Equipment Operations

Safety Manual

Third Edition

Revised 11/2022

CRAFCO® INC

AN ERGON COMPANY

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INTRODUCTION TO SAFETY

The Hidden Cost of Accidents

Like the iceberg — Hidden costs of accidents are not visible on the surface but are there just the same.

DIRECT COST

- Medical
- Compensation

INDIRECT AND HIDDEN COSTS OF ACCIDENTS

- Time lost from work by injured
- Loss in earning power
- Economic loss to injured's family
- Lost time by fellow worker
- Loss of efficiency due to break-up of crew
- Lost time by supervision
- Cost of breaking in new worker
- Damage to tools and equipment
- Time damaged equipment is out of service
- Spoiled work
- Loss of production for remainder of day
- Spoilage - fire, water, chemical, explosives etc.
- Failure to meet schedules
- Overhead cost (while work was disrupted)
- Miscellaneous - There are at least 100 other items of cost that appear one or more times with every accident

SAFETY OVERVIEW

FIRST AID

FOR MOLTEN ASPHALT CEMENT BURNS

In the event of a **MOLTEN ASPHALT CEMENT BURN**:

COOL the asphalt cement and affected parts of the body immediately.
Methods of cooling (in order of preference):

1. Completely submerge affected area in ice water;
2. Completely submerge affected area in tap water;
3. Place affected area under running water.

DO NOT DELAY

Use any available water, cooler than body temperature, while arranging for better cooling.
CAUTION: DO NOT apply ice directly to affected area.
LEAVE cooled asphalt cement on affected area.

Proceed with the following:
MINOR ASPHALT CEMENT BURNS — at first opportunity get victim to physician.
Includes: Injury to small areas of fairly insensitive flesh involving a small quantity of asphalt cement.

SERIOUS ASPHALT CEMENT BURNS — as soon as possible get victim to:

Hospital _____
Clinic _____
Physician's Office _____

Includes:
Injury to the head, face or extremities;
Injury when large amounts of asphalt cement are involved;
Evidence of nausea or faintness.

TREATMENT FOR SHOCK
In the event shock occurs, do the following:

1. Keep victim lying down and quiet.
2. Keep victim covered with a blanket or something similar to keep body temperature at normal, 98°F (37°C).
3. Keep victim's head lower than feet to promote blood supply to head and chest.

DO NOT ATTEMPT TO REMOVE THE ASPHALT CEMENT
with products containing solvents or ammonia. Natural separation will occur in about 48-72 hours.
If necessary, for early removal, soak bandage in mineral oil and place over affected area
for 2 to 3 hours. *This safety information has been supplied by: National Asphalt Pavement Association*

SAFETY OVERVIEW

Safety is your responsibility. Only you can prevent injury.

PROCEDURES FOR SAFE USE AND OPERATION OF CRAFCO PRODUCT

Crafco is concerned with your safety when operating Crafco equipment. Please note that:

- Safety is number one
- We are all partners in safety
- Safety is MOST important
- Accidents CAN kill
- Safety Pays

FORWARD

This safety manual is intended to supplement your operator's manual and point out situations that may be encountered when operating Crafco equipment. Crafco has no control over the use or maintenance of the machinery but we ask that you abide by the operation, maintenance and service requirements. If you do not have an operating manual on your machine, or do not understand any instructions contained in this manual, call Crafco +1-602-276-0406 or your local distributor for a replacement prior to operating the machine, or visit crafco.com to view operating manuals online.

SAFETY OVERVIEW

Safety Symbols and Notices

Important safety symbols and notices are marked on the machine and in this manual. Failure to comply could result in equipment damage, operational malfunction, serious injury, or death. Please read and comply with all symbols and notices. The table below includes the most commonly used symbols and notices.

Symbol	Items	Remarks
WARNING	Warning	Refers to possible bodily injury or death.
CAUTION	Caution	Refers to possible equipment damage or operational malfunction.
	Severe Burn Hazard	Hot material can cause severe burns.
	Protective Shoes	Wear hard-soled work shoes.
	Protective Gloves	Wear heat resistant gloves.
	Protective Face or Eye Wear	Wear face shield or safety glasses.
	Body Crush Hazard	Do not stand between trailer hitch and hitch when hooking melter to truck.
	Crush Hazard	Keep feet and legs clear.
	Pinch Hazard	Keep hands and feet clear.
	Exhaust Hazard	Avoid breathing engine exhaust.
	Read Manual	Read and understand operator and safely manuals before operating machine.

Table 1-1 Safety Symbols and Notices

SAFETY OVERVIEW

HAVE SAFETY ITEMS CLOSE BY

When operating Crafco equipment always carry with you:

- Fire Extinguisher
  A minimum ten-pound type ABC or CO2 fire extinguisher is recommended. It is a D.O.T. requirement.
- First Aid Kit
  A commercial grade First Aid kit is recommended that contains burn packs.
- Burn Packs
  For treatment of burns have available burn packs of the type listed in the back of this manual.

LEARN TO BE SAFE

- STUDY THE OPERATOR'S MANUAL and other information furnished with your Crafco equipment. Learn your machine's operating and maintenance characteristics, capacities and limitations.
- Learn the location and function of ALL controls, indicators and warning devices.
- Be familiar with the safety devices and instructions on your machine.
- Learn to recognize the machine's warning and safety signals. They will alert you to conditions that may make it hazardous to continue operating.
- Carefully read and follow all safety signs and instructions on the machine.
- Keep safety signs and instructions in good condition. Replace missing or damaged signs and warnings. Readable safety signs and warnings are a D.O.T. and FMCSA requirement.

CHECK IT OUT!

Know what protective devices your machine is equipped with . . . and see that each item is securely in place and in operating condition.

For example:

- Coupling Chains, Pins and Ball Hitches
- Warning Lamps
- Reflectors
- Guards and Shields
- Plugs, Caps and Valves
- Hoses and Fittings
- Tires and Wheels
- Lids and Doors Secured
- Consider Safety Options:
  1. Strobe light or similar for recognition in traffic
  2. Loader-conveyor
  3. SS melters have as standard, automated switch control to stop agitator when loading sealant.

VEHICLE SAFETY

VEHICLE SAFETY

KNOW YOUR MACHINE

Familiarize yourself with controls and instruments — their locations and functions. You'll handle controls without slipping if you wipe levers and knobs clean of oil or grease.

ARE REPAIRS MADE?

If your daily check uncovers any item that needs attention — repair, replacement, or adjustment — report it promptly. The most minor malfunction could result in more serious trouble if the machine is operated. Reference maintenance manual for recommended timely checks and replacements.

FIRE PREVENTION

Avoid Fire Hazards:
Always stop the engine and allow the equipment to cool before you refuel. Do not refuel while smoking or when near open flame or sparks. Never overfill fuel tanks or fluid reservoirs.
Batteries produce explosive gases. Keep open flame or sparks away. See the manufacturer's instructions when servicing the battery and when using jumper cables or when using a battery charger.

Remove all trash or debris from the machine. Make sure that oily rags or other flammable or combustible material are not stored in or on the machine.

Check for fuel, oil, and hydraulic fluid leaks. Replace worn or damaged hoses/lines. After repairs are made, clean the machine before you operate it.

Inspect electrical wiring for worn or damaged insulation. Install new wiring if wires are damaged.
Never park a hot machine or a machine that will be heating and applying materials over any surface that has any vegetation/weeds that could combust.

TIRES

Inspect tires for wear, damage and proper inflation. Never tow with over-inflated or under-inflated tires. Do not change tire sizes or types. Make sure all wheel bolts, lugs, or nuts are tightened to Crafco's instructions as outlined in the equipment manual.

VEHICLE SAFETY

PREPARING TO TOW

Inspect the trailer coupling device (and chains) and the towing vehicle coupling device (and points of chain attachment) for signs of excessive wear or corrosion, or cracked, bent, dented or otherwise deformed or degraded members, and for loose nuts, bolts, or other fasteners.

Make sure the towing vehicle, and its coupling device, are rated for towing a vehicle of at least the gross weight of the equipment and sealant plus an additional 10% allowance for the weight of mud, snow, ice, or stored tools and/or equipment. After making certain no one is in the way, back the towing vehicle to the equipment and position it in preparation for coupling the melter.

Keep hands and fingers clear of the coupling device and all other pinch points. Keep feet clear of the area to avoid injury in case it should slip from your hands or the jack.

Make sure the coupling device is fully engaged, closed, and locked. If safety chains, brake and/or electrical connections are provided, attach according to manufacturer’s instructions.

Make sure that the coupling device and adjacent structures on the towing vehicle (and connections) do not interfere with or restrict motion of any part of the equipment, including its coupling device with respect to the towing vehicle, when maneuvering over any anticipated terrain.

If provided, make sure chain length and brake and electrical connections provide sufficient slack to prevent strain when cornering and maneuvering, yet are supported so they can not drag or rub, which might cause wear that could render them inoperative.

Make sure to retract the tongue jack, and pull the locking pin to rotate the tongue jack body so it is parallel with the ground for the most clearance. Re-inset locking pin, and make sure the screw jack is secure and in the locked position. Keep hands and fingers clear of pinch points.

Make sure parking brakes in towing vehicle are set, or that its wheels are chocked or blocked, or that it is otherwise restrained from moving. Then, release the trailer parking brakes, if provided. Make sure the machines wheels are not chocked or blocked, and that all tiedowns, if any, are free.

Test running brake operation, including breakaway switch operation, if provided. Do not carry loose or inappropriate tools, equipment or supplies on or in the machine.

Do not permit personnel to ride in or on the machine unless machine includes provisions such as a seat and seatbelt that is designed for such use.

VEHICLE SAFETY

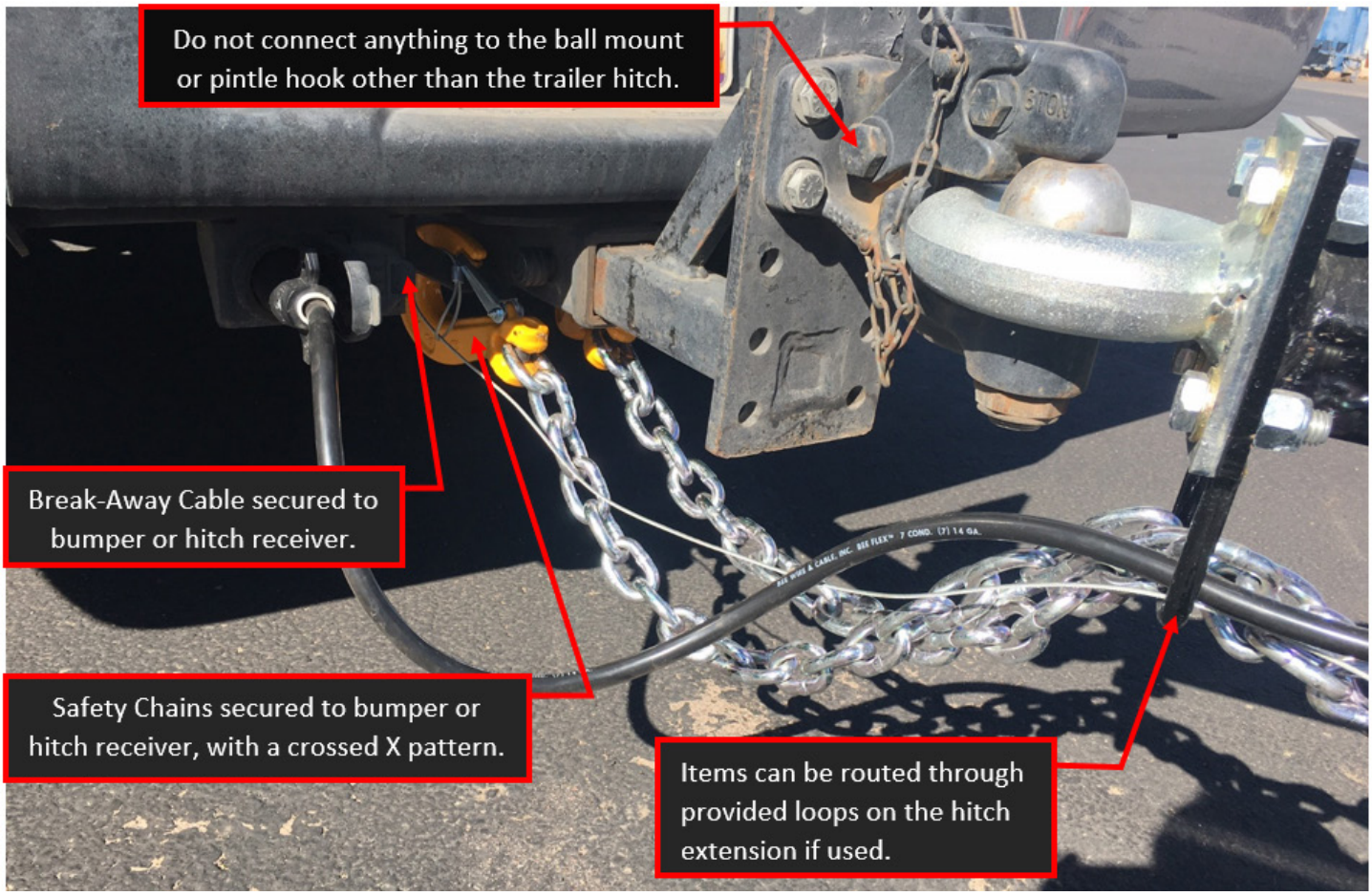
PREPARING TO TOW (Cont.)

Make sure the areas behind, in front of, and under the machine are clear of all personnel and obstructions prior to moving in any direction.
Do not permit personnel to stand or walk between the machine and the towing vehicle.
Check all running lights. Assure yourself that you have a compatible hitch to the towing vehicle.

Adjust the height of the hitch on the trailer or tow vehicle so when the trailer is connected to the tow vehicle, the trailer sits level with the ground.

Connect the safety chains to the tow vehicle bumper or hitch receiver assembly in the appropriate locations. The chains should be crossed in an X pattern so in the event the hitch becomes disconnected, the chains can act as a cradle to help support the tongue of the trailer and keep it as secure as possible to the tow vehicle. They can also be routed through the provided loops in the event a hitch extension is used.

The safety break-away cable should be connected to the tow vehicle bumper or hitch receiver assembly in the appropriate location. It should not be connected to the removable ball mount or pintle hook. See image below for more information:



VEHICLE SAFETY

TOWING

Observe all local and federal traffic laws. Adjust towing speed for road conditions and allow for increased stopping distances. Avoid potholes, rocks, and other obstructions and soft shoulders or unstable terrain.
Maneuver carefully, especially when backing up, to stay clear of adjacent structures and avoid crimping and binding of chains and connections.

LOCATION AND PARKING

Park or locate machine on firm, level areas, if possible. If not level, park or locate machine across grade, so the unit does not tend to roll downhill. Do not park or locate machine on grades exceeding 15° (27%).

Park so as to not interfere with traffic or over vegetation that could combust when the machine is hot or in use. Block or chock front and rear of all wheels. Unhook chains.

Lower front jack, swivel caster wheel, and/or any rear stabilizer legs. Make certain they are securely locked in the down position. Unhitch draw bar from towing vehicle, keeping clear of all pinch points. Do not attempt to lift the
drawbar, or if hinged, to raise it to the upright position, by hand, if the weight is more than you can safely handle. Use a lifting device, such as a jack, or get help, if you can’t lift or raise the drawbar without avoiding injury to yourself or others.

WARNING: LETHAL EXHAUST FUMES!

Engine and burner exhaust gases contain carbon monoxide. Carbon monoxide is odorless, colorless, and can cause death if inhaled. Avoid inhaling exhaust fumes, and never run the burner or engine in a closed building or confined area. Symptoms of carbon monoxide poisoning are:

- Dizziness
- Vomiting
- Headache
- Muscular Twitching
- Weakness and Sleepiness
- Throbbing in Temples

If symptoms occur remove affected individual from area and seek medical attention if symptoms don’t subside.

WALK-AROUND INSPECTION

Before you start each day, walk around the machine and inspect for leaks, loose or missing parts, damaged parts, or parts out of adjustment. Perform all recommended daily maintenance as shown in the equipment manual.

VEHICLE SAFETY

START UP

The proper operation of Crafco Melters is NO accident. It is very important to observe the following safety precautions:

- Always read and understand the start up and operation procedures as outlined on the instruction decals located on the machine and in the machine manual prior to operating the machine.
- Prior to starting the machine, make sure no one is near or working on the engine. Also make sure all parts of the melter are in the off position.
- Do not open the melter tank lid with the agitator turning.
- Do not let any part of your body near the tank opening during operation of the machine. Serious burns may occur.
- Use the anti-splash lid as directed.
- If the machine has been stored for longer periods without use, make sure to refer to the machine manual for any specific procedures that may be needed to prevent an unsafe or hazardous situation before operating the machine.

APPLICATION OF SEALANT

Hot applied sealants are not all alike, use the following outline prior to heating any sealant:

- Read the application instructions thoroughly.
- Read and familiarize yourself with the product's Safety Data Sheet.
- If you are unsure of the proper application procedures, call Crafco or a Crafco distributor prior to the application of sealant.
- Follow the instructions printed on the melter and the instruction manual.

SHUT DOWN

Be familiar with the shut down procedure prior to start up. The shut down procedure is important to your next day's production.

- Follow all shut down procedures explicitly.
- Do not dispose of unused sealant in an unsafe manner. Follow all city, county, state and federal regulations when disposing of any materials.

TRAFFIC CONTROL

Proper traffic containment is your responsibility. Never place sealant in an uncontrolled area. Use the following prior to placing any sealant:

- Follow all city, county, state, and federal traffic control regulations.
- Restrict access by vehicles and pedestrians to the work place until the sealant has thoroughly cooled (100°F or the surface pavement temperature, which ever is greater).
- Always exceed the minimum local requirements.
- If you are working in a residential area notify local residents in advance that you will be working in their area.

HIGH TEMPERATURE MATERIAL SAFETY

HIGH TEMPERATURE MATERIAL SAFETY

A. Fire and Explosions

Three (3) elements are required before combustion can occur: fuel, oxygen, and a source of ignition. These elements are commonly called the sides of the “fire triangle.” If any one side of the triangle is missing, combustion cannot take place. For combustion to be possible, the concentration of fuel in vapor form must not be too high or too low. Enough oxygen must be available and there must be an ignition source (i.e., spark, flame, autoignition).

1. Combustibility

Petroleum based sealants will support combustion if overheated in the presence of adequate air.

- a) Flash point is the lowest temperature at which vapors will be generated in concentration capable of being ignited.
- b) Flash point of asphalt is affected by additives or cut backs which may be used.

2. Fire Prevention

Since sealant is handled at elevated temperatures, fire prevention is extremely important.

- a) Do not heat above the stated maximum heating temperatures.
- b) Ensure the vessel is properly ventilated to remove vapors.
- c) Provide only one vent. This controls the air supply necessary to support combustion.
- d) Keep all sources of ignition away from hot sealants.
    - 1) Sparks from electrical, engine exhaust or other sources.
    - 2) Open flames, cutting torches.
    - 3) Smoking materials.

3. Fire Fighting

When you are experiencing a fire, it is too late to plan how to handle it. There are some precautions you can take to react to a fire which could minimize a potentially disastrous situation.

- a) Carbon dioxide (CO2) or ABC fire extinguishers are recommended for extinguishing asphalt product fires.
- b) Foam should not be used on asphalt fires IF the asphalt is at a high temperature, a dangerous boil over may result.
- c) Water should not be used on asphalt fires IF the asphalt is at a high temperature, the water could flash into steam and actually intensify the fire.
- d) Water or foam could be used as a secondary protection to keep materials and equipment cool or retard the spread of the fire itself.

B. Spills and Leaks

1. Asphalt Sealant leaks should be stopped as soon as possible:
    - a) it provides a fuel if an ignition source is present.
    - b) it presents the potential for burn injuries.
2. Spills should be contained by diking or impounding. Spills that do not solidify on cooling may require the use of an absorbent such as sand, earth or sawdust. Follow all applicable city, county, state and Federal regulations concerning waste disposal. Waste sealants should be removed to an approved disposal facility.

HIGH TEMPERATURE MATERIAL SAFETY

C. Protective Clothing

Asphalt sealants require heating to elevated temperatures for proper application. The high temperature material can cause severe burns and precautions are necessary to prevent injury. The equipment containing the material is also hot. When handling or working around the heated material the following clothing and/or PPE should be worn:

1. Safety glasses with side shields conforming to ANSI Z87.1 or Goggles.
2. 100% Cotton, long sleeve shirt that is buttoned at the wrist.
3. Heat resistant gloves.
4. Closed toe, non-porous boots with tops at least six inches high with no lace holes should be worn.
5. 100% Cotton pants without cuffs and extending over the tops of the boots

Always follow the instructions included in the Product Data Sheets, Installation Instructions and the product Safety Data Sheets. Never vary from these instructions. If you have any questions regarding these sheets, please call Crafco.

OSHA Criteria for Personal Protective Equipment

1926.95(a)”Application.” Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

1926.95(c)”Design.” All personal protective equipment shall be of safe design and construction for the work to be performed.

IMPORTANT PRODUCT DOCUMENTS

IMPORTANT PRODUCT DOCUMENTS

WHAT THESE DOCUMENTS TELL THE CUSTOMER

• **SDS (Safety Data Sheet):** The Safety Data Sheet or SDS is a document that helps you to identify hazardous materials and gives you full details on what the hazards are. SDSs provide more detailed hazard information about the product than the label. It provides instruction on how to work safely with the hazardous product. It spells out the steps you need to take if there ever is an emergency. The SDS is where you find the facts on hazardous products you work with. Its where you go for more information.

• **PDS (Product Data Sheet):** A product data sheet is a page that provides customers with product information presented in the most accessible and appealing way possible. A product sheet introduces customers to the goods we sell. That information and data may contain:

- Description — What the product is about? Who made the product?
- Components/Ingredients — What the product is made of?
- Usability — What is the function of the product? How to use it?
- Handling — How to take care of the product?
- Disposal — How to safely dispose or recycle the product?

• **Installation Instructions:** A guide that provides customers with step-by-step instructions on how to use a product properly and troubleshoot problems as and when they arise.

WHERE TO FIND

All Safety Data Sheets, Product Data Sheets and Installation Instructions can be found at **crafco.com/materials-documentation.**

THE FOLLOWING SHEETS ARE EXAMPLES ONLY.

Contact Crafco or your Crafco Sales Representative for a complete listing of product data sheets, installation instructions and safety data sheets.

FOR ILLUSTRATIONS PURPOSES ONLY

CRAFCO® INC
PRESERVATION PRODUCTS | PAVEMENT
Delivering Confidence Through Innovation, Quality and Value Since 1976

PRODUCT DATA SHEET

MASTIC ONE TYPE 2

PART NO. 33340

MARCH 2020

6165 W Detroit St. • Chandler AZ 85226
+1 (602) 276-0406 • +1 (800) 528-8242 • FAX +1 (480) 961-0513
www.crafco.com

READ BEFORE USING THIS PRODUCT

GENERAL Mastic One Type 2 is a hot applied, pourable, aggregate filled, black color, polymer modified asphalt pavement repair mastic. Mastic One Type 2 is used for sealing, filling and repairing many distresses in both asphalt concrete and portland cement concrete pavements and bridge deck surfaces that are larger than those typically repaired by crack or joint sealing, but smaller than repairs requiring remove and replace patching procedures. Mastic One Type 2 is best suited for use in areas that experience thermal movement such as wide transverse cracking. Other uses are sealing, filling and leveling of longitudinal cracks and joints, filling potholes and utility cuts, localized skin patch repairs, repairs prior to surface treatments, and leveling bridge approaches or faulted areas. Mastic One Type 2 may not be suitable for some applications where pavement temperatures exceed 158˚F. When properly applied, Mastic One Type 2 forms a well bonded, flexible, durable, traffic resistant repair. To use, Mastic One Type 2 is placed into an appropriate melter (Crafco Patcher II), mixed and heated until application temperature is reached, poured into the prepared repair area and then leveled. Mastic One Type 2 is formulated to provide neat feathered edge installation. Mastic One Type 2 is then ready for traffic when it has cooled and solidified. VOC = 0 g/l.

PROPERTIES Properties of the binder, aggregate and appropriately blended and heated Mastic One Type 2 according to ASTM D8260 are as follows:

Property	Requirement
POLYMER MODIFIED BINDER	
Cone Penetration, 77°F (25°C) (ASTM D5329)	80 max
Cone Penetration, 122°F (50°C) (ASTM D5329)	140 max
Softening Point, (ASTM D36)	190°F (88°C) min
Flexibility, 1″ (25.4 mm), 90°, 2 sec) (ASTM D3111 modified)	Pass at 0°F (-18°C)
AGGREGATE	
Abrasion Resistance (ASTM C131)	35% max
BLENDED PRODUCT	
Flexibility, 0°F (-18°C) (PTM3)	Pass
Adhesion, 63°F (17°C) (PTM4)	25 PSI (172 KPA) min
Specific Gravity	1.7 -2.0
Minimum Application Temperature	375°F (190°C)
Maximum Application Temperature	400°F (204°C)

Test	ASTM D8260 Type 2 Specification Limits
Mastic Resilience (ASTM (8260)	50% minimum
Effects of Rapid Deformation (ASTM D2794) (-18℃)	3 passing specimens no chipping, cracking or separation 8 N-m
Crack Bridging (ASTM C1305 modified) (-18℃)	Pass 3 cycles
Mastic Stability (ASTM D8260) (60℃)	40.0 mm maximum

Note: Due to unique properties of Mastic One Type 2, modified test procedures are required. Test methods PTM 3, 4 are available from Crafco

INSTALLATION The density of Mastic One Type 2 is 116 pcf (+/- 3%) and the weight per gallon is 15.5 lbs./gal (1.86 kg/l) at 60°F (15.5°C). Prior to use, the user must read and follow Installation Instructions for Mastic One to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are available at www.crafco.com and provided with each pallet of Mastic One.

PACKAGING Mastic One Type 2 is supplied in either cardboard boxes, or in meltable, box less PLEXI-melt packaging. Each package contains premeasured polymer modified binder and aggregate. Both package types are labeled in accordance with OSHA, GHS, and specification requirements; are sold by net weight; are interlock stacked on 48 x 40 in. (122 x102 cm) 4-way pallets; can be stored outside; and are covered with a weather resistant pallet cover and 2 layers of UV protected stretch wrap.

- **BOX** packaging consists of cardboard boxes containing approximately 40 lb. (18.1 kg) of product with 60 boxes per pallet, weighing approximately 2400 lb. (1088 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.
- **PLEXI-melt** packaging consists of 30 lb. (13.6 kg) blocks of product with 70 packages per pallet, weighing 2100 lb. (952 kg). To use, the pallet wrap is removed, and individual blocks are placed in the melter. There are no cardboard boxes or other cardboard components to open, empty, handle, or dispose of. PLEXI-melt packaging quickly melts into the product without affecting specification conformance.

WARRANTY CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, Crafco shall not be responsible for improperly applied or misused products. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for product installation.**

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www.Crafco.com

INSTALLATION INSTRUCTIONS

MASTIC ONE

PART NO. 33339
PART NO. 33340

READ BEFORE USING THIS PRODUCT

GENERAL: These installation instructions are for Crafco Mastic One, which is a hot-applied, single component, pourable, aggregate filled, polymer modified asphalt mastic used for maintenance, repair, and preservation of pavement and bridge surfaces. Mastic One is used for sealing, filling and repairing many distresses in both asphalt concrete and portland cement concrete pavements that are larger than those typically repaired by crack or joint sealing, but smaller than repairs requiring remove and replace patching procedures. Typical uses include sealing, filling and leveling of wide transverse or longitudinal cracks and joints, filling potholes and utility cuts, localized skin patch repairs and leveling bridge approaches or faulted areas. When properly applied, Mastic One forms a well bonded, flexible, durable, traffic resistant repair. To use, Mastic One is placed in an appropriate melter, mixed and heated until application temperature is reached, and then poured into the prepared repair area and leveled. Mastic One is formulated to provide neat feathered edge installation. Mastic One is then ready for traffic when it has cooled to solidify.

MELTING, HEATING AND AGITATING: Mastic One is supplied in solid form in a meltable plastic bag in a cardboard box or in boxless meltable PLEXI-melt packaging. The aggregate and polymer modified binder are pre-measured and contained in the package, but are not pre-mixed. To use, Mastic One is placed in a Crafco Patcher I or II or other approved melter to mix and heat to the proper installation temperature. If inappropriate melters are used, application difficulties, pump system damage, and extreme wear can result. The melter must be equipped with an effective horizontal agitator system that is able to maintain a uniformly mixed product, have a thermostatically controlled hot oil jacketed heating system, and have an effective means of dispensing product. During heating, the heat transfer oil should be heated to between 450 and 525°F (323 - 274°C). Agitation should begin as soon as the Mastic One has melted sufficiently for the agitator shaft to turn. Additional Mastic One can then be added to the melter. Heating and agitation should continue until all added material has been thoroughly mixed and the product application temperature range of 375 - 400°F (190 - 204°C) has been reached. When necessary on sloped pavements and repairing larger defects, where excess flow of mastic is a factor, Mastic One may be applied at temperatures of 340°F – 375°F (171 – 190°C). At application temperature, Mastic One is a thick, grainy appearing mastic. Additional Mastic One can be added as product is used and quantity in the melter decreases. When adding additional Mastic One, the agitator must be stopped. After the additional Mastic One is added, agitation is to be immediately resumed and application should not resume until required temperatures are reached and all added material has melted, becoming well mixed into the product with no uncoated aggregate present. During application and while product is hot, agitation should be continuous, except for when additional product is being added to guard against aggregate settlement. If aggregate settles in the melter, it may be difficult to agitate product. For best performance, it is recommended that the melter be emptied, or only small amounts of Mastic One be left in the melter at the end of each work day.

PAVEMENT TEMPERATURES: Apply Mastic One when pavement temperature exceeds 40°F (4°C). Lower temperature may result in reduced adhesion due to presence of moisture or ice. If pavement temperature is less than 40°F (4°C), it may be warmed with a heat lance that puts no direct flame on the pavement (Crafco Part No. 45650). If installing at night, assure that dew is not forming on the pavement surface. Applied product shall be checked by qualified personnel to assure that adhesion is adequate.

TRAFFIC CONTROLS: Place appropriate traffic controls in accordance with part 6, Temporary Controls, of the FHWA Manual on Uniform Traffic Control devices (MUTCD) to protect the work site for the duration of the repairs.

RECOMMENDED INSTALLATION PROCEDURES:

1. Only apply Mastic One to clean, sound, dry surfaces. Avoid highly distressed areas in need of reconstruction. All areas must be clean from dust and debris. All areas to be repaired shall be blown with clean, dry, oil free compressed air at 90 psi (620 kpa) minimum. If compressed air does not sufficiently remove all debris or dust coatings, additional cleaning procedures such as sweeping with a stiff or wire bristle broom, sandblasting or routing are recommended. (If sealant won't adhere, neither will Mastic One). PCCP shall be abrasive cleaned to achieve maximum adhesion performance.
2. The minimum pavement temperature for installation of Mastic One is 40°F (4°C). If the pavement temperature is less than 40°F (4°C), it can be warmed by heating with a heat lance. Asphalt concrete pavement should be heated so a slight bleeding effect occurs. This bleeding brings some of the asphalt binder from the pavement to the surface, which will enhance the adhesive bond between the Mastic One and road surface. However, caution should be taken to prevent overheating/oxidizing the asphalt brought to the surface as this could be detrimental to adhesion performance. Heating the pavement will also remove moisture assuring a dry surface. Mastic One should be applied within 10 minutes of warming the pavement area.
3. Mastic One that has been mixed and heated to installation temperature is poured from the melter and immediately applied to the prepared pavement area. Mastic One can be poured from the melter directly into the repair area, poured into an appropriate bucket such as the Crafco TechCrete Bucket (Part No. 32263) and then applied, or poured into the Crafco Material Handler (Part No. 57650) and then installed. For placing Mastic One in wide cracks, Crafco Shoebox Applicators (Part Nos. 32350-32353, 32255, 32250, 32252, or 32253) can be used.
4. Immediately following application to the pavement surface, Mastic One shall be leveled and smoothed to the desired level using a straight metal or rubber squeegee. If necessary for deep installations, to limit settling and to produce a level finished surface, Mastic One is applied in layers with a cooling and solidifying time period between applications. Minimum installed thickness is 3/8 in (1 cm). The aggregate portion of Mastic One is selected to allow feathered edge type

installations when required. The finished Mastic One installation should be applied smooth and level with the pavement surface.

When applied in the wheelpath, and other areas where improved skid resistance is desired, the top layer is covered with surfacing aggregate (Crafco Part No. 33374) or a surfacing aggregate specified in the project plan and approved by Crafco. Prior to applying the surfacing aggregate, quickly expose the surface to a flame to remove any surface bubbles and to heat the surface to adhere to the surfacing aggregate. Apply dry surfacing aggregate when the surface temperature is a minimum of 225°F (107°C) as measured with a non-contact infrared thermometer. When practical, the surfacing aggregate should be applied around the perimeter first and then applied to the center after the temperature falls in range

When surfacing aggregate must be applied at one time, the center surface of the Mastic One should be allowed to cool to a minimum of 225°F (107°C) before application. The perimeter surface temperature will have cooled below the aggregate application temperature range and must be gently heated back to the recommended patch surface temperature range using a torch, before application of the surfacing aggregate

- Surfacing aggregate shall be applied to completely cover the patch surface. The usage rate for the surfacing aggregate is approximately 2 pounds per square foot.
- If there is a need to cool the material rapidly, use ice or cool water to lower the temperature.
- Once Mastic One has cooled to the surrounding pavement surface temperature, final cleaning with a sweeper or vacuum is performed to remove any surplus aggregate prior to opening to traffic. Excess surfacing aggregate can be reused if kept clean, not contaminated and dry.

5. When installing over a distressed pavement surface, Mastic One should be applied at least 6 in (15 cm) beyond the distressed area onto sound pavement surfaces.
6. Mastic One cools quickly after installation and is ready for traffic when it has solidified sufficiently to support loads. Apply Crafco Detack to reduce surface tack and allow quicker opening of the area to traffic.

USES AND INSTALLATION CONFIGURATIONS: The general use of Mastic One is to repair pavement deficiencies which are larger than those that can be appropriately addressed with pavement sealants, but smaller than those where conventional remove and replace patching procedures are used. Typical uses include (but are not limited to):

1) Sealing and filling pavement cracks or joints over 1.5 in (3.8cm) wide,
2) Filling potholes,
3) Leveling depressed thermal cracks,
4) Sealing and repairing deteriorated longitudinal joints,
5) Skin patching,
6) Pretreatment of cracked areas prior to surface treatments,
7) Repairs prior to surface treatments
8) Leveling manhole covers, bridge deck approaches, or other settlement at structures,
9) Capping settled utility cuts,
10) Filling spalls, popouts, and corer breaks

Mastic One binder is self-adhesive and develops a strong bond to the pavement. Shrinkage of approximately 5% occurs as Mastic One cools from application temperature to ambient. No compaction is required. After application, time must be given for the product to cool before opening the area to traffic. Cooling time will vary depending on the size of the application and ambient temperature. Generally allow approximately 30 to 60 minutes of cooling for each 1 in (2.5cm) of material depth.

For installations of Mastic One deeper than 2.5 in (6.3cm), product shall be installed in layers not exceeding 2.5 in thick (6.3cm) with cooling to 200F (93C) maximum before applying the next layer. The final layer to the pavement surface level should be ½ to 1 in (1.2 to 2.5cm) thick. This layering process reduces material shrinkage during product cooling. Installations over 2 in (5cm) deep shall be bulked by adding up to 25% by volume of Crafco Structural Aggregate (Part No. 33033) or other aggregates approved by Crafco to the patch in layers for improved stability and quicker cooling. Roofing felt or other similar strips can be used along the work area boundaries to create neat, well defined edges. The strips should be removed immediately after application before material cools.

APPLICATION LIFE: Application life at application temperatures is approximately 12 to 15 hours. Application life may be extended by adding fresh material as quantity in the applicator decreases. Mastic One must be agitated while being applied. The material may be reheated to application temperature once, after the initial heat up. Additional reheating of the material may result in degradation of properties. At the end of the installation day, it is recommended that the melter be as empty as possible. Product volume of no more than 25% of melter capacity should be left in the melter for reheating. When reheating, a volume of Mastic One equal to or greater than the amount being reheated should be added to the melter for the next installation. When the application life has been exceeded, Mastic One will begin to thicken, become "stringy" and may then gel. If this should occur, the material should immediately be removed from the melter and discarded.

PRECAUTIONS: Mastic One will soften, become sticky, and track if exposed to fuel or oil spillage, therefore, it should not be used in areas subject to fuel or oils.

STORAGE: Pallets of packaged product are protected with a weather resistant covering. During storage, the protective wrap must be kept on the pallets to maintain pallet stability. If rips in the pallet covering occur during handling, they should be repaired to help maintain packaging integrity. Pallets should be stored on a level surface which is dry and has good drainage. Pallets should not be stacked because crushing of bottom layers may occur. Mastic One material properties are not affected by packaging deterioration.

SAFETY PRECAUTIONS: Since Mastic One is heated to elevated temperatures, it is essential that operations be conducted in manners which assure safety of personnel. All associated with use of the material need to be aware of the hazards of using hot applied materials and safety precautions. Before use, the crew should read and understand product use, safety information and the product SDS. This sheet which is supplied with each shipment, describes the characteristics of the product as well as any potential health hazards and precautions for safe handling and use. User should check D.O.T. requirements for transportation of product at elevated temperatures (above 212°F (100°C)).

HAZARDS ASSOCIATED WITH HOT APPLIED MATERIALS: Skin contact with hot applied materials causes burns. Over exposure to fumes may cause respiratory tract irritation, nausea, or headaches. Appropriate precautions need to be taken to prevent contact with the hot material and to avoid inhalation of fumes for everyone
in the vicinity of the work area operation. Safety precautions should include: 1. Protective clothing to prevent skin contact with hot material. 2. Care when adding product to melters to reduce splashing. 3. Careful operation and control of tools which are used to apply product. 4. Traffic and pedestrian control measures which meet or exceed MUTCD requirements to prevent access to work areas while product is still in a molten state. 5. Avoidance of
material fumes. 6. Proper application configurations with a minimum amount of excesses of material. 7. Appropriate clean up of excessive applications or product spills.

ADDITIONAL INFORMATION: Additional information regarding these products is available by contacting your distributor or Crafco, Inc.
This information includes 1) Product Data Sheets, 2) Safety Data Sheets, 3) Equipment Safety Manual

SAFETY DATA SHEET

1. Identification

Product identifier **Crafco Mastic and Matrix Products**
Other means of identification None.
Recommended use Pavement Patching and Repair
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer: Crafco, Inc.
Address: 6165 West Detroit St.
Chandler, AZ 85226 USA
Contact Name: Crafco Materials Engineering
Telephone: 602-276-0406
E-mail: sales@crafco.com
CHEMTREC: 800-424-9300 (North America)
+ 1-703-527-3887 (International)

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.
*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".
Label elements
Hazard symbol None.
Signal word Not applicable.
Hazard statement Not applicable.
Precautionary statement
Prevention Not applicable.
Response Not applicable.
Storage Not applicable.
Disposal Not applicable.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	0 - 75
QUARTZ		14808-60-7	0 - 75
ASPHALT		8052-42-4	10 - 40
CALCIUM CARBONATE		471-34-1	0 - 10
Other components below reportable levels			26.06

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. Get medical attention, if needed.

Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly wash (or discard) clothing and shoes before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Call a POISON CENTER or doctor/physician if you feel unwell.
Most important symptoms/effects, acute and delayed	Not available.
Indication of immediate medical attention and special treatment needed	In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. Certain pre-existing conditions may make workers particularly susceptible to the effects of this chemical: asthma, allergies, impaired pulmonary function.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Discard any shoes or clothing items that cannot be decontaminated.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). Addition of water or foam to the fire may cause frothing.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. In the event of fire, cool tanks with water spray. By fire, toxic gases may be formed (COx, NOx). Keep run-off water out of sewers and water sources. Dike for water control.
Specific methods	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch or walk through spilled material.
Methods and materials for containment and cleaning up	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Dike far ahead of spill for later disposal. Following product recovery, flush area with water. Never return spills in original containers for re-use.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Runoff or release to sewer, waterway or ground is forbidden.

7. Handling and storage

Precautions for safe handling	The product is non-combustible. If heated, irritating vapors may be formed. Do not use in areas without adequate ventilation. Wash hands thoroughly after handling. Wash hands after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in a well-ventilated place. Keep the container tightly closed and dry. Store in a closed container away from incompatible materials. Keep out of the reach of children.

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 CARBONATE (CAS 471-34-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.

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

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m3	Inhalable fume.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m3	Fume.
CALCIUM CARBONATE (CAS 471-34-1)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	350 mg/m3	
QUARTZ (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 Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses; chemical goggles (if splashing is possible). Wear chemical goggles; face shield (if handling molten material).

Skin protection

Hand protection Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Other Wear suitable protective clothing and eye/face protection. Use of an impervious apron is recommended.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards	During product use, there is a risk of thermal burns.
General hygiene considerations	When using do not smoke. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Solid.
Physical state	Solid.
Form	Solid.
Color	Black. Dark brown
Odor	Product is a black, semi-solid with a burnt tar odor.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	150 - 250 °F (65.56 - 121.11 °C) ASTM D36 Softening Point
Initial boiling point and boiling range	> 800 °F (> 426.67 °C)
Flash point	> 400.0 °F (> 204.4 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	4.07 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 700 °F (> 371.11 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	Not Available
Percent volatile	0 %
Specific gravity	1 - 2.2

10. Stability and reactivity

Reactivity	Not Reactive
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Strong oxidizing agents.
Incompatible materials	Incompatible with oxidizing agents.
Hazardous decomposition products	Upon decomposition, product emits acrid dense smoke with carbon dioxide, carbon monoxide, trace oxides of nitrogen and sulfur, and water.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Irritating to skin.
Eye contact	Causes eye irritation. Molten material will produce thermal burns.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms related to the physical, chemical and toxicological characteristics	Not available.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
Acute		
Oral		
LD50	Rat	6450 mg/kg

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

Skin corrosion/irritation	Defats the skin. Causes irritation.
Serious eye damage/eye irritation	Irritating to eyes.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	Irritating to skin.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Contains no ingredient listed as toxic to reproduction
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful. May cause eczema-like skin disorders (dermatitis)

12. Ecological information

Ecotoxicity This product has no known eco-toxicological effects. Not expected to be harmful to aquatic organisms.

Components		Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	> 56000 mg/l, 96 hours

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

Persistence and degradability	Not available.
Bioaccumulative potential	Not available.
Mobility in soil	Not available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.
Hazardous waste code	Not applicable.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Offer rinsed packaging material to local recycling facilities.

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 available.
General information	Not regulated as dangerous goods.
Further information	If the product is shipped at temperatures below 212°F (100°C), it is not regulated for transport by ground, air or vessel. If shipped above 212 deg F: "UN3257, Elevated Temperature Liquid, n.o.s. (Asphalt mixture), 9, PG III"

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

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 1910.1001-1052)

QUARTZ (CAS 14808-60-7)	Cancer lung effects immune system effects kidney effects

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

Classified hazard categories	Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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 WARNING: This product contains a chemical known to the State of California to cause cancer.

California Proposition 65

California Proposition 65 - CRT: Listed date/Carcinogenic substance

ASPHALT (CAS 8052-42-4) Listed: January 1, 1990
QUARTZ (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))

ASPHALT (CAS 8052-42-4)
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)
QUARTZ (CAS 14808-60-7)

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)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
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 05-11-2020

Version # 01

Further information HMIS® is a registered trade and service mark of the NPCA.

NFPA ratings
Health: 0
Flammability: 0
Instability: 0

References
ACGIH
EPA: AQUIRE database
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. 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.

Revision information

Product and Company Identification: Alternate Trade Names
First-aid measures: Skin contact
Fire-fighting measures: Specific hazards arising from the chemical
Handling and storage: Conditions for safe storage, including any incompatibilities
Exposure controls/personal protection: Appropriate engineering controls
Physical & Chemical Properties: Multiple Properties
Stability and reactivity: Reactivity
Toxicological information: Carcinogenicity
Transport information: Further information
HazReg Data: International Inventories
GHS: Classification

SUMMARY

Summary

Working with hot sealants and equipment on our roadways presents many challenges. It is your responsibility to see that this work is carried out in a safe and professional manner. If you have any questions regarding safety, call Crafco or your local distributor prior to the operation of any Crafco machinery.

APPENDIX

APPENDIX

FOR INFORMATION ON HOW TO PROPERLY DISPOSE OF SEALANT WASTE, CONTACT THE AGENCY FOR YOUR AREA. STATE HAZARDOUS WASTE MANAGEMENT AGENCIES

STATE HAZARDOUS WASTE MANAGEMENT AGENCIES

ALABAMA
Alabama Department of Environmental Management

Land Division
1751 Federal Drive
Montgomery, Alabama 36130
(205) 271-7730

ALASKA
Department of Environmental Conservation
P.O. Box 0
Juneau, Alaska 99811
Program Manager: (907) 465-2666

Northern Regional Office (Fairbanks): (907) 452-1714
South-Central Regional Office (Anchorage): (907) 274-2533
Southeast Regional Office (Juneau): (907) 789-3151

AMERICAN SAMOA
Environmental Quality Commission
Government of American Samoa
Pago Pago, American Samoa 96799
Overseas Operator
(Commercial Call (684) 663-4116)

ARIZONA
Arizona Department of Environmental Quality

Hazardous Waste Compliance Unit
3033 North Central Avenue
Phoenix, AZ 85012
(602) 207-4153

ARKANSAS
Department of Pollution Control and Ecology

Hazardous Waste Division
P.O. Box 9583
8001 National Drive
Little Rock, Arkansas 72219
(501) 562-7444

CALIFORNIA
Department of Health Services Toxic Substances Control Division 714
P Street, Room 1253 Sacramento,
California 95814
(916) 324-1826

State Water Resources Control Board
Division of Water Quality
P.O. Box 100
Sacramento, California 95801
(916) 322-2867

COLORADO
Colorado Department of Health Waste Management Division
4210 E. 11th Avenue
Denver, Colorado 80220
(303) 320-8333 Ext. 4364

CONNECTICUT
Department of Environmental Protection

Hazardous Waste Management Section
State Office Building
165 Capitol Avenue
Hartford, Connecticut 06106
(203) 566-8843, 8844

Connecticut Resource Recovery Authority
179 Allyn Street, Suite 603
Professional Building
Hartford, Connecticut 06103
(203) 549-6390

DELAWARE
Department of Natural Resources and Environmental Control Waste

Management Section
P.O. Box 1401
Dover, Delaware 19903
(302) 736-4781

DISTRICT OF COLUMBIA
Department of Consumer and Regulatory Affairs

Pesticides and Hazardous Waste Materials Division
Room 114
5010 Overlook Avenue, S.W.
Washington, D.C. 20032
(202) 767-8414

FLORIDA
Department of Environmental Regulation

Solid and Hazardous Waste Section
Twin Towers Office Building
2600 Blair Stone Road Tallahassee,
Florida 32301
RE: SQG's
(904) 488-0300

GEORGIA
Georgia Environmental Protection Division

Hazardous Waste Management Program
Land Protection Branch
Floyd Towers East, Suite 1154 205
Butler Street, S.E.
Atlanta, Georgia 30334
(404) 656-2833
Toll Free: (800) 334-2373

GUAM
Guam Environmental Protection Agency

P.O. Box 2999
Agana, Guam 96910
Overseas Operator
(Commercial Call (671) 646-7579)

HAWAII
Department of Health
Environmental Health Division
P.O. Box 3378
Honolulu, Hawaii 96801
(808) 548-4383

APPENDIX

NEW JERSEY
Department of Environmental Protection
Division of Waste Management
32 East Hanover Street, CN-028
Trenton, New Jersey 08625
Hazardous Waste Advisement Program: (609) 292-8341

NEW MEXICO
Environmental Improvement Division
Ground Water and Hazardous Waste Bureau
Hazardous Waste Section
P.O. Box 968
Santa Fe, New Mexico 87504-0968
(505) 827-2922

NEW YORK
Department of Environmental Conservation
Bureau of Hazardous Waste Operations
50 Wolf Road, Room 209
Albany, New York 12233
(518) 457-0530
SQG Hotline: (800) 631-0666

NORTH CAROLINA
Department of Human Resources
Solid and Hazardous Waste Management Branch
P.O. Box 2091
Raleigh, North Carolina 27602
(919) 733-2178

NORTH DAKOTA
Department of Health
Division of Hazardous Waste Management and Special Studies
1200 Missouri Avenue
Bismarck, North Dakota 58502-5520
(701) 224-2366

NORTHERN MARIANA ISLANDS, COMMONWEALTH OF
Department of Environmental and Health Services
Division of Environmental Quality
P.O. Box 1304
Saipan, Commonwealth of Mariana Islands 96950
Overseas call (670) 234-6984

OHIO
Ohio EPA
Division of Solid and Hazardous Waste Management
361 East Broad Street
Columbus, Ohio 43266-0558
(614) 466-7220

OKLAHOMA
Waste Management Service
Oklahoma State Department of Health
P.O. Box 53551
Oklahoma City, Oklahoma 73152
(405) 271-5338

OREGON
Hazardous and Solid Waste Division
P.O. Box 1760
Portland, Oregon 97207
(503) 229-6534
Toll Free: (800) 452-4011

PENNSYLVANIA
Bureau of Waste Management
Division of Compliance Monitoring
P.O. Box 2063
Harrisburg, Pennsylvania 17120
(717) 787-6239

PUERTO RICO
Environmental Quality Board
P.O. Box 11488
Santurce, Puerto Rico 00910-1488
(809) 723-8184
- or -
EPA Region II
Air and Waste Management Division
26 Federal Plaza
New York, New York 10278
(212) 264-5175

RHODE ISLAND
Department of Environmental Management
Division of Air and Hazardous Materials
Room 204, Cannon Building
75 Davis Street
Providence, Rhode Island 02908
(401) 277-2797

SOUTH CAROLINA
Department of Health and Environmental Control
Bureau of Solid and Hazardous Waste Management
2600 Bull Street
Columbia, South Carolina 29201
(803) 734-5200

SOUTH DAKOTA
Department of Water and Natural Resources
Office of Air Quality and Solid Waste
Foss Building, Room 217
Pierre, South Dakota 57501
(605) 773-3153

TENNESSEE
Division of Solid Waste Management
Tennessee Department of Public Health
701 Broadway
Nashville, Tennessee 37219-5403
(615) 741-3424

TEXAS
Texas Water Commission
Hazardous and Solid Waste Division
Attn: Program Support Section
1700 North Congress
Austin, Texas 78711
(512) 463-7761

UTAH
Department of Health
Bureau of Solid and Hazardous Waste Management
P.O. Box 16700
Salt Lake City, Utah 84116-0700
(801) 538-6170

APPENDIX

IDAHO
Department of Health and Welfare
Bureau of Hazardous Materials
450 West State Street
Boise, Idaho 83720
(208) 334-5879

ILLINOIS
Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road, #24
Springfield, Illinois 62706
(217) 782-6761

INDIANA
Department of Environmental Management
Office of Solid and Hazardous Waste
105 South Meridian
Indianapolis, Indiana 46225
(317) 232-4535

IOWA
U.S. EPA Region VII
Hazardous Materials Branch
726 Minnesota Avenue
Kansas City, Kansas 66101
(913) 236-2888
Iowa RCRA Toll Free:
(800) 223-0425

KANSAS
Department of Health and Environment
Bureau of Waste Management
Forbes Field, Building 321
Topeka, Kansas 66620
(913) 862-9360 Ext. 292

KENTUCKY
Natural Resources and Environmental Protection Cabinet
Division of Waste Management
18 Reilly Road
Frankfort, Kentucky 40601
(502) 564-6716

LOUISIANA
Department of Environmental Quality
Hazardous Waste Division
P.O. Box 44307
Baton Rouge, Louisiana 70804
(504) 342-1227

MAINE
Department of Environmental Protection
Bureau of Oil and Hazardous Materials Control
State House Station #17
Augusta, Maine 04333
(207) 289-2651

MARYLAND
Department of Health and Mental Hygiene
Maryland Waste Management Administration
Office of Environmental Programs
201 West Preston Street, Room A3
Baltimore, Maryland 21201
(301) 225-5709

MASSACHUSETTS
Department of Environmental Quality Engineering
Division of Solid and Hazardous Waste
One Winter Street, 5th Floor
Boston, Massachusetts 02108
(617) 292-5589
(617) 292-5851

MICHIGAN
Michigan Department of Natural Resources
Hazardous Waste Division
Waste Evaluation Unit
Box 30028
Lansing, Michigan 48909
(517) 373-2730

MINNESOTA
Pollution Control Agency
Solid and Hazardous Waste Division
1935 West County Road, B-2
Roseville, Minnesota 55113
(612) 296-7282

MISSISSIPPI
Department of Natural Resources
Division of Solid and Hazardous Waste Management
P.O. Box 10385
Jackson, Mississippi 39209
(601) 961-5062

MISSOURI
Department of Natural Resources
Waste Management Program
P.O. Box 176
Jefferson City, Missouri 65102
(314) 751-3176
Missouri Hotline:
(800) 334-6946

MONTANA
Department of Health and Environmental Sciences
Solid and Hazardous Waste Bureau
Cogswell Building, Room B-201
Helena, Montana 59620
(406) 444-2821

NEBRASKA
Department of Environmental Control
Hazardous Waste Management Section
P.O. Box 94877
State House Station
Lincoln, Nebraska 68509
(402) 471-2186

NEVADA
Division of Environmental Protection
Waste Management Program
Capitol Complex
Carson City, Nevada 89710
(702) 885-4670

APPENDIX

NEW HAMPSHIRE
Department of Health and Human Services
Division of Public Health Services
Office of Waste Management
Health and Welfare Building
Hazen Drive
Concord, New Hampshire 03301-6527
(603) 271-4608

VERMONT
Agency of Environmental Conservation
103 South Main Street
Waterbury, Vermont 05676
(802) 244-8702

VIRGIN ISLANDS
Department of Conservation and Cultural Affairs
P.O. Box 4399
Charlotte Amalie, St. Thomas
Virgin Islands 00801
(809) 774-3320
—or—
EPA Region II
Air and Waste Management Division
26 Federal Plaza
New York, New York 10278
(212) 264-5175

VIRGINIA
Department of Health
Division of Solid and Hazardous Waste Management
Monroe Building, 11th Floor
101 North 14th Street
Richmond, Virginia 23219
(804) 225-2667
Hazardous Waste Hotline:
(800) 552-2075

WASHINGTON
Department of Ecology
Solid and Hazardous Waste Program
Mail Stop PV-11
Olympia, Washington 98504-8711
(206) 459-6322
In-State: 1-800-633-7585

WEST VIRGINIA
Division of Water Resources
Solid and Hazardous Waste/
Ground Water Branch
1201 Greenbrier Street
Charleston, West Virginia 25311

WISCONSIN
Department of Natural Resources
Bureau of Solid Waste Management
P.O. Box 7921
Madison, Wisconsin 53707
(608) 266-1327

WYOMING
Department of Environmental Quality
Solid Waste Management Program
122 West 25th Street
Cheyenne, Wyoming 82002
(307) 777-7752
—or—
EPA Region VIII
Waste Management Division
(8HWM-ON)
One Denver Place
999 18th Street
Suite 1300
Denver, Colorado 80202-2413
(303) 293-1502

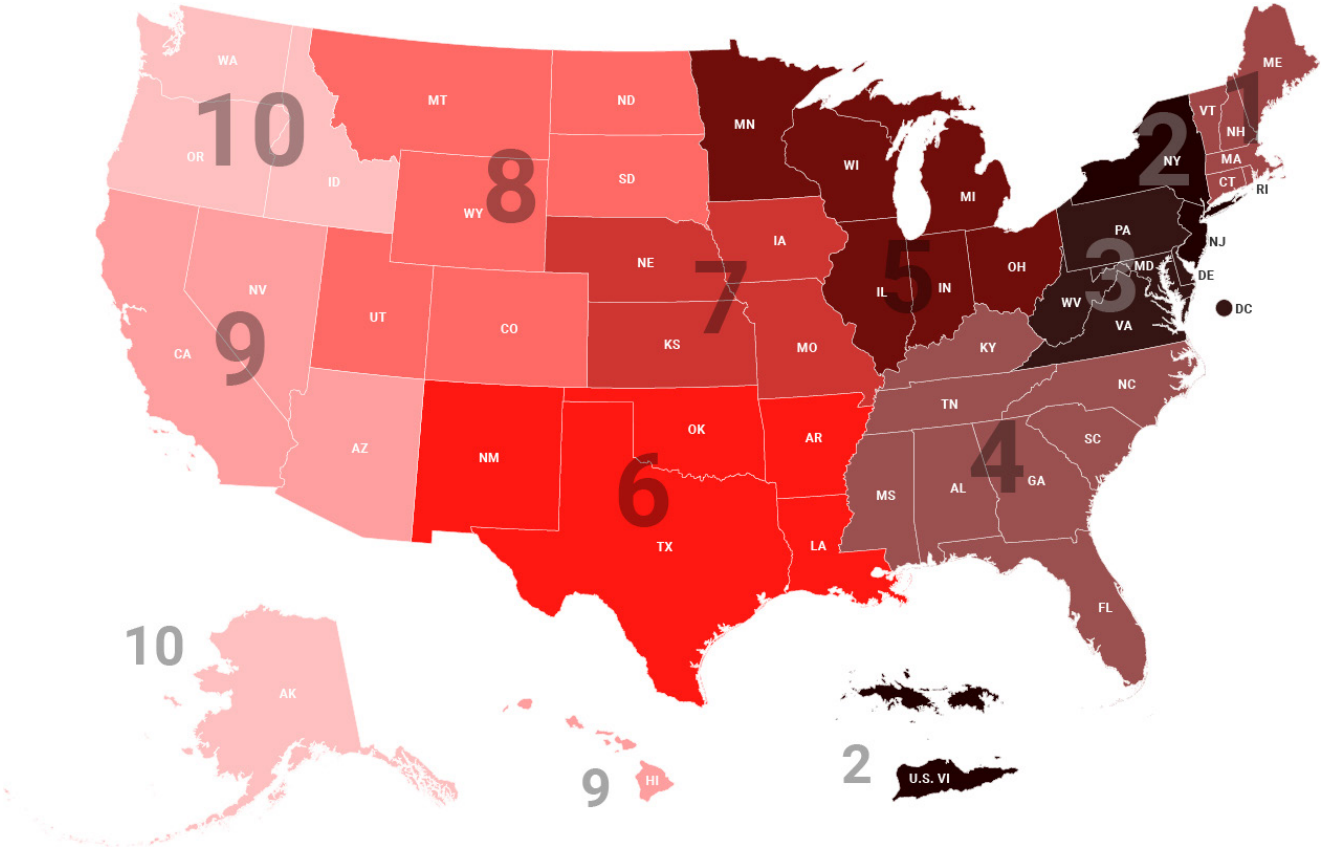
APPENDIX

ERA AND STATE HAZARDOUS WASTE CONTACTS FOR ASSISTANCE

RCRA/Superfund Hotline
1-800-424-9346
(In Washington, D.C.: 382-3000)

RCRA/Superfund Hotline
1-800-424-9346
(In Washington, D.C.: 382-3000)

National Response Center
1-800-424-8802
(In Washington, D.C.: 426-2675)



Region 1

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Region 2

New Jersey
New York
Puerto Rico
Virgin Islands

Region 3

Delaware
D.C.
Maryland
Pennsylvania
Virginia
West Virginia

Region 4

Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

Region 5

Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

Region 6

Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Region 7

Iowa
Kansas
Missouri
Nebraska

Region 8

Colorado
Montana
North Dakota
South Dakota
Utah
Wyoming

Region 9

Arizona
California
Hawaii
Nevada
American Samoa
Guam

Region 10

Alaska
Idaho
Oregon
Washington

APPENDIX

U.S. EPA REGIONAL OFFICES

EPA Region I
State Waste Programs Branch
JFK Federal Building
Boston, Massachusetts 02203
(617) 223-3468
Connecticut, Massachusetts, Maine,
New Hampshire, Rhode Island, Vermont

EPA Region II
Air and Waste Management Division
26 Federal Plaza
New York, New York 10278
(212) 264-5175
New Jersey, New York, Puerto Rico,
Virgin Islands

EPA Region III
Waste Management Branch
341 Chestnut Street
Philadelphia, Pennsylvania 19107
(215) 597-9336
Delaware, Maryland, Pennsylvania,
Virginia, West Virginia,
District of Columbia

EPA Region IV
Hazardous Waste Management Division
345 Courtland Street, N.E.
Atlanta, Georgia 30365
(404) 347-3016
Alabama, Florida, Georgia,
Kentucky, Mississippi, North
Carolina, South Carolina, Tennessee

EPA Region V
RCRA Activities
230 South Dearborn Street
Chicago, Illinois 60604
(312) 353-2000
Illinois, Indiana, Michigan,
Minnesota, Ohio, Wisconsin

EPA Region VI
Air and Hazardous Materials Division
1201 Elm Street
Dallas, Texas 75270
(214) 767-2600
Arkansas, Louisiana, New Mexico
Oklahoma, Texas

EPA Region VII
RCRA Branch
726 Minnesota Avenue
Kansas City, Kansas 66101
(913) 236-2800
Iowa, Kansas, Missouri, Nebraska

EPA Region VIII
Waste Management Division (8HWM-ON)
One Denver Place
999 18th Street, Suite 1300
Denver, Colorado 80202-2413
(303) 293-1502
Colorado, Montana, North Dakota,
South Dakota, Utah, Wyoming

EPA Region IX
Toxics and Waste Management Division
215 Fremont Street
San Francisco, California 94105
(415) 974-7472
Arizona, California, Hawaii,
Nevada, American Samoa, Guam,
Trust Territories of the Pacific

EPA Region X
Waste Management Branch—MS-530
1200 Sixth Avenue
Seattle, Washington 98101
(206) 442-2777
Alaska, Idaho, Oregon, Washington

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