



Thermal Mastic

PM8 (P/N 475321); PM21 (P/N 475313); PM25 (P/N 475315); PM50 (P/N 475319)

SDS Revision Date (mm/dd/yyyy): 01/21/2015

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Thermal Mastic**

Product Code(s) : PM8 (P/N 475321); PM21 (P/N 475313); PM25 (P/N 475315); PM50 (P/N 475319)

Recommended use of the chemical and restrictions on use

: Heat conducting compound.

Chemical family

: Mixture.

Name, address, and telephone number
of the supplier:

Parker Hannifin Corporation - Sporlan Division

206 Lange Drive
Washington, MO, U.S.A.
63090

Supplier's Telephone # : (636) 239-1111

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887
(Outside U.S.).

Name, address, and telephone number of
the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

WHMIS classification: This product is not a WHMIS controlled product in Canada. It does not meet any of the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR).

OSHA: This material is not classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012).

Label elements

The following label information is applicable only to the United States according to OSHA Regulations (29 CFR 1910.1200) (Hazcom 2012):

Signal Word

Not required

Hazard statement(s)

None required.

Precautionary statement(s)

None required.

The following label information is applicable only to Canada according to the Canadian Controlled Products Regulations (CPR/WHMIS):

This product is not a WHMIS controlled product in Canada. As such, this product does not require a WHMIS Supplier label.





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Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. May form combustible dust concentrations in air (during processing). May be mildly irritating to eyes and skin. Fumes from heated product may irritate respiratory tract. If dusts are formed, inhalation may cause adverse lung effects.

Environmental precautions: Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical name</u>	<u>CAS #</u>	<u>Concentration</u>
Calcium carbonate	1317-65-3	60.0 - 80.0
Talc	14807-96-6	5.0 - 10.0

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
- Inhalation* : Move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. If irritation or symptoms develop, seek medical attention.
- Skin contact* : For skin contact, wash with soap and water while removing contaminated clothing. If irritation persists, seek prompt medical attention. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eyes with running water for at least 5 to 10 minutes. If irritation persists, seek prompt medical attention.

Most important symptoms and effects, both acute and delayed

- : May be mildly irritating to eyes and skin. Fumes from heated product may irritate respiratory tract. If dusts are formed, inhalation may cause adverse lung effects.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media* : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.
- Unsuitable extinguishing media* : Do not use water jet, as this may spread burning material.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Not flammable under normal conditions of use. However, may ignite if exposed to extreme heat and flame. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

- : Non-flammable.

Explosion Data: Sensitivity to Mechanical Impact / Static Discharge:

- : Not expected to be sensitive to mechanical impact or static discharge.

Hazardous combustion products

- : Carbon oxides; Calcium oxides; Nitrogen oxides (NOx); Sulphur oxides; phosphorus oxides; Polycyclic aromatic hydrocarbons; formaldehyde; Other unidentified organic compounds.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters



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- Special fire-fighting procedures*
- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
 - : Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Methods and material for containment and cleaning up

- : Ventilate area of release. Stop the spill at source if it is safe to do so. Use inert, non-combustible absorbents to assist the pick up of material. Scrape up product and place it into a container for disposal. Notify the appropriate authorities as required. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
 US CERCLA Reportable quantity (RQ): None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Wear suitable protective equipment during handling. Use with adequate ventilation. Training the workers on the potential health hazards associated with product vapor, dust or fume is important. Secondary inhalation exposures could occur when cleaning equipment, or when removing or laundering the clothing. Avoid breathing vapors, fumes or dust. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Keep away from acids and incompatibles. Keep containers closed when not in use. Wash thoroughly after handling.

Conditions for safe storage

- : Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat. Inspect periodically for damage or leaks. Protect against physical damage. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

Incompatible materials

- : Acids; Oxidizing agents.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Calcium carbonate	N/Av	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable)	N/Av
Talc	2 mg/m ³ (respirable)	N/Av	20 mppcf	N/Av

Exposure controls

Ventilation and engineering measures



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- Respiratory protection** : Use with adequate ventilation. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.
: If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.
- Skin protection** : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers.
- Eye / face protection** : Safety goggles or glasses as appropriate for the job.
- Other protective equipment** : Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. Ensure that eyewash stations and safety showers are close to the workstation location.
- General hygiene considerations** : Avoid breathing vapors, fumes or dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Tan paste.
- Odour** : No odour.
- Odour threshold** : N/Av
- pH** : N/Av
- Melting/Freezing point** : N/Av
- Initial boiling point and boiling range** : N/Av
- Flash point** : N/Av
- Flashpoint (Method)** : N/Av
- Evaporation rate (BuAe = 1)** : N/Av
- Flammability (solid, gas)** : Not flammable.
- Lower flammable limit (% by vol.)** : N/Av
- Upper flammable limit (% by vol.)** : N/Av
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Vapour pressure** : N/Av
- Vapour density** : N/Av
- Relative density / Specific gravity** : 1.6
- Solubility in water** : insoluble
- Other solubility(ies)** : N/Av
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : N/Av
- Auto-ignition temperature** : N/Av
- Decomposition temperature** : N/Av
- Viscosity** : N/Av
- Volatiles (% by weight)** : N/Av
- Volatile organic Compounds (VOC's)** : N/Av
- Absolute pressure of container** : N/Av
- Flame projection length** : N/Av



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Other physical/chemical comments

: No additional information.

SECTION 10. STABILITY AND REACTIVITY

- Reactivity** : Not normally reactive.
- Chemical stability** : Stable under the recommended storage and handling conditions prescribed.
- Possibility of hazardous reactions** : Hazardous polymerization will not occur.
- Conditions to avoid** : Avoid heat and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.
- Incompatible materials** : Acids; Oxidizing agents.
- Hazardous decomposition products** : None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

- Routes of entry inhalation** : YES
- Routes of entry skin & eye** : YES
- Routes of entry Ingestion** : YES
- Routes of exposure skin absorption** : NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : Fumes from heated product may irritate respiratory tract. If dusts are formed, inhalation may cause adverse lung effects. High concentrations of dust may cause coughing and mild, temporary irritation.

Sign and symptoms ingestion

- : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sign and symptoms skin

- : Direct skin contact may cause slight or mild, transient irritation.

Sign and symptoms eyes

- : May cause mild irritation, redness and watering.

Potential Chronic Health Effects

- : None expected, when used as intended.
If dusts are formed, prolonged inhalation may result in chronic respiratory disease. Pneumoconiosis, or "dusty lung" disease, may result from chronic exposure to any dust.

Mutagenicity

- : This product does not meet the criteria for germ cell mutagens under OSHA regulations (29 CFR 1910.1200) (Hazcom 2012).

Carcinogenicity

- : This product does not meet the criteria for carcinogens under OSHA regulations (29 CFR 1910.1200) (Hazcom 2012). No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

- : This material is not classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012).

Senitization to material

- : This material is not classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012).

Specific target organ effects

- : This material is not classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012).

Irritancy

- : Mild eye irritant. Mild skin irritant.



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Medical conditions aggravated by overexposure

: Pre-existing skin and respiratory disorders.

Synergistic materials

: Not available.

Toxicological data

: No data is available on the product itself. See below for individual ingredient acute toxicity data. Contains no ingredients that are considered to have acute toxicity hazards.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Calcium carbonate	>3 mg/L	6450 mg/kg	>2000 mg/kg
Talc	N/Av	N/Av	N/Av

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Calcium carbonate	1317-65-3	N/Av	N/Av	N/Av
Talc	14807-96-6	N/Av	N/Av	N/Av

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Calcium carbonate	1317-65-3	N/Av	N/Av	N/Av
Talc	14807-96-6	N/Av	N/Av	N/Av

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Calcium carbonate	1317-65-3	N/Av	N/Av	N/Av
Talc	14807-96-6	N/Av	N/Av	N/Av

Persistence and degradability

: The product itself has not been tested.

Bioaccumulation potential

: The product itself has not been tested.

Mobility in soil

: The product itself has not been tested.

Other Adverse Environmental effects

: None known.



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SECTION 13. DISPOSAL CONSIDERATIONS

- Handling for Disposal** : Handle waste according to recommendations in Section 7.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	Not regulated	none	
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	Not regulated	none	
TDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	Not regulated	none	
ICAO/IATA Additional information	None.				

- Special precautions for user** : Appropriate advice on safety must accompany the package.
- Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : This information is not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Calcium carbonate	1317-65-3	Yes	N/Ap	N/Av	No	N/Ap
Talc	14807-96-6	Yes	N/Ap	N/Av	No	N/Ap



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SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Calcium carbonate	1317-65-3	No	N/Ap	No	Yes	Yes	Yes	Yes	Yes
Talc	14807-96-6	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Calcium carbonate	1317-65-3	215-279-6	Present	Present	(1)-122	KE-21996	Present	Not listed
Talc	14807-96-6	238-877-9	Present	Present	(1)-468; (1)-468	KE-32773	Present	Not listed

SECTION 16. OTHER INFORMATION



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Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- DOT: Department of Transportation
- EPA: Environmental Protection Agency
- HMIS: Hazardous Materials Identification System
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- Inh: Inhalation
- IUCLID: International Uniform Chemical Information Database
- MA: Massachusetts
- MN: Minnesota
- mppcf: million particles per cubic foot
- MSHA: Mine Safety and Health Administration
- N/Ap: Not Applicable
- N/Av: Not Available
- NFPA: National Fire Protection Association
- NIOSH: National Institute of Occupational Safety and Health
- NJ: New Jersey
- NTP: National Toxicology Program
- OSHA: Occupational Safety and Health Administration
- PA: Pennsylvania
- PEL: Permissible exposure limit
- RCRA: Resource Conservation and Recovery Act
- RI: Rhode Island
- RTECS: Registry of Toxic Effects of Chemical Substances
- SARA: Superfund Amendments and Reauthorization Act
- STEL: Short Term Exposure Limit
- TDG: Canadian Transportation of Dangerous Goods Act & Regulations
- TLV: Threshold Limit Values
- TWA: Time Weighted Average
- WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014.
- 2. International Agency for Research on Cancer Monographs, searched 2014.
- 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
- 4. Material Safety Data Sheets from manufacturer.
- 5. US EPA Title III List of Lists - October 2012
- 6. California Proposition 65 List - 26 December 2014

Preparation Date (mm/dd/yyyy)
 : 06/14/2012

Reviewed Date SDS (dd/mm/yyyy)
 : 21/01/2015

Revision No.
 : 2

Revision Information
 : (M)SDS sections updated: All sections modified.

Other special considerations for handling
 : Provide adequate information, instruction and training for operators.

HMIS Rating
 : * - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
Health: 1 *Flammability:* 0 *Reactivity:* 0

NFPA Rating
 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
 : *Health:* 1 *Flammability:* 0 *Instability:* 0 *Special Hazards:* None.



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<p>Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p>	

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