



1. Identification

Product identifier Style 3700

Other means of identification

Product code 39007, 39107

Recommended use Gasket Material

Recommended restrictions Maximum Service Temperature should not exceed 700°F

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Garlock Sealing Technologies, LLC

Address 1666 Division Street
Palmyra, NY 14522
United States

Telephone M-F 9:00AM-4:00PM 315-597-4811
FAX 315-597-3039

Website www.garlock.com

E-mail GSTSDS@garlock.com

Contact person Michael McNally

Emergency phone number 315-597-4811

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 In its manufactured and shipped state, this product is considered to present low hazard.

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	%
Kaolin		1332-58-7	- < 60
p-Aramid Fiber		26125-61-1	- < 25
Rubber, Natural		9006-04-6	- < 5
Titanium Dioxide		13463-67-7	< 1
Zinc Oxide		1314-13-2	< 1

Chemical name	Common name and synonyms	CAS number	%
2-mercaptobenzothiazole		149-30-4	< 0.5
Silica - Crystalline, Quartz		14808-60-7	< 0.5
Tetramethyl thiuram disulfide		137-26-8	< 0.5
Toluene		108-88-3	0< 0.5
Carbon Black		1333-86-4	< 0.2
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. Consult a physician if necessary. If exposed to fumes from overheating or combustion, move to fresh air. Consult physician if symptoms persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
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	Get medical attention if symptoms occur.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
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	Use standard firefighting procedures and consider the hazards of other involved materials.
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	See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	No special methods normally required. If dust is generated see Section 7.
Environmental precautions	None known.

7. Handling and storage

Precautions for safe handling	Avoid grinding, abrading or other mechanical actions that could release particulates. Dust generated from this material must be managed by wet wiping or vacuuming with HEPA filtration equipped vacuum cleaners. Do not dry sweep or blow dust with compressed air. Avoid breathing dust.
Conditions for safe storage, including any incompatibilities	Room temperature - normal conditions.

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
Carbon Black (CAS 1333-86-4)	PEL	3.5 mg/m ³	
Kaolin (CAS 1332-58-7)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Silica - Crystalline, Quartz (CAS 14808-60-7)	PEL	0.05 mg/m ³	Respirable dust.
Tetramethyl thiuram disulfide (CAS 137-26-8)	PEL	5 mg/m ³	
Titanium Dioxide (CAS 13463-67-7)	PEL	15 mg/m ³	Total dust.
Zinc Oxide (CAS 1314-13-2)	PEL	5 mg/m ³	Fume.
		5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

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

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Silica - Crystalline, Quartz (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable.
		2.4 mppcf	Respirable.
Titanium Dioxide (CAS 13463-67-7)	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon Black (CAS 1333-86-4)	TWA	3 mg/m ³	Inhalable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m ³	Respirable fraction.
Rubber, Natural (CAS 9006-04-6)	TWA	0.0001 mg/m ³	Inhalable fraction.
Silica - Crystalline, Quartz (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.
Tetramethyl thiuram disulfide (CAS 137-26-8)	TWA	0.05 mg/m ³	Inhalable fraction and vapor.
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m ³	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Zinc Oxide (CAS 1314-13-2)	STEL	10 mg/m ³	Respirable fraction.
	TWA	2 mg/m ³	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Carbon Black (CAS 1333-86-4)	TWA	0.1 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Silica - Crystalline, Quartz (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.
Tetramethyl thiuram disulfide (CAS 137-26-8)	TWA	5 mg/m3	
Toluene (CAS 108-88-3)	STEL	560 mg/m3	
		150 ppm	
	TWA	375 mg/m3	
		100 ppm	
Zinc Oxide (CAS 1314-13-2)	Ceiling	15 mg/m3	Dust.
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		5 mg/m3	Dust.

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
2-mercaptobenzothiazole (CAS 149-30-4)	TWA	5 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

* - For sampling details, please see the source document.

Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

US - California OELs: Skin designation

Toluene (CAS 108-88-3) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (CAS 108-88-3) Skin designation applies.

US ACGIH Threshold Limit Values: Skin designation

Rubber, Natural (CAS 9006-04-6) Can be absorbed through the skin.

US WEEL Guides: Skin designation

2-mercaptobenzothiazole (CAS 149-30-4) Can be absorbed through the skin.

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

Protective gloves are recommended.

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	Sheets or Gaskets
Color	Light grey

Odor Hydrocarbon-like.

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 - lower (%) temperature Not Applicable

Flammability limit - upper (%) Not Applicable

Flammability limit - upper (%) temperature Not Applicable

Explosive limit - lower (%) Not Applicable

Explosive limit - lower (%) temperature Not Applicable

Explosive limit - upper (%) Not Applicable

Explosive limit - upper (%) temperature Not Applicable

Vapor pressure Not Applicable

Vapor density Not Applicable

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

Density 100.00 lb/ft³

Explosive limit Not Applicable

Flash point class Not Applicable

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

Strong mineral acids. Strong oxidizing agents. Strong bases.

Hazardous decomposition products

Composition of by-products from the result of a fire will vary depending on the specific conditions. Possible decomposition products include smoke, oxides of carbon, nitrogen and sulfur, hydrogen cyanide, aldehydes, acrylonitrile monomer; as well as ammonia and various hydrocarbon fragments. There may be others unknown to us.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	May cause sensitization by skin contact.
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**

Harmful and / or toxic vapors may be produced in the event of thermal decomposition. This product contains constituents that can cause lung and respiratory tract disorders, including irritation, pneumoconiosis and cancer. These substances however are encapsulated in polymeric binders and therefore not bioavailable from the product as supplied. Physical actions such as cutting or grinding may disrupt the matrix producing dust and particulates.

Components	Species	Test Results
2-mercaptobenzothiazole (CAS 149-30-4)		
<u>Acute</u>		
Oral		
LD50	Mouse	1490 mg/kg
Carbon Black (CAS 1333-86-4)		
<u>Acute</u>		
Oral		
LD50	Rat	> 8000 mg/kg
Kaolin (CAS 1332-58-7)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 5000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Tetramethyl thiuram disulfide (CAS 137-26-8)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg
Toluene (CAS 108-88-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	12120 mg/kg
Oral		
LD50	Rat	2.6 g/kg
Zinc Oxide (CAS 1314-13-2)		
<u>Acute</u>		
Inhalation		
LC50	Mouse	> 5.7 mg/l, 4 Hours
Oral		
LD50	Rat	> 5 g/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

ACGIH sensitization

NATURAL RUBBER LATEX, AS INHALABLE ALLERGENIC PROTEINS (CAS 9006-04-6)	Dermal sensitization
THIRAM, INHALABLE FRACTION AND VAPOR (CAS 137-26-8)	Respiratory sensitization Dermal sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

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.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

IARC Monographs. Overall Evaluation of Carcinogenicity

2-mercaptobenzothiazole (CAS 149-30-4)	2A Probably carcinogenic to humans.
Carbon Black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
p-Aramid Fiber (CAS 26125-61-1)	3 Not classifiable as to carcinogenicity to humans.
Silica - Crystalline, Quartz (CAS 14808-60-7)	1 Carcinogenic to humans.
Tetramethyl thiuram disulfide (CAS 137-26-8)	3 Not classifiable as to carcinogenicity to humans.
Titanium Dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

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

Silica - Crystalline, Quartz (CAS 14808-60-7)	Known To Be Human Carcinogen.
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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 The Product contains Crystalline Silica. Under normal and intended conditions of use however, it is not anticipated that hazardous materials will be released.

Aspiration hazard Not an aspiration hazard.

Further information May cause allergic respiratory and skin reactions.

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.

Product	Species	Test Results	
Style 3700			
Aquatic			
Crustacea	EC50	Daphnia	1953.9288 mg/l, 48 hours estimated
Fish	LC50	Fish	39.9591 mg/l, 96 hours estimated

Components	Species	Test Results
2-mercaptobenzothiazole (CAS 149-30-4)		
Aquatic		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) 0.42 mg/l, 96 hours
Tetramethyl thiuram disulfide (CAS 137-26-8)		
Aquatic		
Fish	LC50	Striped catfish (Mystus vittatus) 0.0007 mg/l, 96 hours 0.0007 mg/l, 96 hours
Titanium Dioxide (CAS 13463-67-7)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) > 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus) > 1000 mg/l, 96 hours
Toluene (CAS 108-88-3)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch) 8.11 mg/l, 96 hours
Zinc Oxide (CAS 1314-13-2)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 2246 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.

Partition coefficient n-octanol / water (log Kow)

2-mercaptobenzothiazole	2.41
Toluene	2.73

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 Not available.

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.

Contaminated packaging Not available.

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)

Tetramethyl thiuram disulfide (CAS 137-26-8)	Listed.
Toluene (CAS 108-88-3)	Listed.
Zinc Oxide (CAS 1314-13-2)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Silica - Crystalline, Quartz (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.
Zinc Oxide	1314-13-2	< 1

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

Toluene (CAS 108-88-3)

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Toluene (CAS 108-88-3)	6594
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Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Toluene (CAS 108-88-3)	35 %WV
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DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3)	594
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US state regulations**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.**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

2-mercaptobenzothiazole (CAS 149-30-4)	Listed: October 27, 2017
Carbon Black (CAS 1333-86-4)	Listed: February 21, 2003
Silica - Crystalline, Quartz (CAS 14808-60-7)	Listed: October 1, 1988
Titanium Dioxide (CAS 13463-67-7)	Listed: September 2, 2011

California Proposition 65 - CRT: Listed date/Developmental toxin

Toluene (CAS 108-88-3)	Listed: January 1, 1991
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US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

2-mercaptobenzothiazole (CAS 149-30-4)
Carbon Black (CAS 1333-86-4)
Silica - Crystalline, Quartz (CAS 14808-60-7)
Tetramethyl thiuram disulfide (CAS 137-26-8)
Titanium Dioxide (CAS 13463-67-7)
Toluene (CAS 108-88-3)

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)	No
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	No

*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 02-12-2018

Revision date 01-17-2019

Version # 02

Further information This SDS supersedes the SDS dated: February 12, 2018

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.