

HPD UNIQUE IDENTIFIER: 27366

CLASSIFICATION: 09 97 23 Concrete and Masonry Coatings

PRODUCT DESCRIPTION: NOxREDUx is a pollution-remediating concrete redoxing agent formulated to reduce airborne pollutants. NOxREDUx is a water-based inorganic carrier that permanently embeds the photocatalyst anatase titanium dioxide into new or existing pavements. This photocatalytic redoxing agent creates an air purifying surface that reduces NOx, VOC and airborne contaminants by up to 68%.

Section 1: Summary

Basic Method / Product Threshold

CONTENT INVENTORY

Table with 4 columns: Inventory Reporting Format, Threshold Level, Residuals/Impurities, and Characterized/Screened/Identified. Includes options for reporting methods, thresholds, and residual levels.

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®.

Number of Greenscreen BM-4/BM3 contents ... 1
Contents highest concern GreenScreen Benchmark or List translator Score ... LT-1
Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY
GREENSCREEN SCORE | HAZARD TYPE
NOxREDUx - POLLUTION REDOXING AGENT [ WATER BM-4 SILICIC ACID, LITHIUM SALT LT-UNK TITANIUM DIOXIDE LT-1 | CAN | END ]

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): 0.0 Regulatory (g/l): 0.0
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: GreenGuard Gold
VOC content: VOC Content

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients Option 1

Summary table with 3 columns: Third Party Verified?, PREPARER: Self-Prepared, VERIFIER: WAP Sustainability Consulting, VERIFICATION #: zPr-13131, SCREENING DATE: 2022-01-26, PUBLISHED DATE: 2022-01-27, EXPIRY DATE: 2025-01-26.

## 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)

### NOXREDUX - POLLUTION REDOXING AGENT

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Residuals and impurity data were collected from the material suppliers and all that fall above the stated threshold are included on the HPD.

OTHER PRODUCT NOTES: Substance ranges are provided to protect the proprietary nature of SINAK's and their suppliers' formulations.

#### WATER

ID: 7732-18-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-01-26 14:01:56**

#: **90.0000 - 100.0000** GS: **BM-4** RC: **None** NANO: **No** SUBSTANCE ROLE: **Carrier**

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

SUBSTANCE NOTES: The GreenScreen benchmark score was obtained from the Pharos database found at [pharosproject.net](http://pharosproject.net).

#### SILICIC ACID, LITHIUM SALT

ID: 12627-14-4

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-01-26 14:01:56**

#: **0.0000 - 5.0000** GS: **LT-UNK** RC: **None** 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:

#### TITANIUM DIOXIDE

ID: 13463-67-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-01-26 14:01:57**

#: **0.0000 - 5.0000** GS: **LT-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Photoinitiator**

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:** Most of the hazards associated with titanium dioxide are caused from particles of respirable size. When used in this product, titanium dioxide is not in a respirable form, therefore many of the hazards do not apply.

## 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

### GreenGuard Gold

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CERTIFYING PARTY: Third Party	ISSUE DATE: 2021-02-04	EXPIRY DATE: 2022-11-06	CERTIFIER OR LAB: UL
APPLICABLE FACILITIES: All			
CERTIFICATE URL: <a href="https://spot.ul.com/main-app/products/detail/601c363179570e32835bfe69">https://spot.ul.com/main-app/products/detail/601c363179570e32835bfe69</a>			
CERTIFICATION AND COMPLIANCE NOTES: Office and classroom emissions scenarios			

### VOC CONTENT

### VOC Content

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CERTIFYING PARTY: Self-declared	ISSUE DATE: 2021-07-30	EXPIRY DATE:	CERTIFIER OR LAB: Self
APPLICABLE FACILITIES: All			
CERTIFICATE URL:			
CERTIFICATION AND COMPLIANCE NOTES: Zero calculated VOC content			

## 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

**MANUFACTURER INFORMATION**

MANUFACTURER: **SINAK**  
 ADDRESS: **4901 Morena Blvd**  
**#601**  
**San Diego CA 92117, United States**  
 WEBSITE: **www.sinak.com**

CONTACT NAME: **Ian Higgins**  
 TITLE: **Director of Operations**  
 PHONE: **1-619-452-1217**  
 EMAIL: **ian@sinak.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**

<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>NoGS</b> No GreenScreen.
<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)	

**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.*