

Safety Data Sheet

Material Name: Duct Seal 1

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

Duct Seal 1

Synonyms

Solvent-based mastic

Chemical Family

Mastic

Product Use

Duct sealant

Restrictions on Use

For industrial use only

Manufacturer Information

Carlisle HVAC Products
900 Hensley Lane
Wylie, TX 75098
www.carlislehvac.com

Medical Emergency:

CHEMTREC (USA): (800) 424-9300

SDS Assistance – 972-442-6545

Technical Assistance – 888-229-2199

Customer Service – 888-229-0199

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Flammable Liquids - Category 2

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2A

Reproductive Toxicity - Category 1A

Specific Target Organ Toxicity - Repeated Exposure - Category 2

GHS Label Elements**Symbol(s)****Signal Word**

Danger

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Hazard Statement(s)

Highly flammable liquid and vapor

Causes skin irritation

Causes serious eye irritation

May damage fertility or the unborn child

May cause damage to organs through prolonged or repeated exposure

Precautionary Statement(s)

Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Keep container tightly closed

Keep away from heat/sparks/open flame/hot surfaces - No smoking

Ground/Bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting equipment

Take precautionary measures against static discharge

Use only non-sparking tools

Wear protective gloves/protective clothing/eye protection/face protection

Do not breathe dust/fume/gas/mist/vapours/spray

Wash thoroughly after handling

Response

In case of fire: Use appropriate media to extinguish

IF exposed or concerned: Get medical advice/attention

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

Specific treatment (see label)

Storage

Store in a well-ventilated place. Keep container tightly closed

Keep cool

Store locked up

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations

Other Hazards

No additional information available.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
Trade Secret	Styrene butadiene polymer	5-10

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Trade Secret	Polyphenol antioxidant	0.1-1
1314-13-2	Zinc oxide	1-5
21645-51-2	Aluminum hydroxide	5-10
108-88-3	Toluene	7-13
64742-89-8	Heptane	10-30

Section 4 - FIRST AID MEASURES

Description of Necessary Measures

IF exposed or concerned: Get medical advice/attention.

Inhalation

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

Skin

Remove/Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. If skin irritation occurs, get medical advice/attention.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Ingestion

If swallowed, get medical attention. Do NOT induce vomiting.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Most Important Symptoms/Effects

Acute

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause gastrointestinal irritation.

Delayed

May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure: kidney, liver.

Note to Physicians

Contains organic solvents: heptane, toluene.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

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Suitable Extinguishing Media

Dry chemical, foam or carbon dioxide. Water may be ineffective. Use water spray to keep containers cool.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Can burn and explode easily when exposed to open flames or high heat.

Hazardous Combustion Products

oxides of carbon, oxides of nitrogen

Special Protective Equipment and Precautions for Firefighters

Highly flammable liquid and vapor. Vapors are heavier than air and may travel a considerable distance to a source of ignition and flashback.

Fire Fighting Measures

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Remove all sources of ignition. Avoid breathing vapors. Ventilate affected area. Absorb with earth, sand or other non-combustible material and transfer to container. Use non-sparking tools. Dike for later disposal.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flame/hot surfaces - No smoking. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Wash contaminated clothing before reuse. KEEP OUT OF REACH OF CHILDREN.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed

Keep cool

Store locked up

Keep away from heat and ignition sources. Keep away from incompatible materials. Do not cut, puncture, or weld on or near this container.

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Incompatible Materials

Strong oxidizing agents, acids, bases

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Limestone	1317-65-3	
NIOSH:	10 mg/m3 TWA total dust; 5 mg/m3 TWA respirable dust	
OSHA (US):	15 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction	
Mexico:	10 mg/m3 TWA LMPE-PPT	20 mg/m3 STEL [LMPE-CT]
Zinc oxide	1314-13-2	
ACGIH:	2 mg/m3 TWA respirable fraction	10 mg/m3 STEL respirable fraction
NIOSH:	5 mg/m3 TWA dust and fume	10 mg/m3 STEL fume
	15 mg/m3 Ceiling dust	500 mg/m3 IDLH
OSHA (US):	5 mg/m3 TWA fume; 15 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction	
Mexico:	5 mg/m3 TWA LMPE-PPT fume; 10 mg/m3 TWA LMPE-PPT dust	
	10 mg/m3 STEL [LMPE-CT] fume	
Clay	1332-58-7	
ACGIH:	2 mg/m3 TWA particulate matter containing no asbestos and <1% crystalline silica, respirable fraction	
NIOSH:	10 mg/m3 TWA total dust; 5 mg/m3 TWA respirable dust	
OSHA (US):	15 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction	
Mexico:	10 mg/m3 TWA LMPE-PPT	20 mg/m3 STEL [LMPE-CT]
Silica gel	112926-00-8	
ACGIH:	10 mg/m3 TLV-TWA	
NIOSH:	6 mg/m3 TWA	3000 mg/m3 IDLH
OSHA (US):	20 mppcf TWA; ((80)/(% SiO ₂) mg/m3 TWA)	
Mexico:	10 mg/m3 TWA LMPE-PPT	

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Toluene	108-88-3	
ACGIH:	20 ppm TWA	150 ppm STEL
NIOSH:	100 ppm TWA; 375 mg/m3 TWA	150 ppm STEL; 560 mg/m3 STEL
	500 ppm IDLH	
Europe:	50 ppm TWA; 192 mg/m3 TWA	100 ppm STEL; 384 mg/m3 STEL
	Possibility of significant uptake through the skin	
OSHA (US):	200 ppm TWA	150 ppm STEL
	300 ppm Ceiling	
Mexico:	50 ppm TWA LMPE-PPT; 188 mg/m3 TWA LMPE-PPT	
	Skin - potential for cutaneous absorption	
Heptane	64742-89-8	
NIOSH:	85 ppm TWA	440 ppm STEL
	500 ppm IDLH	
OSHA (US):	400 ppm TWA	500 ppm STEL

Biological limit value

There are no biological limit values for any of this product's components.

Engineering Controls

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Safety glasses or goggles are recommended when there is a potential for eye contact. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear appropriate work clothing. Wear protective shoes. Recommended material: protective skin cream.

Respiratory Protection

In case of inadequate ventilation wear respiratory protection. Appropriate respirator selection should be made by a qualified professional as part of a comprehensive respiratory protection program as described in 29 CFR 1910.134.

Glove Recommendations

Wear protective gloves. Recommended material: nitrile.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	gray mastic	Physical State	solid
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Material Name: Duct Seal 1

Odor	mild, hydrocarbon odor	Color	gray
Odor Threshold	Not available	pH	Not available
Melting Point	-95 °C (-139 °F)	Boiling Point	90 - 111 °C (194-231 °F)
Freezing point	Not available	Evaporation Rate	3
Boiling Point Range	Not available	Flammability (solid, gas)	Not available
Autoignition	230 °C (475 °F)	Flash Point	-7.2 °C (19 °F)
Lower Explosive Limit	1 %	Decomposition	Not available
Upper Explosive Limit	7 %	Vapor Pressure	45 mmHg
Vapor Density (air=1)	3.4	Specific Gravity (water=1)	Not available
Water Solubility	Negligible	Partition coefficient: n-octanol/water	Not available
Viscosity	450000 cps	Solubility (Other)	Hydrocarbons
Density	1 - 1.2 (relative)	VOC	395 g/L
Volatility by Weight	30 - 40 %		

Other Information

No additional information available.

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal conditions of use.

Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials

Strong oxidizing agents, acids, bases

Hazardous decomposition products

Oxides of carbon, oxides of nitrogen

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Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

May cause respiratory irritation.

Skin Contact

Causes skin irritation.

Eye Contact

Causes serious eye irritation.

Ingestion

May cause gastrointestinal irritation.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Polyphenol antioxidant (Trade Secret)

Oral LD50 Rat >200 mg/kg

Dermal LD50 Rabbit >5010 mg/kg

Inhalation LC50 Rat >165 mg/L 1 h

Zinc oxide (1314-13-2)

Oral LD50 Rat >5000 mg/kg

Aluminum hydroxide (21645-51-2)

Oral LD50 Rat >5000 mg/kg

Toluene (108-88-3)

Oral LD50 Rat 2600 mg/kg

Dermal LD50 Rabbit 12000 mg/kg

Inhalation LC50 Rat 12.5 mg/L 4 h

Heptane (64742-89-8)

Oral LD50 Mouse 5000 mg/kg

Dermal LD50 Rabbit 3000 mg/kg

Immediate Effects

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause gastrointestinal irritation.

Delayed Effects

May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure: kidney, liver.

Irritation/Corrosivity Data

May cause skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Respiratory Sensitization

No data available.

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Dermal Sensitization

It may cause sensitization in some individuals.

Component Carcinogenicity

Clay	1332-58-7
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
DFG:	Category 3B (could be carcinogenic for man)
Silica gel	112926-00-8
IARC:	Monograph 68 [1997] (Group 3 (not classifiable))
Toluene	108-88-3
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Germ Cell Mutagenicity

No data available.

Reproductive Toxicity

May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

May cause damage to organs through prolonged or repeated exposure: kidney, liver.

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

No data available.

Additional Data

No additional information available.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Avoid release to the environment.

Component Analysis - Aquatic Toxicity

Polyphenol antioxidant	Trade Secret
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Fish:	LC50 96 h Oncorhynchus mykiss >0.2 mg/L [semi-static]
Algae:	EC50 72 h Pseudokirchneriella subcapitata >0.2 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna >0.2 mg/L IUCLID
Toluene	108-88-3
Fish:	LC50 96 h Pimephales promelas 15.22 - 19.05 mg/L [flow-through] (1 day old); LC50 96 h Pimephales promelas 12.6 mg/L [static]; LC50 96 h Oncorhynchus mykiss 5.89 - 7.81 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 14.1 - 17.16 mg/L [static]; LC50 96 h Oncorhynchus mykiss 5.8 mg/L [semi-static]; LC50 96 h Lepomis macrochirus 11 - 15 mg/L [static]; LC50 96 h Oryzias latipes 54 mg/L [static]; LC50 96 h Poecilia reticulata 28.2 mg/L [semi-static]; LC50 96 h Poecilia reticulata 50.87 - 70.34 mg/L [static]
Algae:	EC50 96 h Pseudokirchneriella subcapitata >433 mg/L IUCLID; EC50 72 h Pseudokirchneriella subcapitata 12.5 mg/L [static] EPA
Invertebrate:	EC50 48 h Daphnia magna 5.46 - 9.83 mg/L [static] EPA; EC50 48 h Daphnia magna 11.5 mg/L IUCLID
Heptane	64742-89-8
Algae:	EC50 72 h Pseudokirchneriella subcapitata 4700 mg/L IUCLID

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Mobility

No information available for the product.

Other Toxicity

No additional information available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14 - TRANSPORT INFORMATION

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Material Name: Duct Seal 1**US DOT Information:****Shipping Name:** Adhesives**Hazard Class:** 3**UN/NA #:** UN1133**Packing Group:** II**Required Label(s):** Red caution label required (limited quantity if < 0.3 gal)**IATA Information:****Shipping Name:** ADHESIVES**Hazard Class:** 3**UN#:** UN1133**Packing Group:** II**Required Label(s):** 3**TDG Information:****Shipping Name:** ADHESIVES**Hazard Class:** 3**UN#:** UN1133**Packing Group:** II**Required Label(s):**

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Toluene	108-88-3
SARA 313:	1 % de minimis concentration
CERCLA:	1000 lb final RQ; 454 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)**Acute Health:** Yes **Chronic Health:** Yes **Fire:** Yes **Pressure:** No **Reactivity:** No**U.S. State Regulations**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Limestone	1317-65-3	No	Yes	Yes	Yes	Yes
Zinc oxide	1314-13-2	Yes	Yes	Yes	Yes	Yes
Clay	1332-58-7	No	Yes	Yes	Yes	Yes
Silica gel	112926-00-8	No	Yes	Yes	Yes	Yes
Toluene	108-88-3	Yes	Yes	Yes	Yes	Yes

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The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects

Toluene	108-88-3
Repro/Dev. Tox	developmental toxicity , initial date 1/1/91
	female reproductive toxicity , initial date 8/7/09

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on SDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Zinc oxide	1314-13-2
	1 %
Toluene	108-88-3
	1 %

Component Analysis - Inventory

Polyphenol antioxidant (Trade Secret)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No

Limestone (1317-65-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	NSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Zinc oxide (1314-13-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Clay (1332-58-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

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Aluminum hydroxide (21645-51-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Silica gel (112926-00-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
No	DSL	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Toluene (108-88-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Heptane (64742-89-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 2 Fire: 3 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Revision Date: August 23, 2022

Revision Note: General Update

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition

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coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:

The information contained herein is based upon data and information available to us, and reflects our best professional judgment. This product may be formulated in part with components purchased from other companies. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent, since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use.