# MSDS

(Posted 9/20/2012)

The attached MSDS sheets supersede all other MSDS sheets. Please file accordingly.

VENDOR: **PARKER A480**

| STOCK# | MFG# DESCRIPTION |
|---|---|
| R54-566 | PM8 HEAT CONDUCTING COMPOUND |
| R87-596 | PM21 THERMAL MASTIC 1 GAL |
| R87-597 | PM25 THERMAL MASTIC 5 GAL |

Parker Hannifin Corporation
Sporlan Division
206 Lange Drive
Washington, MO 63090
U.S.A.



# MATERIAL SAFETY DATA SHEET

## SECTION 1 - IDENTIFICATION

**Product identifier** : **Thermal Mastic**

**Product Code(s)** : PM8 (P/N 475321)
**Product Use** : Heat conducting compound.
**Chemical Family** : Mixture.

**Supplier's name and address:**

**Parker Hannifin Corporation - Sporlan Division**

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

**Manufacturer's name and address:**

**Refer to Supplier**

**Information Telephone #** : (636) 239-1111
**24 Hr. Emergency Tel #** : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

## SECTION 2 - HAZARDS IDENTIFICATION

**Classification** : 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 classified as hazardous under OSHA regulations (29CFR 1910.1200). Hazardous classification:
Acute Health Hazard.

**Emergency Overview** : Tan paste. No odour.
Caution! Fumes from heated product may irritate respiratory tract. May be mildly irritating to eyes and skin.

**POTENTIAL HEALTH EFFECTS:**

**Signs and symptoms of short-term (acute) exposure**

*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.

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

*Eyes* : May cause mild eye irritation.

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

**Effects of long-term (chronic) exposure**
: 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.

**Carcinogenic status** : See TOXICOLOGICAL INFORMATION, Section 11.
**Additional health hazards** : See TOXICOLOGICAL INFORMATION, Section 11.
**Potential environmental effects**
: See ECOLOGICAL INFORMATION, Section 12.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | CAS # | Wt.% |
|---|---|---|
| Calcium carbonate | 1317-65-3 | 60.00 - 80.00 |
| Talc | 14807-96-6 | 5.00 - 10.00 |

## SECTION 4 - FIRST AID MEASURES

**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.

**Ingestion** : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

**Notes For Physician** : Treat symptomatically.

## SECTION 5 - FIRE FIGHTING MEASURES

**Fire hazards/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 1910.1200)**

: Non-flammable.

**Oxidizing properties** : None known.

**Explosion data: Sensitivity to mechanical impact / static discharge**

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

**Suitable extinguishing media** : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

**Special fire-fighting procedures/equipment**

: 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.

**Hazardous combustion products**

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

**NFPA Rating**

0 - Minimal 1 - Slight 2 - Moderate 3 - Serious

: *Health:* 1 *Flammability:* 0 *Instability:* 0 *Special Hazards:* None.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions** : 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.

**Spill response/cleanup** : Remove all sources of ignition. 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. Refer to Section 13 for disposal of contaminated material. Notify the appropriate authorities as required.

**Prohibited materials** : Do not use combustible absorbents, such as sawdust.

**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

**Safe Handling procedures** : 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.

**Storage requirements** : 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.

**Special packaging materials** : Always keep in containers made of the same materials as the supply container.

## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Exposure Limits**

| Ingredients | ACGIH TLV TWA | ACGIH TLV STEL | OSHA PEL PEL | OSHA PEL STEL |
|---|---|---|---|---|
| **Calcium carbonate** | **N/Av** | **N/Av** | **15 mg/m³ (total dust); 5 mg/m³ (respirable)** | **N/Av** |
| **Talc** | **2 mg/m³ (respirable)** | **N/Av** | **20 mppcf** | **N/Av** |

**Ventilation and engineering measures**
: Use with adequate ventilation. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

**Respiratory protection** : 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

| | | | |
|---|---|---|---|
| **Physical state** | : Paste; Rubber-like | **Appearance** | : Tan paste. |
| **Odour** | : No odour. | **Odour threshold** | : N/Av |
| **pH** | : N/Av | | |
| **Boiling point** | : N/Av | **Specific gravity** | : 1.6 |
| **Melting/Freezing point** | : N/Av | **Coefficient of water/oil distribution** | : N/Av |
| **Vapour pressure (mmHg @ 20° C / 68° F)** | : N/Av | **Solubility in water** | : insoluble |
| **Vapour density (Air = 1)** | : N/Av | **Evaporation rate (n-Butyl acetate = 1)** | : N/Av |
| **Volatile organic Compounds (VOC's)** | : N/Av | **Volatiles (% by weight)** | : Negligible |
| **Flash point** | : N/Av | | |
| **Flash point Method** | : N/Av | **Auto-ignition temperature** | : N/Av |
| **Lower flammable limit (% by vol.)** | : N/Av | **Upper flammable limit (% by vol.)** | : N/Av |
| **Flame Projection Length** | : N/Ap | **Flashback observed** | : N/Ap |
| **Viscosity** | : N/Av | | |
| **Absolute pressure of container** | : N/Ap | | |

## Section 10: Stability And Reactivity

**Stability and reactivity** : Stable under normal conditions.

**Hazardous polymerization** : Hazardous polymerisation does not occur.

**Conditions to avoid** : Avoid heat and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.

**Materials To Avoid And Incompatibility** : See Section 7 (Handling and Storage) for further details.

**Hazardous decomposition products** : None known, refer to hazardous combustion products in Section 5.

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Target organs** : Eyes, skin, respiratory system and digestive system.

**Routes of exposure** : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES

**Toxicological data** : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

| Ingredients | $LC_{50}$(4hr) inh, rat | $LD_{50}$ (Oral, rat) | $LD_{50}$ (Rabbit, dermal) |
|---|---|---|---|
| Calcium carbonate | N/Av | 6450 mg/kg | N/Av |
| Talc | N/Av | N/Av | N/Av |

**Carcinogenic status** : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

**Reproductive effects** : Not expected to cause reproductive effects.

**Teratogenicity** : Not expected to be a teratogen.

**Mutagenicity** : Not expected to be mutagenic in humans.

**Epidemiology** : Not available.

**Sensitization to material** : Not expected to be a skin or respiratory sensitizer.

**Synergistic materials** : Not available.

**Irritancy** : Mild eye irritant. Mild skin irritant.

**other important hazards** : None known or reported by the manufacturer.

**Conditions aggravated by overexposure**
: Pre-existing skin and respiratory disorders.

## 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.

**Mobility** : The product itself has not been tested.

**Persistence** : The product itself has not been tested.

**Bioaccumulation potential** : The product itself has not been tested.

**Other Adverse Environmental effects**
: None known.

## 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. Contact your local, state, provincial or federal environmental agency for specific rules.

**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: TRANPORT INFORMATION

| Regulatory Information | UN Number | Shipping Name | Class | 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. | | | | |

## SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None.

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

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.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above de minimus concentrations.

**US State Right to Know Laws:**

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Other U.S. State "Right to Know" Lists: The following chemicals are specifically listed by individual States: Calcium carbonate (MA, MN, NJ, PA, RI); talc (CA, MA, MN, NJ, PA, RI).

**International 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.**

## SECTION 16 - OTHER INFORMATION

**HMIS Rating** : * - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious

*Health:* 1 *Flammability:* 0 *Reactivity:* 0

**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 2012.
2. International Agency for Research on Cancer Monographs, searched 2012.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2012 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - October 2006 version.
6. California Proposition 65 List - March 16, 2012 version.

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|---|---|
| **Prepared for:**<br>Parker Hannifin Corporation Sporlan Division<br>206 Lange Drive, Washington, MO 63090 U.S.A.<br>Telephone: (636) 239-1111<br>www.parker.com<br>Direct all enquiries to: Parker Hannifin Corp. Sporlan Division. | |
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**Preparation Date (mm/dd/yyyy)**

: 06/14/2012

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