endocrine Disruptors

#### WARNINGS
- Potential Endocrine Disruptor
SUBSTANCE NOTES: Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

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SODIUM HYDROXIDE

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-04-08

%: Impurity/Residual
GS: LT-P1
RC: UNK
NANO: No
SUBSTANCE ROLE: Impurity/Residual

HAZARD TYPE
AGENCY AND LIST TITLES
WARNINGS
SKIN IRRITATION
EU - GHS (H-Statements)
H314 - Causes severe skin burns and eye damage

PHYSICAL HAZARD (REACTIVE)
Korea - GHS
H290 - May be corrosive to metals

SUBSTANCE NOTES: Impurities: ACETYLENE <2.0 ppm; ACIDITY, AS HCL BY wt <0.5 ppm; ALKALINITY, AS NaOH BY wt <0.3 ppm; BUTADIENE <6.0 ppm; 1-BUTENE <3.0 ppm; 2-BUTENE <0.5% ppm; ETHYLENE <4.0 ppm; ETHYLENE DICHLORIDE (EDC) <10.0 ppm; PROPYLENE <8.0 ppm; IRON, BY wt <0.25 ppm/IMPURITY LEVEL IN VINYL CHLORIDE

Additional information about residuals can be found here. all are listed as occasional or rare without actual percentages: Tom Lent, Julie Silas, and Jim Vallette, Resilient Flooring & Chemical Hazards: A Comparative Analysis of Vinyl and Other Alternatives for Health Care, Healthy Building Network, April 2009. Available at: http://www.healthybuilding.net/docs/HBN-ResilientFlooring&ChemicalHazards-Report.pdf

POLYETHYLENE TEPHTHALATE %: 10.0000 - 30.0000

PRODUCT THRESHOLD: 100 ppm
RESIDUALS AND IMPURITIES CONSIDERED: Yes
MATERIAL TYPE: Polymeric Material

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were considered using the toxnet database. For more information about this database see RESIDUALS AND IMPURITIES SCREENING NOTES.

OTHER MATERIAL NOTES:

POLYETHYLENE TEREPTHALATE

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-04-08

%: 10.0000 - 30.0000
GS: LT-UNK
RC: UNK
NANO: No
SUBSTANCE ROLE: Adhesive

HAZARD TYPE
AGENCY AND LIST TITLES
WARNINGS
None found
No warnings found on HPD Priority Hazard Lists
Impurity 1, Antimony trioxide: "The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)

"Residual molecular antimony (Sb) catalyst materials can migrate into food or water and be a potential contaminant from PET packaging materials. Sb was established as a catalyst of choice because it has some favorable properties, e.g. it gives bright, shiny polymers. There are two other main catalysts for PET: germanium oxide and titanium compounds (Thiele 2001)."

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3613973/

"Antimony trioxide is the preferred polycondensation catalyst for the production of PET."

"The Sb concentration of commercialized PET resin ranges between 190 and 300 µg g-1." http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-5053201400040009

Impurity 2, Manganese oxide: "Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)

Impurity 3, Nitrogen: "Vapor from the top of the methanol column is sent to a cold water (or refrigerated) condenser, where the condensate returns to the methanol column, and noncondensable are purged with nitrogen before being emitted to the atmosphere."

http://www.epa.gov/ttn/chief/ap42/ch06/final/c06s06-2.pdf

Impurity 4, Zinc Oxide: "The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyse the first reaction, and antimony (III) oxide is most commonly used to catalyse the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)
## NITROGEN

**ID:** 7727-37-9

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-04-08

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<th>RC: UNK</th>
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<th>SUBSTANCE ROLE: Impurity/Residual</th>
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<td><strong>AGENCY AND LIST TITLES</strong></td>
<td><strong>WARNINGS</strong></td>
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<tr>
<td>REPRODUCTIVE</td>
<td>GHS - Japan</td>
<td>Toxic to reproduction - Category 1B [H360]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:** In the DMT process, "Vapor from the top of the methanol column is sent to a cold water (or refrigerated) condenser, where the condensate returns to the methanol column, and noncondensable are purged with nitrogen before being emitted to the atmosphere."  
[http://www.epa.gov/ttn/chief/ap42/ch06/final/c06s06-2.pdf](http://www.epa.gov/ttn/chief/ap42/ch06/final/c06s06-2.pdf)

## ZINC OXIDE

**ID:** 1314-13-2

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-04-08

<table>
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<th>%: Impurity/Residual</th>
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<th>RC: UNK</th>
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<th>SUBSTANCE ROLE: Impurity/Residual</th>
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<tr>
<td><strong>HAZARD TYPE</strong></td>
<td><strong>AGENCY AND LIST TITLES</strong></td>
<td><strong>WARNINGS</strong></td>
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<td></td>
</tr>
<tr>
<td>RESPIRATORY</td>
<td>AOEC - Asthmagens</td>
<td>Asthmagen (Rs) - sensitizer-induced</td>
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</tr>
<tr>
<td>ACUTE AQUATIC</td>
<td>EU - GHS (H-Statements)</td>
<td>H400 - Very toxic to aquatic life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHRON AQUATIC</td>
<td>EU - GHS (H-Statements)</td>
<td>H410 - Very toxic to aquatic life with long lasting effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENDOCRINE</td>
<td>TEDX - Potential Endocrine Disruptors</td>
<td>Potential Endocrine Disruptor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MULTIPLE</td>
<td>German FEA - Substances Hazardous to Waters</td>
<td>Class 2 - Hazard to Waters</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:** "The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)
**Residuals and Impurities Notes:** Residuals and impurities were considered using the toxnet database. For more information about this database see RESIDUALS AND IMPURITIES SCREENING NOTES.

**Other Material Notes:**

### DI(2-ethylhexyl) terephthalate

**ID:** 6422-86-2

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-04-08

- **%:** 10.0000 - 20.0000  
- **GS:** BM-3  
- **RC:** UNK  
- **NANO:** No  
- **SUBSTANCE ROLE:** Plasticizer

**HAZARD TYPE**

- None found

**AGENCY AND LIST TITLES**

- No warnings found on HPD Priority Hazard Lists

**WARNINGS**

- None found

**SUBSTANCE NOTES:** "DEHT is a clear liquid at room temperature and is manufactured at >98% purity. Minor impurities (present at <2%) include 2-ethylhexyl methyl terephthalate (CAS Registry No.: 63468-13-3)." (SIDS)

---

### 2-ethylhexyl methyl terephthalate

**ID:** 63468-13-3

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-04-08

- **%:** Impurity/Residual  
- **GS:** NoGS  
- **RC:** UNK  
- **NANO:** No  
- **SUBSTANCE ROLE:** Impurity/Residual

**HAZARD TYPE**

- None found

**AGENCY AND LIST TITLES**

- No warnings found on HPD Priority Hazard Lists

**WARNINGS**

- None found

**SUBSTANCE NOTES:** "DEHT is a clear liquid at room temperature and is manufactured at >98% purity. Minor impurities (present at <2%) include 2-ethylhexyl methyl terephthalate (CAS Registry No.: 63468-13-3)." (SIDS)

---

### Calcium Carbonate

**%:** 5.0000 - 20.0000

**PRODUCT THRESHOLD:** 100 ppm  
**RESIDUALS AND IMPURITIES CONSIDERED:** Yes  
**MATERIAL TYPE:** Geologically Derived Material

**RESIDUALS AND IMPURITIES NOTES:** Residuals and impurities were considered using the toxnet database. For more information about this database see RESIDUALS AND IMPURITIES SCREENING NOTES.

**Other Material Notes:** Impurity Notes: Ideally, the secondary crushing step should reduce the ore to the point where mineral impurities are liberated, typically <100 um, without producing an excess of fines. The material may then be beneficiated through a mineral flotation process in which impurities are floated out.
CALCIUM CARBONATE

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-04-08

%-: 5.0000 - 20.0000
GS: BM-3
RC: UNK
NANO: No
SUBSTANCE ROLE: Filler

HAZARD TYPE

None found

AGENCY AND LIST TITLES

WARNINGS

No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Ideally, the secondary crushing step should reduce the ore to the point where mineral impurities are liberated, typically <100 um, without producing an excess of fines. The material may then be beneficiated through a mineral flotation process in which impurities are floated out.

TITANIUM DIOXIDE %: 1.0000 - 10.0000

PRODUCT THRESHOLD: 100 ppm
RESIDUALS AND IMPURITIES CONSIDERED: Yes
MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were considered using the toxnet database. For more information about this database see RESIDUALS AND IMPURITIES SCREENING NOTES.

OTHER MATERIAL NOTES: Impurity Notes: Relatively pure titanium oxide hydrate (TiO(OH)2 or TiO2 dihydrate) is precipitated by hydrolysis of this titanyl sulfate solution. Impurities are largely removed in further purification stages.

TITANIUM DIOXIDE

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-04-08

%-: 1.0000 - 10.0000
GS: LT-1
RC: UNK
NANO: No
SUBSTANCE ROLE: Pigment

HAZARD TYPE

CANCER
US CDC - Occupational Carcinogens
Occupational Carcinogen

CANCER
CA EPA - Prop 65
Carcinogen - specific to chemical form or exposure route

CANCER
IARC
Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources

ENDOCRINE
TEDX - Potential Endocrine Disruptors
Potential Endocrine Disruptor

CANCER
MAK
Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value

CANCER
MAK
Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels

SUBSTANCE NOTES: Relatively pure titanium oxide hydrate (TiO(OH)2 or TiO2 dihydrate) is precipitated by hydrolysis of this titanyl sulfate solution. Impurities are largely removed in further purification stages.
**ZINC STEARATE**

PRODUCT THRESHOLD: 100 ppm  
RESIDUALS AND IMPURITIES CONSIDERED: Yes  
MATERIAL TYPE: Polymeric Material

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were considered using the toxnet database. For more information about this database see RESIDUALS AND IMPURITIES SCREENING NOTES.

OTHER MATERIAL NOTES:

**OCTADECANOIC ACID, ZINC SALT**

ID: 557-05-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library  
HAZARD SCREENING DATE: 2019-04-08

%: 0.5000 - 5.0000  
GS: LT-UNK  
RC: UNK  
NANO: No  
SUBSTANCE ROLE: Heat or UV stabilizer

None found  
No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES:

**ANTIMONY OXIDE**

%: 0.5000 - 5.0000

PRODUCT THRESHOLD: 100 ppm  
RESIDUALS AND IMPURITIES CONSIDERED: Yes  
MATERIAL TYPE: Polymeric Material

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were considered using the toxnet database. For more information about this database see RESIDUALS AND IMPURITIES SCREENING NOTES.

OTHER MATERIAL NOTES: Trace impurities such as arsenic, copper, iron, lead, and nickel. All are below the threshold level.

**ANTIMONY OXIDE (ANTIMONY TRIOXIDE)**

ID: 1309-64-4

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library  
HAZARD SCREENING DATE: 2019-04-08

%: 0.5000 - 5.0000  
GS: BM-1  
RC: UNK  
NANO: No  
SUBSTANCE ROLE: Flame retardant

CANCER  
IARC  
Group 2b - Possibly carcinogenic to humans

CANCER  
CA EPA - Prop 65  
Carcinogen

CHRON AQUATIC  
EU - GHS (H-Statements)  
H411 - Toxic to aquatic life with long lasting effects

CANCER  
EU - GHS (H-Statements)  
H351 - Suspected of causing cancer

MULTIPLE  
ChemSec - SIN List  
CMR - Carcinogen, Mutagen &/or Reproductive Toxicant

CANCER  
MAK  
Carcinogen Group 2 - Considered to be carcinogenic for man

CANCER  
Japan - GHS  
Carcinogenicity - Category 1B

SUBSTANCE NOTES: Trace impurities such as arsenic, copper, iron, lead, and nickel.
### Antimony, Elemental

**ID:** 7440-36-0  
**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-04-08

<table>
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</table>

**HAZARD TYPE**

**AGENCY AND LIST TITLES**

**WARNINGS**

**CHRON AQUATIC**

EU - GHS (H-Statements)  
H411 - Toxic to aquatic life with long lasting effects

**CANCER**

MAK  
Carcinogen Group 2 - Considered to be carcinogenic for man

**SUBSTANCE NOTES:** "Common methods of preparation include direct combination of metallic antimony with air or oxygen, roasting of antimony trisulfide, and alkaline hydrolysis of an antimony trihalide and subsequent dehydration of the resulting hydrous oxide."  

### Antimony Trisulfide

**ID:** 1345-04-6  
**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-04-08

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<th>RC: UNK</th>
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<th>SUBSTANCE ROLE: Impurity/Residual</th>
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</table>

**HAZARD TYPE**

**AGENCY AND LIST TITLES**

**WARNINGS**

**CHRON AQUATIC**

EU - GHS (H-Statements)  
H411 - Toxic to aquatic life with long lasting effects

**CANCER**

MAK  
Carcinogen Group 2 - Considered to be carcinogenic for man

**SUBSTANCE NOTES:** "Common methods of preparation include direct combination of metallic antimony with air or oxygen, roasting of antimony trisulfide, and alkaline hydrolysis of an antimony trihalide and subsequent dehydration of the resulting hydrous oxide."  

### Arsenic, Inorganic

**ID:** 7440-38-2  
**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-04-08

<table>
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<th>SUBSTANCE ROLE: Impurity/Residual</th>
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<td>WARNINGS</td>
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<tr>
<td>DEVELOPMENTAL</td>
<td>G&amp;L - Neurotoxic Chemicals</td>
<td>Developmental Neurotoxicant</td>
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<td></td>
</tr>
<tr>
<td>CANCER</td>
<td>IARC</td>
<td>Group 1 - Agent is Carcinogenic to humans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CANCER</td>
<td>CA EPA - Prop 65</td>
<td>Carcinogen</td>
<td></td>
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<tr>
<td>CANCER</td>
<td>US CDC - Occupational Carcinogens</td>
<td>Occupational Carcinogen</td>
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<tr>
<td>CANCER</td>
<td>US NIH - Report on Carcinogens</td>
<td>Known to be a human Carcinogen</td>
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<tr>
<td>PBT</td>
<td>OR DEQ - Priority Persistent Pollutants</td>
<td>Priority Persistent Pollutant - Tier 1</td>
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<tr>
<td>ACUTE AQUATIC</td>
<td>EU - GHS (H-Statements)</td>
<td>H400 - Very toxic to aquatic life</td>
<td></td>
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<tr>
<td>CHRON AQUATIC</td>
<td>EU - GHS (H-Statements)</td>
<td>H410 - Very toxic to aquatic life with long lasting effects</td>
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<tr>
<td>MAMMALIAN</td>
<td>EU - GHS (H-Statements)</td>
<td>H301 - Toxic if swallowed</td>
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<tr>
<td>MAMMALIAN</td>
<td>EU - GHS (H-Statements)</td>
<td>H331 - Toxic if inhaled</td>
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<tr>
<td>ENDOCRINE</td>
<td>TEDX - Potential Endocrine Disruptors</td>
<td>Potential Endocrine Disruptor</td>
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<tr>
<td>MULTIPLE</td>
<td>German FEA - Substances Hazardous to Waters</td>
<td>Class 3 - Severe Hazard to Waters</td>
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<td>CANCER</td>
<td>MAK</td>
<td>Carcinogen Group 1 - Substances that cause cancer in man</td>
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<tr>
<td>CANCER</td>
<td>Korea - GHS</td>
<td>Carcinogenicity - Category 1 [H350 - May cause cancer]</td>
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<tr>
<td>CANCER</td>
<td>New Zealand - GHS</td>
<td>6.7A - Known or presumed human carcinogens</td>
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<tr>
<td>CANCER</td>
<td>Japan - GHS</td>
<td>Carcinogenicity - Category 1A</td>
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<td>GENE MUTATION</td>
<td>MAK</td>
<td>Germ Cell Mutagen 3a</td>
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<tr>
<td>CANCER</td>
<td>Australia - GHS</td>
<td>H350 - May cause cancer</td>
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**SUBSTANCE NOTES:**

**COPPER**

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<td>%: Impurity/Residual</td>
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<td>HAZARD TYPE</td>
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**SUBSTANCE NOTES:**

**IRON**

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<td>HAZARD TYPE</td>
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**SUBSTANCE NOTES:**
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<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENDOCRINE</td>
<td>TEDX - Potential Endocrine Disruptors</td>
<td>Potential Endocrine Disruptor</td>
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### SUBSTANCE NOTES:

#### Lead

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<th>RC: UNK</th>
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<th>SUBSTANCE ROLE: Impurity/Residual</th>
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<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEVELOPMENTAL</td>
<td>G&amp;L - Neurotoxic Chemicals</td>
<td>Developmental Neurotoxicant</td>
</tr>
<tr>
<td>CANCER</td>
<td>IARC</td>
<td>Group 2a - Agent is probably Carcinogenic to humans</td>
</tr>
<tr>
<td>CANCER</td>
<td>IARC</td>
<td>Group 2b - Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>CANCER</td>
<td>CA EPA - Prop 65</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>DEVELOPMENTAL</td>
<td>CA EPA - Prop 65</td>
<td>Developmental toxicity</td>
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<tr>
<td>PBT</td>
<td>US EPA - Priority PB Ts (NWMP)</td>
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<td>PBT</td>
<td>WA DoE - PBT</td>
<td>PBT</td>
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<tr>
<td>REPRODUCTIVE</td>
<td>CA EPA - Prop 65</td>
<td>Reproductive Toxicity - Female</td>
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<tr>
<td>REPRODUCTIVE</td>
<td>CA EPA - Prop 65</td>
<td>Reproductive Toxicity - Male</td>
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<tr>
<td>CANCER</td>
<td>US NIH - Report on Carcinogens</td>
<td>Reasonably Anticipated to be Human Carcinogen</td>
</tr>
<tr>
<td>PBT</td>
<td>US EPA - Toxics Release Inventory PB Ts</td>
<td>PBT</td>
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<tr>
<td>REPRODUCTIVE</td>
<td>EU - SVHC Authorisation List</td>
<td>Toxic to reproduction - Candidate list</td>
</tr>
<tr>
<td>PBT</td>
<td>OSPAR - Priority PB Ts &amp; EDs &amp; equivalent concern</td>
<td>PBT - Chemical for Priority Action</td>
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<tr>
<td>PBT</td>
<td>OR DEQ - Priority Persistent Pollutants</td>
<td>Priority Persistent Pollutant - Tier 1</td>
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<tr>
<td>DEVELOPMENTAL</td>
<td>US NIH - Reproductive &amp; Developmental Monographs</td>
<td>Clear Evidence of Adverse Effects - Developmental Toxicity</td>
</tr>
<tr>
<td>REPRODUCTIVE</td>
<td>US NIH - Reproductive &amp; Developmental Monographs</td>
<td>Clear Evidence of Adverse Effects - Reproductive Toxicity</td>
</tr>
<tr>
<td>REPRODUCTIVE</td>
<td>EU - GHS (H-Statements)</td>
<td>H360FD - May damage fertility. May damage the unborn child</td>
</tr>
<tr>
<td>DEVELOPMENTAL</td>
<td>EU - GHS (H-Statements)</td>
<td>H362 - May cause harm to breast-fed children</td>
</tr>
<tr>
<td>REPRODUCTIVE</td>
<td>EU - REACH Annex XVII CMRs</td>
<td>Toxic to Reproduction Category 1 - Substances known to impair fertility or cause Developmental Toxicity in humans</td>
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</table>

3000 HT Fabric by Texstyle
hpdrepository.hpd-collaborative.org
HPD v2.2 created via HPD C Builder Page 16 of 20
<table>
<thead>
<tr>
<th>MULTIPLE</th>
<th>ChemSec - SIN List</th>
<th>CMR - Carcinogen, Mutagen &amp;/or Reproductive Toxicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENDOCRINE</td>
<td>TEDX - Potential Endocrine Disruptors</td>
<td>Potential Endocrine Disruptor</td>
</tr>
<tr>
<td>CANCER</td>
<td>MAK</td>
<td>Carcinogen Group 2 - Considered to be carcinogenic for man</td>
</tr>
<tr>
<td>CANCER</td>
<td>Korea - GHS</td>
<td>Carcinogenicity - Category 1 [H350 - May cause cancer]</td>
</tr>
<tr>
<td>REPRODUCTIVE</td>
<td>Korea - GHS</td>
<td>Reproductive toxicity - Category 1 [H360 - May damage fertility or the unborn child]</td>
</tr>
<tr>
<td>REPRODUCTIVE</td>
<td>New Zealand - GHS</td>
<td>6.8A - Known or presumed human reproductive or developmental toxicants</td>
</tr>
<tr>
<td>REPRODUCTIVE</td>
<td>Japan - GHS</td>
<td>Toxic to reproduction - Category 1A</td>
</tr>
<tr>
<td>GENE MUTATION</td>
<td>MAK</td>
<td>Germ Cell Mutagen 3a</td>
</tr>
<tr>
<td>REPRODUCTIVE</td>
<td>EU - Annex VI CMRs</td>
<td>Reproductive Toxicity - Category 1A</td>
</tr>
<tr>
<td>DEVELOPMENTAL</td>
<td>Australia - GHS</td>
<td>H360Df - May damage the unborn child. Suspected of damaging fertility</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**

**NICKEL (METALLIC)**

<table>
<thead>
<tr>
<th>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE: 2019-04-08</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: Impurity/Residual</td>
<td>GS: LT-1</td>
</tr>
</tbody>
</table>

**SUBSTANCE ROLE:** Impurity/Residual
<table>
<thead>
<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPIRATORY</td>
<td>AOEC - Asthmagens</td>
<td>Asthmagen (Rs) - sensitizer-induced</td>
</tr>
<tr>
<td>CANCER</td>
<td>IARC</td>
<td>Group 1 - Agent is Carcinogenic to humans</td>
</tr>
<tr>
<td>CANCER</td>
<td>IARC</td>
<td>Group 2b - Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>CANCER</td>
<td>CA EPA - Prop 65</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>CANCER</td>
<td>US CDC - Occupational Carcinogens</td>
<td>Occupational Carcinogen</td>
</tr>
<tr>
<td>CANCER</td>
<td>US NIH - Report on Carcinogens</td>
<td>Known to be a human Carcinogen</td>
</tr>
<tr>
<td>CANCER</td>
<td>US NIH - Report on Carcinogens</td>
<td>Reasonably Anticipated to be Human Carcinogen</td>
</tr>
<tr>
<td>SKIN SENSITIZE</td>
<td>EU - GHS (H-Statements)</td>
<td>H317 - May cause an allergic skin reaction</td>
</tr>
<tr>
<td>CANCER</td>
<td>EU - GHS (H-Statements)</td>
<td>H351 - Suspected of causing cancer</td>
</tr>
<tr>
<td>ORGAN TOXICANT</td>
<td>EU - GHS (H-Statements)</td>
<td>H372 - Causes damage to organs through prolonged or repeated exposure</td>
</tr>
<tr>
<td>MULTIPLE</td>
<td>German FEA - Substances Hazardous to Waters</td>
<td>Class 2 - Hazard to Waters</td>
</tr>
<tr>
<td>CANCER</td>
<td>MAK</td>
<td>Carcinogen Group 1 - Substances that cause cancer in man</td>
</tr>
<tr>
<td>RESPIRATORY</td>
<td>MAK</td>
<td>Sensitizing Substance Sah - Danger of airway &amp; skin sensitization</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**

**ZINC PYRITHIONE**

%: 0.1000 - 1.0000

**PRODUCT THRESHOLD:** 100 ppm  
**RESIDUALS AND IMPURITIES CONSIDERED:** Yes  
**MATERIAL TYPE:** Polymeric Material

**RESIDUALS AND IMPURITIES NOTES:** Residuals and impurities were considered using the toxnet database. For more information about this database see RESIDUALS AND IMPURITIES SCREENING NOTES.

**OTHER MATERIAL NOTES:**
<table>
<thead>
<tr>
<th>%: 0.1000 - 1.0000</th>
<th>GS: BM-1tp</th>
<th>RC: UNK</th>
<th>NANO: No</th>
<th>SUBSTANCE ROLE: Biocide</th>
</tr>
</thead>
</table>

**HAZARD TYPE** | AGENCY AND LIST TITLES | WARNINGS |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MULTIPLE</td>
<td>German FEA - Substances Hazardous to Waters</td>
<td>Class 3 - Severe Hazard to Waters</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**

3000 HT Fabric by Texstyle
hpdrepository.hpd-collaborative.org

HPD v2.2 created via HPDC Builder Page 19 of 20
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.

<table>
<thead>
<tr>
<th>VOC EMISSIONS</th>
<th>UL/GreenGuard Gold Certified</th>
</tr>
</thead>
<tbody>
<tr>
<td>CERTIFYING PARTY:</td>
<td>Third Party</td>
</tr>
<tr>
<td>APPLICABLE FACILITIES:</td>
<td>This is not facility specific</td>
</tr>
<tr>
<td>CERTIFICATE URL:</td>
<td></td>
</tr>
<tr>
<td>CERTIFICATION AND COMPLIANCE NOTES:</td>
<td>Certificate # 75170-420</td>
</tr>
</tbody>
</table>

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.

CONTRACT SERIES TWO SHADING SYSTEM

HPD URL: https://hpdrepository.hpd-collaborative.org/repository/HPDs/430_Rollease_Acmeda_Contract_Series_Two_Shading_System.pdf

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:
This is the shading system.

Section 5: General Notes

This inventory is reported to 100 ppm with possible residuals and impurities noted. This HPD is reporting substances to 100 ppm for this product 3000 HT. Residuals and impurities were screened using the toxnet and Pharos databases. This database is a general database and lists possible residuals and impurities for chemicals and substances as reported in peer-reviewed studies or other credible documentation. Just because a chemical could have the impurity listed in the database does not mean that this material contains that impurity. Actual impurities are a product of the sourced product and its suppliers. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric.
**MANUFACTURER INFORMATION**

**MANUFACTURER:** Rollease Acmeda  
**ADDRESS:** 200 Harvard Ave  
Stamford CT 06902, USA  
**CONTACT NAME:** Lindsey DeSalvo  
**TITLE:** Product Manager-Fabric  
**PHONE:** 203-590-5259  
**EMAIL:** lindsey.desalvo@rolleaseacmeda.com

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

**KEY**

**Hazard Types**

- AQU Aquatic toxicity
- 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 LT1 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.