Safety Data Sheet

Issue Date: August 25, 2021 Revision Date: March 21, 2022 Version 2

SECTION 1: IDENTIFICATION

Product Identifier

Product Name DELTA®-LFS

Intended Use of the Product

Permanently elastic rubber compound sealant and window flashing

Name, Address, and Telephone of the Responsible Party

Dörken Systems Inc.
4655 Delta Way, Beamsville, Ontario L3J 0T6
T: (905) 563-3255
F: (905) 563-5582

Emergency Telephone Number

Company Number: (905)- 563-3255 CANUTEC (Canada):613-996-6666 CHEMTREC: 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

Label Elements

Skin irritation or sensitization, and eye irritation

Hazard Statements

Appearance: Black **Physical State:** Solid **Odor:** Slight

GHS Hazard Classification:
Acute Toxicity – Category 5
Skin Irritation – Category 3 Skin Sensitizer – Category 1B
Specific Target Organ Toxicity (STOT) Repeated Exposure – Category 2

GHS Hazard Statements:
H316 – Causes mild skin irritation.
H317 – May cause an allergic skin reaction.
H373 – May cause damage to organs through prolonged or repeated exposure. Affected organs: cardiovascular/hematological (hematopoiesis).

GHS Precautionary Statements:

Prevention:
P260 – Do not breathe fumes/vapors.
P264 – Wash hands thoroughly after handling.
P270 – Do not eat, drink, or smoke when using this product.
P273 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P302+P352 – IF ON SKIN: Wash with plenty of water/shower.
P305+P351+P338 – IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 – Get medical advice/attention if you feel unwell.

Storage:
P403+P233+P235 – Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal:
P501 – Dispose of contents/containers in accordance with local and national regulations.

Precautionary Statements – Response

IF ON SKIN (or hair) – Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED – Remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES – Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call POISON CENTER or physician

Hazards not otherwise classified (HNOC)

Not Applicable

Unknown acute toxicity (GHS-US)

Not Applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	% (w/w)
Silicon dioxide	(CAS No) 7631-86-9	5 – 10
N-[bis[(butan-2-ylideneamino)oxy] methylsilyl]oxybutan-2-imine	(CAS No) 22984-54-9	1 – 5
N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine	(CAS No) 3069-29-2	1 – 5
Other Ingredients		

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentration applicable, are classification as hazardous to health or the environment and hence require reporting in this section.

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General: In case of accident or un-wellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye Contact: Keep eye wide open while rinsing. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact: Wash immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician. Wash contaminated clothing before reuse.

Inhalation: Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If symptoms persist, call a physician.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting without medical advice. Rinse mouth. Never give anything by mouth to an unconscious person. Have victim rinse out mouth and drink 8 to 10 oz. (240 to 300 ml) of water to dilute the material in stomach. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration.

Self-protection: Use personal protective equipment as required.

Most Important Symptoms and Effects Both Acute and Delayed

At high vapor concentrations, curing by-product has a narcotic action with reversible effects. May cause moderate eye irritation. Can cause burns. Mild dermal irritant; may cause transient reddening of the skin. Ingestion may cause irritation and obstruction to the gastro-intestinal tract.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. There is no specific antidote if this product is ingested.
Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical, CO2, sand, earth, water spray or alcohol resistant foam.

Unsuitable: Do not use a solid water stream as it may scatter and spread fire.

Special Hazards Arising From the Substance or Mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Reactivity: Hazardous reactions will not occur under normal conditions.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

Environmental Precautions: Collect spillage. Dispose of contents/container to an approved waste disposal plant.

Methods and Materials for Containment and Cleaning Up

For Containment: No information available

Methods for Cleaning Up: Pick up and transfer to properly labeled containers.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Advice of Safe Handling: Handle in accordance with good industrial hygiene and safety prentice. Use personal protective equipment as required.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	Canada TLV
Silicon dioxide*	10 mg/m³ inhalable; 3 mg/m³ respirable.	Not established.	Not established.	IARC Group 3	Ontario 10 mg/m³ TLV; Quebec 6 mg/m³ TLV
N-[bis[(butan-2-ylideneamino) oxy] methylsilyl]oxybutan-2-imine	Not established.	Not established.	Not established.	Not established.	Not established.
N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine	Not established.	Not established.	Not established.	Not established.	Not established.
Methyl Ethyl Ketoxime (MEKO)**	Not established.	Not established.	3 ppm TWA; 10 ppm STEL; 10 ppm workplace environmental exposure level (AIHA)	Not established.	Not established.

REL = recommended exposure limit; STEL = short-term exposure limit; TLV = threshold limit value; TWA = time weighted average

* Component(s) are bound in the formulation and are not an exposure concern in the mixture or cured product.

** Methyl Ethyl Ketoxime (MEKO) is a curing-by-product that is released when the coating comes in contact with humid air. It is recommended to keep workplace exposure levels below 3 ppm.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	Viscous liquid
Appearance	:	Smooth
Odor	:	Almost odorless
Odor Threshold	:	Not available
pH	:	Not available
Evaporation Rate	:	Not available
Melting Point	:	Not available
Freezing Point	:	Not available
Boiling Point	:	Not available
Flash Point	:	84°C - 85°C (181.4°F – 183.2°F)
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not availabe
Flammability (solid, gas)	:	Not avialabe
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Negligible @ 25°C (77 °F)
Relative Density	:	1.11 – 1.13
VOC Content:	:	42.26 g/L (0.353 lb/gallon)
VOC Content:	:	
Specific Gravity / Density	:	Not available
Specific Gravity	:	Not available
Solubility	:	Partly soluble
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available
Explosion Data - Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Solubility(ies)	:	Insoluble – water. Soluble in most organic solvents.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials. Sparks, heat, open flame and other sources of ignition. Dust accumulation (to minimize explosion hazard).

Incompatible Materials: Strong oxidizers, concentrated acids or bases cause degradation of polymer. Boiling water may soften and weaken material.

Hazardous Decomposition Products: Combustion will produce silicon dioxide, carbon dioxide and carbon monoxide. A component of this product can generate formaldehyde at approximately 150 °C (300 °F) and above in the atmosphere containing oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant and potential carcinogen.

SECTION 11: TOXICOLOGICAL INFORMATION

	Acute Effects	Chronic Effects	
Inhalation	At high vapor concentrations, curing by-product has a narcotic action with reversible effects.	At high vapor concentrations, curing by-product has a narcotic action with reversible effects.	
Ingestion	May cause irritation and obstruction to gastro-intestinal tract.	Effects unknown	
Skin Contact	Mild irritant; may cause transient reddening of the skin.	Effects unknown.	
Eye Contact	Moderate irritation. Can cause burns.	Effects unknown.	
Acute Toxicity			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
LD50, rat, ingestion, calculated 3,810 – 4,670 mg/kg.	LD50, rat, oral >5,110 mg/kg; LD50, rabbit, eye/skin >2,000 mg/kg; LC50, rat, inhalation > 4 mg/L.	No data available.	No data available.
Skin Irritation			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	Not irritating to skin (rabbit).	Sensitization possible. Irritates the skin.	No data available.
Eye Irritation			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	Not irritating to eyes (rabbit).	Irritates the eyes.	No data available.
Mutagenicity			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine

	There is no evidence that SAS induced mutations/ genotoxic either in vitro or in vivo in standard methods.	No data available.	No data available.
Carcinogenicity:			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	IARC Group 3.	No data available.	No data available.
NOTE: Silicon dioxide is fully bound in the product formulation and is not an inhalation hazard in either the mixture or cured product. The ingredients of this product are not listed as carcinogens by the National Toxicology Program and have not been evaluated by the International Agency for Research on Cancer (IARC) or the American Conference of Government Industrial Hygienists (ACGIH) (if not detailed above).			
Reproductive Toxicity			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	The study on rats and mice gave no evidence of adverse effects on reproduction and development.	No data available	No data available
Teratogenicity			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	The study on rats and mice gave no evidence of adverse effects on reproduction and development.	No data available	No data available
Specific Target Organ Toxicity (STOT) – Single Exposure:			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	The inhalation of respirable particles of SAS produces a time and dose related inflammation response of the lung tissue in animal studies. All these effects were reversible following discontinuation of exposure	May cause damage to organs through prolonged or repeated exposure. Affected organs: cardiovascular/ hematological (hematopoiesis).	No data available
NOTE: Silicon dioxide is fully bound in the product formulation and is not an inhalation hazard in either the mixture or cured product.			
Aspiration Hazard			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	No data available	No data available	No data available
Aspiration Hazard			

Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	No data available	No data available	No data available
Chronic Toxicity			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	No data available	No data available	No data available

NOTE: Silicon dioxide is fully bound in the product formulation and is not an inhalation hazard in either the mixture or cured product.

NOTE: Curing by-product, methylethylketoxime (MEKO); male rats and mice exposed to MEKO throughout their lifetime developed liver tumors. Many commonly used chemicals cause liver tumors in rats and mice. The relevance to humans is unknown.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity - Acute			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	EC50, 48h, Daphnia magna >10,000 mg/L.	No data available	No data available
Ecotoxicity - Chronic			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	No data available	No data available	No data available
Persistence and Degradability			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	Log Kow 0.53 (estimated)	No data available	No data available
Bioaccumulative Potential			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	BCF 3.162 (estimated)	No data available	No data available
Mobility in Soil			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine
	Koc 2.881 (estimated)	No data available	No data available
Other Adverse Effects			
Product	Silicon dioxide	N-[bis[((butan-2-ylidene)amino]oxy]silane] oxybutan-2-imine	N-[[3-diemthoxy(methyl) silyl]propyl]ethane-1,2-diamine

	No data available	No data available	No data available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT: Not regulated for transport

In Accordance with IMDG: Not regulated for transport

In Accordance with IATA: Not regulated for transport

In Accordance with TDG: Not regulated for transport

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

TSCA Inventory: All chemical substances in this material are included in or exempted from the TSCA.
CERCLA Reportable Quantity: None present on none present in regulated quantities.
SARA 304 Extremely Hazardous Substances Reportable Quantity: This material does not contain any components with a section 304 EHS RQ.
SARA 311/312 Hazard Categories: Not applicable.
SARA 302 Extremely Hazardous Substance: No chemicals in this material are subject to reporting requirements of SARA Title III, Section 302
SARA 313 Emergency Release Notification: This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

US State Regulations

U.S. California Proposition 6: No ingredient regulated by CA Prop 65 present.
U.S. New Jersey Worker and Community Right-to-Know Act: No ingredient regulated by NJ Right-to-Know Law present.
U.S. Massachusetts Right-to-Know Act– Substance List: Silicon dioxide, CAS No. 7631-86-9, 5 – 10%
U.S. Pennsylvania Right-to-Know Act – Hazardous Substances: Silicon dioxide, CAS No. 7631-86-9, 5 – 10%
U.S. Rhode Island Right-Know Act: No ingredient regulated by RI Right-to-Know Law present.

Canadian Regulations

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR), and the MSDS contains all the information required by the HPR. DSL Inventory: All chemical substances in this material are included in or exempted from the DSL.

Other Regulations

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

The ingredients of this product are reported in the following inventories:

AICS (Australia)	On or in compliance with the inventory.
DSL (Canada)	On or in compliance with the inventory.
ENCS/ISHL (Japan)	On or in compliance with the inventory.
IECSC (China)	On or in compliance with the inventory.
KECI (Korea)	On or in compliance with the inventory.
NZIoC (New Zealand)	On or in compliance with the inventory.
PICCS (Phillipines)	On or in compliance with the inventory.

REACH (European Union)	On or in compliance with the Inventory.
TSCA (USA)	On or in compliance with the inventory.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Preparation Date:	August 25, 2021
Revision Date:	March 21, 2022

Party Responsible For The Preparation of This Document
Dörken Systems Inc.
4655 Delta Way, Beamsville
ON L3J 0T6, Canada
T +1 (905) 563-3255
www.dorken.com

A **DÖRKEN**GROUP Company

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text