Explore - Ribbed Precast Concrete Plank by Laing O'Rourke

Health Product Declaration v2.1.1

created via: HPDC Online Builder

CLASSIFICATION: 03 41 33 Precast Structural Pretensioned Concrete

PRODUCT DESCRIPTION: The ribbed precast concrete planks are an assembly product which is manufactured off-site. The planks are delivered to site and installed between the beams of a steel frame to form a structural flooring system. As well as being structural, the soffit is produced to an architectural finish (03 45 33 Precast Architectural Pretensioned Concrete).

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format

- (•) Nested Materials Method
- ( ) Basic Method

Threshold Disclosed Per

- ( ) Material
- (•) Product

Threshold level

- ( ) 100 ppm
- (•) 1,000 ppm
- ( ) Per GHS SDS
- ( ) Per OSHA MSDS
- ( ) Other

Residuals/Impurities

Residuals/Impurities Considered in 6 of 6 Materials

Explanation(s) provided for Residuals/Impurities?

- (•) Yes
- ( ) No

All Substances Above the Threshold Indicated Are:

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

% weight and role provided for all substances except SC substances characterized according to SC guidance.

Screened (•) Yes Ex/SC ( ) Yes ( ) No

All substances screened using Priority Hazard Lists with results disclosed except SC substances screened according to SC guidance.

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

All substances disclosed by Name (Specific or Generic) and Identifier except SC substances identified according to SC guidance.

CONTENT IN DESCENDING ORDER OF QUANTITY

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

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

CONCRETE (CM-1998F MIX DESIGN) [SC:SC: DOWLOW LIMESTONE Not Screened SC:SC: WHISBY SAND Not Screened TRICALCIUM SILICATE LT-UNK WATER (PRIMARY CASRN IS 7732-18-5) BM-4 CALCIUM CARBONATE (PRIMARY CASRN IS 471-34-1) BM-3 DICALCIUM SILICATE LT-UNK ALUMINUM CALCIUM IRON OXIDE NoGS GYPSUM LT-UNK CALCITE (CA(CO3)) NoGS QUARTZ LT-1 | CAN CALCIUM ALUMINATE LT-UNK CALCIUM SULFATE - HEMIHYDRATE LT-UNK CALCIUM SULFATE, 1_2-HYDRATE, POWDER LT-UNK] EXPRESS REINFORCEMENT - STEEL REINFORCEMENT [IRON LT-P1 | END MANGANESE LT-P1 | END | MUL | REP CARBON LT-UNK COPPER LT-UNK MOLYBDENUM LT-UNK SILICON LT-UNK NICKEL LT-1 | RES | CAN | SKI | MAM | MUL CHROMIUM LT-P1 | RES | END | SKI] MEGASTEEL - STEEL STRANDS [IRON LT-P1 | END CARBON LT-UNK MANGANESE LT-P1 | END | MUL | REP SILICON LT-UNK] DAVER STEEL - BEARING PLATE [IRON LT-P1 | END MANGANESE LT-P1 | END | MUL | REP ALUMINUM NoGS CARBON LT-UNK NICKEL LT-1 | RES | CAN | SKI | MAM | MUL SILICON LT-UNK] HALFEN HTA-CE 28/15 CHANNELS [STEEL NoGS ZINC LT-P1 | AQU | PHY | END | MUL POLYETHYLENE LT-UNK MANGANESE LT-P1 | END | MUL | REP COPPER LT-UNK CARBON LT-UNK PHOSPHORUS BM-2 | PHY | MAM LEAD LT-1 | DEL | CAN | PBT | REP | MUL | END | GEN SILICON LT-UNK] BEZWELL - STAINLESS STEEL ANTI-CRACK BARS [IRON LT-P1 | END CHROMIUM LT-P1 | RES | END | SKI NICKEL LT-1 | RES | CAN | SKI | MAM | MUL MANGANESE LT-P1 | END | MUL | REP PHOSPHORUS BM-2 | PHY | MAM CARBON LT-UNK]

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

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

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

Special conditions applied: GeologicalMaterial

[LEED v4] "Yes ex/SC" result is due only to materials and substances for which Special Conditions were applied. Thus "Yes ex/SC" does not disqualify the product for the LEED v4 Materials and Resources Disclosure and Optimization credit, Option 1.

'Special Condition' materials include biologically occurring Dowlow Limestone and Whisby Sand. These are exempt from screening

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): 0.96 Regulatory (g/l): N/A
Does the product contain exempt VOCs: No
Are ultra-low VOC tints available: N/A

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

VOC emissions: EN 13999-1:2007 Adhesives emissions
VOC content: Decorative Paint Directive 2004/42/CE (by BS EN 13300:2001 test) - Phase 2
Management: ISO 14001:2004 Environmental management systems

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: 2019-12-20
PUBLISHED DATE: 2020-02-19
EXPIRY DATE: 2022-12-20

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 2.1.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-1-standard

CONCRETE (CM-1998F MIX DESIGN)

%: 86.38 - 86.39

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Trace elements of undisclosed naturally occurring organics found in aggregates and cement mix.

OTHER MATERIAL NOTES: Primary structural component of the product

SC:SC: DOWLOW LIMESTONE

ID: SC:GeoMat

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

HAZARD SCREENING DATE: **2019-12-20**

%: **52.20 - 52.30**

GS: **Not Screened**

RC: **None**

NANO: **No**

ROLE: **Primary aggregate in concrete mix**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
	Hazard Screening not performed	

SUBSTANCE NOTES:
Version: SCGeoMats/2018-02-23
Origin: Dowlow quarry, United Kingdom
Typical Composition: Calcium Carbonate
Potential presence of toxic metals: Unknown
Presence of Radioactive Elements: Unknown

Inventory Threshold = N/A
Residuals and Impurities = “Not-considered”
This disclosure does not provide typical composition or potential presence of toxic metals or radioactive elements which may be found in certain geological materials.
Hazard Screening not performed

SC:SC: WHISBY SAND

ID: SC:GeoMat

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

HAZARD SCREENING DATE: **2019-12-20**

%: **18.95 - 18.96**

GS: **Not Screened**

RC: **None**

NANO: **No**

ROLE: **Secondary Aggregate**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
	Hazard Screening not performed	

SUBSTANCE NOTES:
Version: SCGeoMats/2018-02-23
Origin: Whisby Quarry
Typical Composition: Sandstone, Quartz
Potential presence of toxic metals: This disclosure does not provide typical composition or potential presence of toxic metals or radioactive elements which may be found in certain geological materials.
Presence of Radioactive Elements: This disclosure does not provide typical composition or potential presence of toxic metals or radioactive elements which may be found in certain geological materials.

Inventory Threshold = N/A
Residuals and Impurities = “Not-considered”
This disclosure does not provide typical composition or potential presence of toxic metals or radioactive elements which may be found in certain geological materials.
Hazard Screening not performed

TRICALCIUM SILICATE

ID: 12168-85-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **11.74 - 11.84** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **One of the primary compounds in Portland Cement Clinker**

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

SUBSTANCE NOTES:

WATER (PRIMARY CASRN IS 7732-18-5)

ID: 1202864-49-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **8.40 - 8.60** GS: **BM-4** RC: **None** NANO: **No** ROLE: **Component of concrete - used to hydrate cement and bind mix**

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

SUBSTANCE NOTES:

CALCIUM CARBONATE (PRIMARY CASRN IS 471-34-1)

ID: 1641572-50-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **4.20 - 4.30** GS: **BM-3** RC: **None** NANO: **No** ROLE: **Primary compound in CEM 2 addition**

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

SUBSTANCE NOTES:

DICALCIUM SILICATE

ID: 10034-77-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **1.59 - 1.59** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **One of the primary compounds that make up Portland cement clinker**

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

SUBSTANCE NOTES:

ALUMINUM CALCIUM IRON OXIDE

ID: **12068-35-8**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.91 - 0.91** GS: **NoGS** RC: **None** NANO: **No** ROLE: **Primary cement compound**

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

SUBSTANCE NOTES:

GYPSUM

ID: **13397-24-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.72 - 0.72** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Compound in cement**

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

SUBSTANCE NOTES:

CALCITE (CA(CO3))

ID: **13397-26-7**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.51 - 0.51** GS: **NoGS** RC: **None** NANO: **No** ROLE: **Compound in cement**

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

SUBSTANCE NOTES:

QUARTZ

ID: **14808-60-7**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.34 - 0.35** GS: **LT-1** RC: **None** NANO: **No** ROLE: **Compound in cement**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	IARC	Group 1 - Agent is Carcinogenic to humans
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CANCER	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources
CANCER	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)
CANCER	MAK	Carcinogen Group 1 - Substances that cause cancer in man
CANCER	GHS - New Zealand	6.7A - Known or presumed human carcinogens
CANCER	GHS - Japan	Carcinogenicity - Category 1A [H350]
CANCER	GHS - Australia	H350i - May cause cancer by inhalation

SUBSTANCE NOTES:

CALCIUM ALUMINATE

ID: **12042-78-3**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.32 - 0.33** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Primary cement compound**

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

SUBSTANCE NOTES:

CALCIUM SULFATE - HEMIHYDRATE

ID: **10034-76-1**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.31 - 0.31** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Compound in cement**

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

SUBSTANCE NOTES:

CALCIUM SULFATE, 1_2-HYDRATE, POWDER

ID: **7778-18-9**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.18 - 0.18** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Compound in cement**

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

SUBSTANCE NOTES:

EXPRESS REINFORCEMENT - STEEL REINFORCEMENT %: 11.90 - 12.17

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: The steel reinforcement is is 97.71% Iron (Fe) with other small quantities of trace elements. These elements are included under substances with the exception of Phosphorus, Sulfur and Nitrogen, which are all found present in the ribbed plank at less than 0.002% The composition of the steel meets the requirements specified in BS 4449-2005

OTHER MATERIAL NOTES: Steel reinforcement to provide increased tensile strength.

IRON ID: 7439-89-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **97.71 - 97.71** GS: **LT-P1** RC: **PostC** NANO: **No** ROLE: **Element in the structural steel**

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

SUBSTANCE NOTES:

MANGANESE ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.84 - 0.85** GS: **LT-P1** RC: **PostC** NANO: **No** ROLE: **Element in the structural steel**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
REPRODUCTIVE	GHS - Japan	Toxic to reproduction - Category 1B [H360]

SUBSTANCE NOTES:

CARBON ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.59 - 0.60** GS: **LT-UNK** RC: **PostC** NANO: **No** ROLE: **Element in the structural steel**

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

SUBSTANCE NOTES:

COPPER

ID: **7440-50-8**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.42 - 0.42** GS: **LT-UNK** RC: **PostC** NANO: **No** ROLE: **Element in the structural steel**

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

SUBSTANCE NOTES:

MOLYBDENUM

ID: **7439-98-7**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.02 - 0.03** GS: **LT-UNK** RC: **PostC** NANO: **No** ROLE: **Trace element found in the steel reinforcement**

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

SUBSTANCE NOTES:

SILICON

ID: **7440-21-3**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.02 - 0.02** GS: **LT-UNK** RC: **PostC** NANO: **No** ROLE: **Trace element found in the steel reinforcement**

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

SUBSTANCE NOTES:

NICKEL

ID: **8049-31-8**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.01 - 0.01** GS: **LT-1** RC: **PostC** NANO: **No** ROLE: **Trace element found in the steel reinforcement**

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

SUBSTANCE NOTES:

CHROMIUM

ID: **7440-47-3**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.01 - 0.01** GS: **LT-P1** RC: **PostC** NANO: **No** ROLE: **Trace element found in the steel reinforcement**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
SKIN SENSITIZE	MAK	Sensitizing Substance Sh - Danger of skin sensitization

SUBSTANCE NOTES:

MEGASTEEL - STEEL STRANDS

%: 1.09 - 1.09

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Steel strands provided by Megasteel is 98% Iron (Fe) and 0.83% Carbon (C) with other small quantities of trace elements. The product has trace amounts of sulphur. The composition of the steel meets the requirements specified in BS 5896-2012

OTHER MATERIAL NOTES: Pre-stressed steel strands to provide increased tensile strength

IRON

ID: 7439-89-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **98.00 - 98.00** GS: **LT-P1** RC: **PostC** NANO: **No** ROLE: **Element of the prestressed structural steel strands**

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

SUBSTANCE NOTES:

CARBON

ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.83 - 0.83** GS: **LT-UNK** RC: **PostC** NANO: **No** ROLE: **Element added to the structural steel element to provide it with the required properties**

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

SUBSTANCE NOTES:

MANGANESE

ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.69 - 0.71** GS: **LT-P1** RC: **PostC** NANO: **No** ROLE: **Element added to the structural steel element to provide it with the required properties**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
REPRODUCTIVE	GHS - Japan	Toxic to reproduction - Category 1B [H360]

SUBSTANCE NOTES:

SILICON

ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.20 - 0.20** GS: **LT-UNK** RC: **PostC** NANO: **No** ROLE: **Element added to the structural steel element to provide it with the required properties**

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

SUBSTANCE NOTES:

DAVER STEEL - BEARING PLATE %: 0.82 - 0.83

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Residual levels of Carbon,, Aluminium, Nickle and Silicon found at <0.001%.

OTHER MATERIAL NOTES:

IRON ID: 7439-89-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **98.23 - 98.23** GS: **LT-P1** RC: **UNK** NANO: **No** ROLE: **Primary material**

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

SUBSTANCE NOTES:

MANGANESE ID: 7439-96-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **1.51 - 1.51** GS: **LT-P1** RC: **UNK** NANO: **No** ROLE: **Structural component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
REPRODUCTIVE	GHS - Japan	Toxic to reproduction - Category 1B [H360]

SUBSTANCE NOTES:

ALUMINUM ID: 91728-14-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.03 - 0.03** GS: **NoGS** RC: **UNK** NANO: **No** ROLE: **Structural Component**

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

SUBSTANCE NOTES:

CARBON

ID: **7440-44-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.01 - 0.01** GS: **LT-UNK** RC: **UNK** NANO: **No** ROLE: **Structural component**

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

SUBSTANCE NOTES:

NICKEL

ID: **7440-02-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.01 - 0.01** GS: **LT-1** RC: **UNK** NANO: **No** ROLE: **Structural component**

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

SUBSTANCE NOTES:

SILICON

ID: 7440-21-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.01 - 0.01** GS: **LT-UNK** RC: **UNK** NANO: **No** ROLE: **Structural component**

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

SUBSTANCE NOTES:

HALFEN HTA-CE 28/15 CHANNELS

%: 0.41 - 0.41

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: All impurity and residual information is captured in the linked HTA & HZA HDG Anchor Channels HPD.

HPD URL: https://www.halfen.com/application/filebrowser/library/de/media/certificates/HPD_HTA-HZA-HDG-Anchor_Channels.pdf

OTHER MATERIAL NOTES: Main cast-in item by weight.

STEEL

ID: 12597-69-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **94.22 - 95.41** GS: **NoGS** RC: **UNK** NANO: **No** ROLE: **Main structural component of the halfen cast-in channel**

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

SUBSTANCE NOTES:

ZINC

ID: 7440-66-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **2.94 - 2.97** GS: **LT-P1** RC: **UNK** NANO: **No** ROLE: **Coating to provide corrosive resistance.**

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

SUBSTANCE NOTES:

POLYETHYLENE

ID: **9002-88-4**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.92 - 1.00** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Foam component.**

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

SUBSTANCE NOTES:

MANGANESE

ID: **7439-96-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.54 - 0.60** GS: **LT-P1** RC: **None** NANO: **No** ROLE: **Structure component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
REPRODUCTIVE	GHS - Japan	Toxic to reproduction - Category 1B [H360]

SUBSTANCE NOTES:

COPPER

ID: **7440-50-8**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.40 - 0.45** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Structure component**

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

SUBSTANCE NOTES:

CARBON

ID: 7440-44-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.13 - 0.14** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Structure component**

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

SUBSTANCE NOTES:

PHOSPHORUS

ID: 7723-14-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.07 - 0.08** GS: **BM-2** RC: **None** NANO: **No** ROLE: **Structure component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
PHYSICAL HAZARD (REACTIVE)	EU - GHS (H-Statements)	H228 - Flammable solid
MAMMALIAN	US EPA - EPCRA Extremely Hazardous Substances	Extremely Hazardous Substances

SUBSTANCE NOTES:

LEAD

ID: 7439-92-1

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.04 - 0.04** GS: **LT-1** RC: **None** NANO: **No** ROLE: **Coating Component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
DEVELOPMENTAL	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant
CANCER	US EPA - IRIS Carcinogens	(1986) Group B2 - Probable human Carcinogen
CANCER	IARC	Group 2a - Agent is probably Carcinogenic to humans
CANCER	IARC	Group 2b - Possibly carcinogenic to humans
CANCER	CA EPA - Prop 65	Carcinogen
DEVELOPMENTAL	CA EPA - Prop 65	Developmental toxicity

PBT	US EPA - Priority PBTs (NWMP)	Priority PBT
PBT	WA DoE - PBT	PBT
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Female
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Male
CANCER	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
PBT	US EPA - Toxics Release Inventory PBTs	PBT
REPRODUCTIVE	EU - SVHC Authorisation List	Toxic to reproduction - Candidate list
PBT	OSPAR - Priority PBTs & EDs & equivalent concern	PBT - Chemical for Priority Action
PBT	OR DEQ - Priority Persistent Pollutants	Priority Persistent Pollutant - Tier 1
DEVELOPMENTAL	US NIH - Reproductive & Developmental Monographs	Clear Evidence of Adverse Effects - Developmental Toxicity
REPRODUCTIVE	US NIH - Reproductive & Developmental Monographs	Clear Evidence of Adverse Effects - Reproductive Toxicity
REPRODUCTIVE	EU - GHS (H-Statements)	H360FD - May damage fertility. May damage the unborn child
DEVELOPMENTAL	EU - GHS (H-Statements)	H362 - May cause harm to breast-fed children
REPRODUCTIVE	EU - REACH Annex XVII CMRs	Toxic to Reproduction Category 1 - Substances known to impair fertility or cause Developmental Toxicity in humans
MULTIPLE	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
CANCER	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
CANCER	GHS - Korea	Carcinogenicity - Category 1 [H350 - May cause cancer]
REPRODUCTIVE	GHS - Korea	Reproductive toxicity - Category 1 [H360 - May damage fertility or the unborn child]
REPRODUCTIVE	GHS - New Zealand	6.8A - Known or presumed human reproductive or developmental toxicants
REPRODUCTIVE	GHS - Japan	Toxic to reproduction - Category 1A [H360]
GENE MUTATION	MAK	Germ Cell Mutagen 3a
REPRODUCTIVE	EU - Annex VI CMRs	Reproductive Toxicity - Category 1A
DEVELOPMENTAL	GHS - Australia	H360Df - May damage the unborn child. Suspected of damaging fertility

SUBSTANCE NOTES:

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

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.04 - 0.05** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Structural component**

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

SUBSTANCE NOTES:

BEZWELL - STAINLESS STEEL ANTI-CRACK BARS %: 0.11 - 0.11

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: SS reinforcement provided by Bezwells is 71.464% Iron (Fe), 18.16% Chromium with other trace elements. The product has trace amounts of sulphur. The composition of the steel meets the requirements specified in EN 10204 (2004)

OTHER MATERIAL NOTES: Stainless steel bars used for area's where concrete cover doesn't meet the specification.

IRON ID: 7439-89-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **71.45 - 71.47** GS: **LT-P1** RC: **UNK** NANO: **No** ROLE: **Structural component**

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

SUBSTANCE NOTES:

CHROMIUM ID: 7440-47-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **18.15 - 18.17** GS: **LT-P1** RC: **UNK** NANO: **No** ROLE: **Structural component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
SKIN SENSITIZE	MAK	Sensitizing Substance Sh - Danger of skin sensitization

SUBSTANCE NOTES:

NICKEL ID: 7440-02-0

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **8.01 - 8.01** GS: **LT-1** RC: **UNK** NANO: **No** ROLE: **Structural component**

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

SUBSTANCE NOTES:

MANGANESE

ID: **7439-96-5**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **1.73 - 1.73** GS: **LT-P1** RC: **UNK** NANO: **No** ROLE: **Structural Component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
REPRODUCTIVE	GHS - Japan	Toxic to reproduction - Category 1B [H360]

SUBSTANCE NOTES:

PHOSPHORUS

ID: **7723-14-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.03 - 0.03** GS: **BM-2** RC: **UNK** NANO: **No** ROLE: **Structural Component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
PHYSICAL HAZARD (REACTIVE)	EU - GHS (H-Statements)	H228 - Flammable solid
MAMMALIAN	US EPA - EPCRA Extremely Hazardous Substances	Extremely Hazardous Substances

SUBSTANCE NOTES:

CARBON

ID: **7440-44-0**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-12-20**

%: **0.02 - 0.02** GS: **LT-UNK** RC: **UNK** NANO: **No** ROLE: **Structural Component**

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

SUBSTANCE NOTES:

Section 3: Certifications and Compliance

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

VOC EMISSIONS — **EN 13999-1:2007 Adhesives emissions**

CERTIFYING PARTY: Second Party
APPLICABLE FACILITIES: Explore Industrial Park
CERTIFICATE URL:

ISSUE DATE: 2014-09-01

EXPIRY DATE:

CERTIFIER OR LAB: Flexcrete technologies

CERTIFICATION AND COMPLIANCE NOTES:

VOC CONTENT — **Decorative Paint Directive 2004/42/CE (by BS EN 13300:2001 test) - Phase 2**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: Explore Industrial Park
CERTIFICATE URL:

ISSUE DATE: 2014-09-01

EXPIRY DATE:

CERTIFIER OR LAB: Flexcrete Technologies

CERTIFICATION AND COMPLIANCE NOTES:

MANAGEMENT — **ISO 14001:2004 Environmental management systems**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: Nation-wide
CERTIFICATE URL:

ISSUE DATE: 2017-11-30

EXPIRY DATE: 2020-12-04

CERTIFIER OR LAB: British Standards Institution

CERTIFICATION AND COMPLIANCE NOTES:

Section 4: Accessories

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

No accessories are required for this product.

Section 5: General Notes

The product is compliant with BES 6001, CARES and IS 14001

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: **Laing O'Rourke**
ADDRESS: **Explore Industrial Park**
Explore Way
Steetley Worksop S80 3DT, United Kingdom
WEBSITE: **http://www.laingorourke.com/engineering-the-future/product-and-process-innovation/eip.aspx**

CONTACT NAME: **Luke Costa**
TITLE: **Mr**
PHONE: **07823362287**
EMAIL: **lcosta@laingorourke.com**

KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Hazard Types

AQU Aquatic toxicity
CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation
GLO Global warming
MAM Mammalian/systemic/organ toxicity
MUL Multiple hazards
NEU Neurotoxicity
OZO Ozone depletion
PBT Persistent Bioaccumulative Toxic
PHY Physical Hazard (reactive)
REP Reproductive toxicity
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
LAN Land Toxicity
NF Not found on Priority Hazard Lists

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 (insuficient data to benchmark)
LT-P1 List Translator Possible Benchmark 1
LT-1 List Translator Likely Benchmark 1
LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)
PostC Postconsumer
Both Both Preconsumer and Postconsumer
Unk Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms
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.