

1. Identification

Product identifier MILL-RIGHT® V Green Fluoroelastomer

Other means of identification

Product code Various

Recommended use Sealing Element

Recommended restrictions Maximum Service Temperature should not exceed 450°F

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Garlock Sealing Technologies, LLC

Address 1666 Division Street
Palmyra, NY 14522
United States

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2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Based on available information; under normal conditions of use this product is not expected to release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical, and is not expected to pose a physical hazard or health risk to employees. Based on this and its form, the product meets the definition of an "Article". "Articles" are outside the scope of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Hexafluoropropylene-vinylidene Fluoride Copolymer		9011-17-0	- < 70
Crystalline Silica		14808-60-7	- < 20
Carbon Black		1333-86-4	- < 5
Chromium Iii Oxide		1308-38-9	- < 5

Chemical name	Common name and synonyms	CAS number	%
Magnesium Oxide		1309-48-4	- < 5
Calcium Hydroxide		1305-62-0	< 1
Other components below reportable levels			10 - < 20

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	No specific intervention is indicated as the product is not likely to be hazardous by inhalation. If exposed to fumes from overheating or combustion, move to fresh air. Consult physician if symptoms persist.
Skin contact	The product is not likely to be hazardous by skin contact, but cleansing the skin after use is advisable.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	No specific intervention is indicated, as product is not likely to be hazardous by ingestion. Consult a physician if necessary.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Following First Aid Instructions as outlined. If symptoms persist seek medical attention.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Hydrogen fluoride fumes emitted during a fire can react with water to form hydrofluoric acid. Wear neoprene gloves when handling refuse from fire
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Wear appropriate protective equipment and clothing during clean-up.
Methods and materials for containment and cleaning up	No special methods normally required. If dust is generated see Section 7.
Environmental precautions	Not applicable.

7. Handling and storage

Precautions for safe handling	Avoid contamination of cigarettes or tobacco with dust from this material.
Conditions for safe storage, including any incompatibilities	For optimal shelf life store in cool and dry location. Prevent exposure to ultra-violet (UV) light, direct sunlight or strong fluorescent lights. Do not store near devices, which produce ozone (O3).

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value	Form
Calcium Hydroxide (CAS 1305-62-0)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Carbon Black (CAS 1333-86-4)	PEL	3.5 mg/m3	

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

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.
Magnesium Oxide (CAS 1309-48-4)	PEL	15 mg/m3	Total particulate.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.
Magnesium Oxide (CAS 1309-48-4)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Calcium Hydroxide (CAS 1305-62-0)	TWA	5 mg/m3	
Carbon Black (CAS 1333-86-4)	TWA	3 mg/m3	Inhalable fraction.
Chromium Iii Oxide (CAS 1308-38-9)	TWA	0.003 mg/m3	Inhalable fraction.
Crystalline Silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Magnesium Oxide (CAS 1309-48-4)	TWA	10 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Calcium Hydroxide (CAS 1305-62-0)	TWA	5 mg/m3	
Carbon Black (CAS 1333-86-4)	TWA	0.1 mg/m3	
Crystalline Silica (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

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

Appropriate engineering controls General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

Eye/face protection As generally good practice, safety glasses with side shields are recommended when handling this product to prevent eye contact with particulate matter.

Skin protection

Hand protection When handling hot material, use heat resistant gloves. Neoprene gloves are recommended when handling refuse from a fire or packing that has been heated in excess of 500° F. For prolonged or repeated skin contact use suitable protective gloves.

Other Not normally needed.

Respiratory protection Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations 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.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Sealing Element
Color	Green

Odor Slight.

Odor threshold Not available.

pH Not Applicable

Melting point/freezing point Not available.

Initial boiling point and boiling range Not Applicable

Flash point Not Applicable

Evaporation rate Not Applicable

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not Applicable

Flammability limit - upper (%) Not Applicable

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not Soluble

Partition coefficient (n-octanol/water) Not Applicable

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not Applicable

Other information

Specific gravity 2.04

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, sparks and open flame.

Incompatible materials Incompatible or can react with finely divided metal powders (e.g. aluminum and magnesium), molten alkali metals, and potent oxidizers like fluorine and related compounds like chlorine trifluoride. Contact with incompatibles can cause fire or explosion. Strong bases.

Hazardous decomposition products Composition of by-products from the result of a fire or thermal decomposition will vary depending on the specific conditions. Hazardous gases/vapors include hydrogen fluoride (HF), carbonyl fluoride, hydrogen iodide, lowmolecular weight fluorocarbons and oxides of carbon.

11. Toxicological information

Information on likely routes of exposure

Inhalation No adverse effects due to inhalation are expected.

Skin contact No adverse effects due to skin contact are expected.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Toxic and corrosive hydrogen fluoride may be liberated above 500 F, or from smoking tobacco or cigarettes contaminated with dust. These vapors can irritate the eyes, nose, throat, and lungs. Lung effects may be delayed for several hours.

Components	Species	Test Results
Calcium Hydroxide (CAS 1305-62-0)		
Acute		
Oral		
LD50	Rat	7340 mg/kg
Carbon Black (CAS 1333-86-4)		
Acute		
Oral		
LD50	Rat	> 8000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation

Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation

Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization

Not a respiratory sensitizer.

Skin sensitization

This product is not expected to cause skin sensitization.

Germ cell mutagenicity

Due to partial or complete lack of data the classification is not possible.

Carcinogenicity

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon Black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
Chromium Iii Oxide (CAS 1308-38-9)	3 Not classifiable as to carcinogenicity to humans.
Crystalline Silica (CAS 14808-60-7)	1 Carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Crystalline Silica (CAS 14808-60-7)	Cancer
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US. National Toxicology Program (NTP) Report on Carcinogens

Carbon Black (CAS 1333-86-4)	Known To Be Human Carcinogen.
Crystalline Silica (CAS 14808-60-7)	Known To Be Human Carcinogen.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

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
Calcium Hydroxide (CAS 1305-62-0)		
Aquatic		
Fish	LC50	Zambezi barbel (Clarias gariepinus) 33.8844 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Review federal, state/provincial, and local government requirements prior to disposal.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose in accordance with all applicable regulations.
Contaminated packaging	Not applicable.

14. Transport information

DOT

Not regulated as dangerous goods.

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 Not applicable.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

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)

Crystalline Silica (CAS 14808-60-7)	Cancer lung effects immune system effects kidney effects
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Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No (Exempt)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Chromium Iii Oxide	1308-38-9	- < 5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Chromium Iii Oxide (CAS 1308-38-9)

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations WHMIS Classification: Not Controlled

California Proposition 65

WARNING: WARNING: This product can expose you to the following chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. The Crystalline Silica in this product is bound in a polymer matrix and therefore poses low risk of exposure to airborne particles of respirable size.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Carbon Black (CAS 1333-86-4)

Listed: February 21, 2003

Crystalline Silica (CAS 14808-60-7)

Listed: October 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Carbon Black (CAS 1333-86-4)

Crystalline Silica (CAS 14808-60-7)

Magnesium Oxide (CAS 1309-48-4)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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 05-08-2020

Version # 01

Further information This SDS supersedes the SDS dated: December 12, 2007

Disclaimer The information provided in this 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.