

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>Duro-Shield - Roof Coating - White</b>
<b>Other means of identification</b>	
<b>Product code</b>	419505, 419555
<b>Recommended use</b>	Architectural coating and waterproofing.
<b>Recommended restrictions</b>	Uses other than the recommended use.

## Manufacturer/Importer/Supplier/Distributor information

<b>Distributed by</b>	Holcim Solutions and Products US, LLC
<b>Address</b>	525 W Morley Dr. Saginaw, MI 48601 Duro-Last® is a division of Holcim Solutions and Products US, LLC
<b>Website</b>	www.duro-last.com
<b>Telephone Number</b>	

<b>Emergency Telephone Number</b>	INFOTRAC (24 hours): 1-800-535-5053 (US & Canada) 1-352-323-3500 (International)
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## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 4
<b>Health hazards</b>	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
	Specific target organ toxicity, repeated exposure (oral)	Category 2 (Blood, Cardiovascular system)
<b>OSHA defined hazards</b>	Not classified.	

## Label elements



<b>Signal word</b>	Warning
<b>Hazard statement</b>	Combustible liquid. May cause an allergic skin reaction. Causes serious eye irritation. May cause damage to organs (Blood, Cardiovascular system) through prolonged or repeated exposure by ingestion.
<b>Precautionary statement</b>	
<b>Prevention</b>	Keep away from flames and hot surfaces. - No smoking. Do not breathe mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response</b>	If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse. In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.
<b>Storage</b>	Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
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<b>Supplemental information</b>	None.
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### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Titanium Dioxide	13463-67-7	7 - 13
Silicon dioxide, crystalline silica-free	7631-86-9	1 - 5
Methyl-tris (2-butanonoxime)silane	22984-54-9	1 - 4
Aminopropyltrimethoxysilane	13822-56-5	0.5 - 1.5
Zirconium dioxide	1314-23-4	0.1 - 1

**Composition comments** Components not listed are either non-hazardous or are below reportable limits.  
All concentrations are in percent by weight unless otherwise indicated.  
Any concentration shown as a range is to protect confidentiality or is due to batch variation.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed such as: Carbon oxides (CO <sub>x</sub> ). Silicon oxides. Nitrogen Oxides (NO <sub>x</sub> ).
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Combustible liquid.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. The product is insoluble in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Do not breathe mist/vapors. Provide adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Persons susceptible to allergic reactions should not handle this product.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

U.S. - OSHA  
Components

Type

Value

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

TWA

80 mg/m3

US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)  
Components

Type

Value

Form

Titanium Dioxide (CAS 13463-67-7)

PEL

15 mg/m3

Total dust.

Zirconium dioxide (CAS 1314-23-4)

PEL

5 mg/m3

US. OSHA Table Z-3 Permissible Exposure Limits (PEL) for Mineral Dusts (29 CFR 1910.1000)  
Components

Type

Value

Form

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

TWA

5 mg/m3

Respirable fraction.

15 mg/m3

Total dust.

20 mppcf

Zirconium dioxide (CAS 1314-23-4)

TWA

5 mg/m3

Respirable fraction.

15 mg/m3

Total dust.

50 mppcf

Total dust.

15 mppcf

Respirable fraction.

US. ACGIH Threshold Limit Values (TLV)  
Components

Type

Value

Form

Titanium Dioxide (CAS 13463-67-7)

TWA

2.5 mg/m3

Respirable finescale particles

0.2 mg/m3

Respirable nanoscale particles

Zirconium dioxide (CAS 1314-23-4)

STEL

10 mg/m3

TWA

5 mg/m3

**NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended**

Components	Type	Value
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)	IDLH	3000 mg/m3
Titanium Dioxide (CAS 13463-67-7)	IDLH	5000 mg/m3
Zirconium dioxide (CAS 1314-23-4)	IDLH	25 mg/m3

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)	TWA	6 mg/m3
Zirconium dioxide (CAS 1314-23-4)	STEL	10 mg/m3
	TWA	5 mg/m3

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Skin protection****Hand protection**

Wear appropriate chemical resistant gloves. Examples of preferred glove barrier materials include: Nitrile. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

**Skin protection****Other**

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection**

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Appropriate respirator selection should be made by a qualified professional.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

**9. Physical and chemical properties****Appearance****Physical state**

Liquid.

**Form**

Liquid.

**Color**

White.

**Odor**

Mild solvent.

**Odor threshold**

Not available.

**pH**

Not applicable as the product is insoluble in water.

**Melting point/freezing point**

Not determined.

**Initial boiling point and boiling range**

Not determined.

**Flash point**

169 °F (76.11 °C) Closed Cup

**Evaporation rate**

Not determined.

**Flammability (solid, gas)**

Not applicable.

**Upper/lower flammability or explosive limits****Explosive limit - lower (%)**

Not determined.

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**Explosive limit - upper (%)**    Not determined.

Vapor pressure	Not determined.
Vapor density	Not determined.
Relative density	1.28 (77 °F (25 °C))
Solubility(ies)	
Solubility (water)	Insoluble (< 0.1%)
Partition coefficient (n-octanol/water)	Not applicable, product is a mixture.

Auto-ignition temperature	Not determined.
Decomposition temperature	Not applicable as the product is not unstable.
Viscosity	5500 cps (77 °F (25 °C))
Other information	Solids: 95.86%
Density	Not determined.
Explosive properties	Not explosive.
Kinematic viscosity	Not determined.
Oxidizing properties	Not oxidizing.
VOC	< 50 g/l < 0.42 lb/gal

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Chlorine. Fluorine.
Hazardous decomposition products	No hazardous decomposition products are known. In the event of fire: See Section 5.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No inhalation hazard under normal conditions. Inhalation of titanium dioxide dust may cause cancer, however due to the physical form of the product, inhalation of dust is not likely.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause damage to organs through prolonged or repeated exposure by ingestion.
Symptoms related to the physical, chemical and toxicological characteristics	Prolonged exposure may cause chronic effects. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
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Components	Species	Test Results
Methyl-tris (2-butanonoxime)silane (CAS 22984-54-9)		
NOAEL	Rat	10 mg/kg
<u>Acute</u>		
Oral		
LD50		2463 mg/kg
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)		
<u>Acute</u>		
Dermal		





Components	Species	Test Results
<b>Inhalation</b>		
<i>Dust</i>		
LC50	Rat	> 0.14 mg/l, 4 Hours
<b>Oral</b>		
LD50	Rat	> 3300 mg/kg
Titanium Dioxide (CAS 13463-67-7)		
<u><b>Acute</b></u>		
<b>Oral</b>		
LD50	Rat	> 5000 mg/kg
Zirconium dioxide (CAS 1314-23-4)		
<u><b>Acute</b></u>		
<b>Inhalation</b>		
<i>Aerosol</i>		
LC50	Rat	> 4.3 mg/l, 4 Hours
<b>Oral</b>		
LD50	Rat	> 5000 mg/kg
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>		
Not a respiratory sensitizer.		
<b>Skin sensitization</b>		
May cause an allergic skin reaction.		
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	Not classifiable as to carcinogenicity to humans. Titanium dioxide is considered carcinogenic only when in an inhalable powdered form. Due to the form of the product, exposure to the potentially carcinogenic components is not expected.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)		3 Not classifiable as to carcinogenicity to humans.
Titanium Dioxide (CAS 13463-67-7)		2B Possibly carcinogenic to humans.
<b>NTP Report on Carcinogens</b>		
Not listed.		
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>		
Not listed.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs (Blood, Cardiovascular system) through prolonged or repeated exposure by ingestion.	
<b>Aspiration hazard</b>	Not an aspiration hazard.	
<b>Chronic effects</b>	Prolonged exposure may cause chronic effects. Prolonged inhalation may be harmful.	
<b>12. Ecological information</b>		
<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	

12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Titanium Dioxide (CAS 13463-67-7)		
<b>Aquatic</b>		
<i>Acute</i>		

Crustacea	EC50	Daphnia magna	> 100 mg/l, 48 Hours
Fish	LL50	Oryzias latipes	> 100 mg/l, 96 Hours

Components	Species		Test Results
Zirconium dioxide (CAS 1314-23-4)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	> 1000 mg/l, 48 hours
Fish	LC50	Danio rerio	> 100 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available on bioaccumulation.		
Mobility in soil	No data available.		
Other adverse effects	No data available.		
13. Disposal considerations			
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.		
Local disposal regulations	Dispose in accordance with all applicable regulations.		
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.		
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.		
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.		
14. Transport information			
DOT			
Not regulated as dangerous goods.			
Non-bulk: Not hazardous for transport under exception 173.150 (f) (2,3).			
DOT BULK			
BULK			
UN number	NA1993		
UN proper shipping name	Combustible liquid, n.o.s. (Methyl-tris (2-butanonoxime)silane)		
Transport hazard class(es)			
Class	Comb liq		
Subsidiary hazard	-		
Label(s)	None		
Packing group	III		
Environmental hazards			
Marine pollutant	No		
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.		
Special provisions	IB3, T1, T4, TP1		
Packaging exceptions	150		
Packaging non bulk	203		
Packaging bulk	241		
IATA			
Not regulated as dangerous goods.			
IMDG			
Not regulated as dangerous goods.			
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	15. Regulatory information		
	US federal regulations		

Not established.

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Toxic Substances Control Act (TSCA)**

All components of the mixture on the TSCA 8(b) inventory are designated "active".

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**

Yes

**Classified hazard categories**

Flammable (gases, aerosols, liquids, or solids)  
Serious eye damage or eye irritation  
Respiratory or skin sensitization  
Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)**

Contains component(s) regulated under the Safe Drinking Water Act.

**US state regulations****US. Massachusetts RTK - Substance List**

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)  
Titanium Dioxide (CAS 13463-67-7)  
Zirconium dioxide (CAS 1314-23-4)

**US. New Jersey Worker and Community Right-to-Know Act**

Titanium Dioxide (CAS 13463-67-7)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)  
Titanium Dioxide (CAS 13463-67-7)

**US. Rhode Island RTK**

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)  
Titanium Dioxide (CAS 13463-67-7)  
Zirconium dioxide (CAS 1314-23-4)

**California Proposition 65**

**WARNING:** This product can expose you to chemicals including Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**California Proposition 65 - CRT: Listed date/Developmental toxin**

Toluene (CAS 108-88-3)

Listed: January 1, 1991

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	New
Canada	Domestic Substances List (DSL)	Zeal
Canada	Non-Domestic Substances List (NDSL)	and
China	Inventory of Existing Chemical Substances in China (IECSC)	New
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Zeal
Korea	Existing Chemicals List (ECL)	and Inven

tory

No  
No  
Yes  
Yes  
No  
No  
Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

Issue date	18-July-2024
Revision date	-
Version #	01
HMIS® ratings	Health: 2* Flammability: 2 Physical hazard: 0
Disclaimer	Holcim Solutions and Products US, LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.