



EQUIPMENT OPERATIONS SAFETY MANUAL



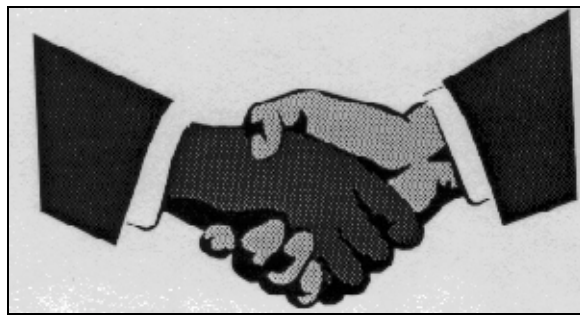
PROCEDURES FOR SAFE USE AND OPERATION OF CRAFICO PRODUCTS



Revised 08/2003

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

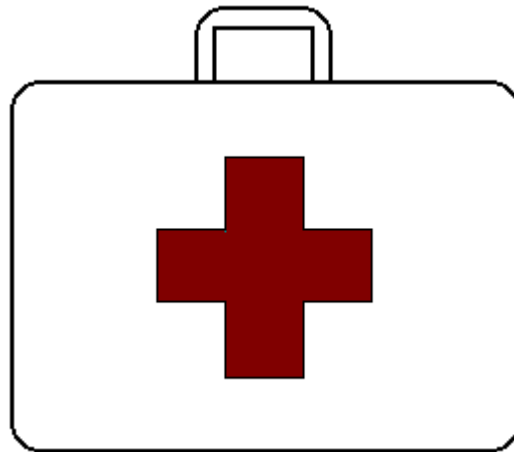


FOREWORD

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 of your operation maintenance manual and melter cd or video. If you do not have an operation maintenance manual on your machine, or haven't reviewed your melter cd or video, or do not understand any instructions contained in this manual, call CrafcO or your local distributor for a replacement **prior** to operating the machine. (1-800-528-8242)

Safety is your responsibility

Only you can prevent injury



Follow the outline

in this safety manual and always

remember: **Safety is no accident**

DRESS FOR SAFETY

When operating Crafcó equipment always wear the following:

- Long Pants
- Long Sleeved Shirt buttoned at the wrist
- Heat Resistant Gloves
- Eye Protection (safety glasses or face shield)
- Hard Soled Work Shoes
- Traffic Safety Vests and Hard Hats (when exposed to vehicular traffic)

WARNING: MOVING PARTS!

Keep hands, feet, hair, and clothing away from all moving parts. Never operate the machine with covers, shrouds, or guards removed. Do Not wear loose or dangling clothing or jewelry near the equipment. It could become caught and possibly cause serious injury or death. Do Not walk, stand, sit, or lean on guards.

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 Crafcoc 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. 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.

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.

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 Crafcó's instructions.

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.

On two-wheeled machines, fully retract from screw jack. If a retractable caster wheel is provided, pull the lock pin and fold and raise the caster wheel, then make sure pin is re-engaged to secure caster wheel in full up and locked position. Keep hands and fingers clear of pinch points.

PREPARING TO TOW (continued)

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 tie-downs, 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.

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.

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.

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.

START UP

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

- Prior to servicing the machine, disconnect the negative ground cable of the battery. Make sure all parts of the melter are in the off position. Test the starter to verify that the machine cannot start. This procedure eliminates any accidental starting of the unit.
- **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.
- Always follow the start up and operation procedures as outlined on the instruction plate and instruction manual.

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 Material 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.

SEALANT HAZARDS

HAZARDS OF SEALANTS

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, auto-ignition).

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 safe 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**

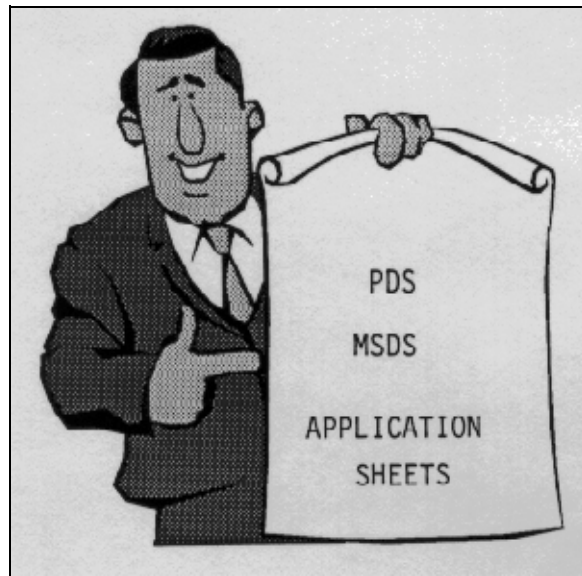
- 1. Asphalt Sealant leaks should be stopped as soon as possible:
 - a) it provides a fuel if an ignition source is present.
 - b) it presents the potential for burn injuries.
- 2. Spills should be contained by diking or impounding. Spills that do not solidify on cooling may require the use of an absorbent 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.

C. **Protective Clothing**

Asphalt sealants require heating to elevated temperatures for proper application. The resultant high temperature material can cause severe burns and precautions are necessary to prevent injury. The equipment containing the material is also hot. When handling the heated material it is important that:

- 1. Goggles should be worn.
- 2. Loose fitting shirt in good condition with long sleeves buttoned at the wrist should be worn.
- 3. Gloves with gauntlets that extend up the arm should be worn loosely so they can easily be flipped off if covered with hot asphalt.
- 4. Boots with tops at least six inches high with no lace holes should be worn.
- 5. Loose pants without cuffs and extending over the tops of the boots.
- 6. Barrier creams are used to protect the face from fumes which can burn the skin.

Always follow the instructions included in the Product Data Sheets, Application Instructions and the Material Safety Data Sheets. **Never** vary from these instructions. If you have any questions regarding these sheets, please call Crafc0.



The following sheets are examples only. Contact your Crafc0 Sales Representative for a complete listing of product data, application and material safety data sheets.

DESCRIPTION AND EXPLANATION OF TERMS MATERIAL SAFETY DATA SHEETS

The following information is intended to assist the reader in understanding the format and the material included in the Material Safety Data Sheets (MSDS).

A. **Section 1 – Chemical Product and Company Information**

This section includes the product name, chemical name and family, manufacturer and contact information. Additional information about components and CAS numbers is shown in Section 2 of the Crafc0 MSDS.

B. **Section 2 – Composition / Information on Ingredients**

The chemical or common names of the major constituents are listed along with names of any ingredients believed to be health or physical hazards and which are present in the product at a concentration of 1% or more. Health effects and presence of carcinogens (at 0.1% or greater) are discussed in Sections 3 and 11 of the Crafc0 MSDS.

CAS Number

Individual component chemicals are listed by CAS number which refers to the Chemical Abstract Service. The Service provides a means of identification for over 350,000 chemicals. Some ingredients, particularly additives, are complex mixtures to which single CAS numbers may not apply or for which detailed composition information may not be available.

% Wt.

This is the approximate percentage by weight of the component(s) in the product. In some cases, particularly where details are proprietary, the total amount of several components is shown.

Exposure Limits

The Occupational Safety and Health Administration (OSHA), Permissible Exposure Limit (PEL), the American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Value (TLV) and the National Institute of Occupational Safety and Health (NIOSH), Relative Exposure Limit (REL) is shown where established. For and vapors, exposure limits are expressed in parts per million (ppm) or milligrams per cubic meter (mg/m³) of vapor in the air. For mists and fumes the limit is given in mg/m³. As noted in the preface to published values adopted by the ACGIH, TLVs represent “conditions under

which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect. Because of a wide variation in individual susceptibility, however small a percentage of workers may experience discomfort from some substances at concentration at or below the threshold limit; a smaller percentage may be affected more seriously by aggravation of a preexisting condition or by development of an occupational illness.”

C. **Section 3 – Hazards Identification**

This section includes the potential health effects including routes of entry into the human body and hazards associated to exposure as well as the Hazardous Material Information System rating. The HMIS rating is a scale of 0-4 with 0- least, 1- slight, 2- moderate, 3- high and 4- extreme.

D. **Section 4 – First Aid Measures**

This section provides basic first aid information for the most common Accidents and injuries that may occur when handling sealants.

E. **Section 5 – Fire-Fighting Measures**

This section provides information about the physical characteristics of sealant that pertain to fire danger.

Flash Point

This is the minimum temperature at which a liquid or solid produces enough flammable vapor that a source of ignition can ignite the vapor.

LEL and UEL

The level of oxygen concentration at the upper and lower range in which combustion can occur.

Extinguishing Media

The recommended method for extinguishing a fire.

Unusual Fire or Explosion Hazards

Additional information to limit risk when fighting a **fire**.

Firefighting Instructions and Equipment

These include information recommended by the National Fire Protection Association. They are primarily for use by fire-fighters.

E. **Section 6 - Accidental Release Measures**

This section provides information on what to do in the event of an accidental release of material and includes the Spill/Leak Procedures.

- F. **Section 7 - Handling and Storage**
Information on the proper procedures for the handling and storage of CRAFCO sealants.
- G. **Section 8 – Exposure Controls / Personal Protection**
This section provides information on engineering controls to reduce exposures and the proper personal protective equipment to use when using CRAFCO sealants.
- H. **Section 9 - Physical and Chemical Properties**
These may include the state, appearance, odor, odor threshold, vapor pressure, vapor density, specific gravity, solubility, boiling point, melting point, volatile content, evaporation rate and ph where determined and applicable.
- I. **Section 10 – Stability and Reactivity**
This section contains Information relating to stability, polymerization, incompatibilities and specific conditions to avoid as well as the products of decomposition.
- J. **Section 11 – Toxicological Information**
This section contains information pertaining to the toxic effects of the product on human beings including the carcinogenicity of the product.
- K. **Section 12 - Ecological Information**
This section addresses the potential effects that the product may have on the environment.
- L. **Section 13 – Disposal Considerations**
This section provides advice on the proper and lawful methods for disposal of the product and any waste associated with it.
- M. **Section 14 – Transport Information**
This section describes the D.O.T. requirements including proper shipping name, hazard class, D.O.T. I.D. number, shipping label, packing group and placards.
- N. **Section 15 – Regulatory Information**
This section contains information on Federal, State and Foreign regulations that cover chemicals such as those contained in CRAFCO sealants including the TSCA inventory and various State Right-to-Know lists.
- O. **Section 16 – Other Information**
This section includes the National Fire Protection Association rating, the date of preparation and who prepared the MSDS as well as the disclaimer.



420 N. Roosevelt Ave. • Chandler AZ 85226
1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513
www.crafco.com

APPLICATION INSTRUCTIONS

HOT-APPLIED ROADSaver, POLYFLEX, PARKING LOT AND ASPHALT RUBBER PRODUCTS

JANUARY 2002

READ BEFORE USING THIS PRODUCT

GENERAL: These products are hot-applied, single component polymer/rubber modified asphalts supplied in solid block form that are used to seal or fill cracks in asphalt concrete pavements or to seal joints in portland cement concrete pavements. To use, product is removed from the package, heated in a melter and then applied. Details on product specifications, climate and usage suitability, and product selection are contained in Product Data Sheets.

MELTING AND APPLICATION: These products must be melted in jacketed double boiler melters with effective agitation that meet requirements of appendix X1.1 of ASTM D6690. Do not use direct fired or air heated machines. Heat transfer oil should not exceed 525°F (274°C). The unit must be capable of safely heating product to 410°F (210°C). CAUTION: Do not agitate when adding product due to splashing. To use, product is heated to between the recommended pour temperature and the maximum (safe) heating temperature which is shown on product containers. These products are most effectively applied with pressure feed wand systems. RoadSaver, PolyFlex and Parking Lot products can also be applied using gravity feed pour pots.

APPLICATION LIFE: Application life when heated is approximately 12 to 15 hours. This may be extended by adding fresh blocks as quantity in the melter decreases. Product should be agitated while being applied. Product may be reheated to application temperature once, after initial heat up. When application life has been exceeded, RoadSaver and Parking Lot products will begin to thicken, become “stringy” and may then gel. If this occurs, product should immediately be removed from the melter and discarded. Asphalt Rubber and PolyFlex products will soften when overheated or heated for too long.

PAVEMENT TEMPERATURES: Apply product when pavement temperature exceeds 40°F (4°C). Lower temperatures may result in reduced adhesion due to presence of moisture or ice. If pavement temperature is lower than 40°F (4°C), it may be warmed using a heat lance that puts no direct flame on the pavement. If installing at lower pavement temperatures than 40°F (4°C), extreme care should be used to insure that cracks or joints are dry and free from ice and other contaminants. Product temperature should be maintained at the maximum (safe) heating temperature. Applied product should be checked by qualified personnel to assure that adhesion is adequate.

CRACK OR JOINT CLEANING: For appropriate adhesion, cracks or joints must be clean and dry immediately prior to installation. After widening or debris removal, and just prior to product installation, final cleaning shall be accomplished using high pressure, dry compressed air to remove any remaining dust. Both sides of the crack or joint shall be cleaned. Surfaces should be inspected to assure adequate cleanliness and dryness.

CRACK SEALING INSTALLATION: Crack sealing consists of installing extensible sealants into routed reservoirs in working cracks in pavements in good condition.

Reservoir Cutting: Based on the 98% LTPPBIND temperature range (difference from high to low), cracks are to be routed as follows:

| Temperature Grade Range | Minimum Reservoir Width | Recommended Reservoir Depth |
|----------------------------|----------------------------|--------------------------------|
| 80°C or less | ½” (12 mm) | ¾” (19 mm) |
| 86°C | ¾” (19 mm) | ¾” (19 mm) |
| 92°C | 1 1/8” (28 mm) | ½” (12 mm) |
| 98° or greater | 1 ½” (38 mm) | ½” (12 mm) |

Reservoir width should not exceed 1 ½” (37 mm). Cutting should remove at least 1/8” (3 mm) from each side and should produce vertical, intact surfaces with no loosely bonded aggregate particles. The pavement should be sound enough to resist significant spalling during cutting. Final reservoir width should not exceed twice the cutter width or 1 ½” (38 mm).

Installation And Finishing: After cleaning, sealant at the required temperature is applied to fill the reservoir. Sealant can be applied with up to a 3/8” (10 mm) underfill, flush fill, or with an overband cap that does not exceed 1/8” (3mm) above the pavement surface, or greater than a 2” (50 mm) width beyond crack edges. These configurations are achieved using appropriate wand tips, shoes or squeegees. To reduce surface tack, Crafco DeTack or other approved material may be applied.

CRACK FILLING INSTALLATION: Crack filling consists of installing flexible, traffic resistant product into prepared, cleaned, non-working pavement cracks. Filler can be installed in either cleaned or routed cracks or in surface overbands.

Routed Reservoir – Routed reservoirs are recommended for longest life. Guidelines for determining reservoir use are:

1. Cracks density should not exceed approximately 20% (linear feet of cracks per square feet of pavement area).
2. Pavement should be sound enough to resist significant spalling during cutting. (Final reservoir width should not exceed double the cutter width, or 1 ½”(38 mm)

Reservoir Dimensions – Determined as follows:

1. The cut should remove at least 1/8” (3mm) from each side of crack and cut back to sound pavement.
2. Minimum width is ½” (12 mm), maximum is 1 ½” (38 mm).
3. Recommended cut depth is ¾” (19 mm).

Cleaned Cracks – Cracks may be cleaned and filled, without reservoir cutting, however longer life is achieved with reservoirs. Cleaning consists of using high-pressure compressed air, or bushing techniques to remove debris.

Surface Overbands – Product can be applied in overbands after crack and surface cleaning with compressed air. Overbands

should not exceed 1/8" (3 mm) high above the pavement surface or extend greater than 2" (50 mm) beyond each crack edge.

Filler Installation and Finishing – Same as sealant installation and finishing.

PCC JOINT SEALING AND RESEALING: Joint sealing consists of installing extensible sealants into sawn and cleaned joint reservoirs in PCC pavements.

Reservoir Cutting – Joint should be formed or sawn to required size. Joints should be at least 1/4" (6mm) wide, and should not exceed 1 1/2" (38mm) wide. Reservoir depth should allow for a sealant depth to width ratio of 1:1 to 2:1, sufficient depth for backer rod, and specified surface recess. Reservoirs shall be cut no deeper than required. Old sealant can be removed by knives, plows or sawing. When resealing, sawing should remove all traces of old sealant to produce cut, clean surfaces.

Reservoir Cleaning – After sawing, joints shall be flushed with water to remove slurry and then allowed to dry. Just prior to installing sealant, both joint surfaces shall be cleaned using sandblasting, brushing or other means to remove remaining of sawing residue. Final cleaning is then done with high-pressure compressed air. Joints are to be inspected to assure cleanliness by rubbing a finger along each face to spot dust or other contaminants. If found, recleaning should occur until joints are clean and dry.

Backer Rod – After cleaning, heat resistant backer rod (ASTM D5249, Type I) approximately 25% larger than the joint width shall be installed uniformly to the required depth and without damage or puncturing.

Sealant Installation – Sealant heated to the required temperature is applied to the joint. Sealant can be applied using a recess, flush, or with a surface overband (maximum 1/8" (3 mm) above the surface, and 2" (50 mm) maximum beyond each joint edge).

APPLICATION PRECAUTIONS: In certain situations, additional consideration needs to be given to product selection and application geometries.

Parking lots and other areas subjected to slow moving traffic and pedestrians: Product must be stiff enough at hot summer temperatures to resist pick up and should not be applied on top of the pavement surface. Product should have a high temperature grade at least one step above the grade for the climate. For even better pick-up resistance, increase by two grades.

Pavement to receive an Overlay, Surface Treatment, or Seal Coat: Product will be subjected to overlay heat effects and carriers for surface treatments and seal coats. If product is applied on top of the pavement, and an overlay is then placed, bumps and overlay shoving may occur. Refer to "Bump Formation & Prevention In Asphalt Concrete Overlays Which Have Been Crack Sealed" for more information. Solvents or other carriers in surface treatments may soften product. Prior to placing a surface treatment or seal coat, a test strip should be placed to verify compatibility of the product and treatment.

High Severity Cracked Areas: Highly cracked areas (fatigue cracks in wheel paths) shouldn't be treated by covering cracks because pavement friction may be affected. These areas can be filled if followed by a surface treatment or overlay to restore friction.

Fuel or Oil Spill Areas: These products should not be used in fuel or oil spill areas due to softening that may occur.

Crack Sealing or Filling in Pavements with Surface Treatments: When crack sealing or filling pavements with chip seals, slurry seals, and open graded friction courses, routing should be deep enough to extend through the surface treatment layer into the underlying asphalt concrete. This anchors product into solid pavement for better bonding.

CLEAN OUT: If equipment used requires clean out, follow the manufacturer's instructions. If solvent is used, insure that it does not contaminate product because dilution and flash problems may occur.

STORAGE: Pallets of product are protected with a weather resistant covering. During storage, this covering must be intact to prevent boxes from getting wet. If wet, boxes may lose strength and crush. Rips in the pallet covering should be repaired to maintain packaging integrity. Pallets should be stored on a dry, level surface with good drainage. Pallets should not be stacked because crushing of bottom boxes may occur. Product properties are not affected by packaging deterioration.

SAFETY PRECAUTIONS: Since these products are heated to elevated temperatures, it is essential that operations be conducted safely. All personnel need to be aware of hazards of using hot applied materials and safety precautions. Before use, the crew should read and understand product use and safety information on the box and the product MSDS. 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 materials causes burns. Over exposure to fumes may cause respiratory tract irritation, nausea, or headaches. Precautions are to be taken to prevent contact with hot material and to avoid inhalation of fumes for everyone in the vicinity. 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 of wands or pour pots used to apply product.
4. Traffic and pedestrian control measures which meet or exceed local requirements to prevent access to work areas while product is in a molten state.
5. Avoidance of material fumes.
6. Proper application configurations with a minimum amount of material excess.
7. Appropriate clean up of excessive applications or product spills.

ADDITIONAL INFORMATION: Additional information regarding these products is available by contacting your distributor or Crafcro, Inc. This information includes:

1. Product Data Sheets,
2. Material Safety Data Sheets,
3. Safety Manual,
4. Sealing Cracks and Joints in Parking and Pedestrian Areas,
5. "Bump Formation & Prevention In Asphalt Concrete Overlays Which Have Been Crack Sealed"
6. Sealant Selection Guide



420 N. Roosevelt Ave. • Chandler AZ 85226
1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513
www.crafco.com

APPLICATION INSTRUCTIONS

HOT-APPLIED SUPERSEAL SEALANTS

JULY 2003

READ BEFORE USING THIS PRODUCT

GENERAL: Crafco Hot-Applied Superseal sealants are liquid, hot-applied, single component materials which when properly applied form resilient and adhesive compounds which effectively seal joints in portland cement concrete pavements. Since Superseal sealants contain coal tar, which is not compatible with asphalts, they should not be used to seal asphalt concrete cracks or joints or in places where they will be in contact with asphalt concrete pavement.

HEATING: Crafco Superseal sealants must be heated in jacketed double boiler type melter units equipped with both agitation and recirculation systems. During heating Superseal sealants will be thin up to temperatures of approximately 170°F (77°C). Between 170°F (77°C) and 200°F (93°C) the sealant will thicken considerably as constituents swell. As temperature increases above 240°F (116°C) the sealant will thin. When 250°F (121°C) is reached, the material circulation pump should be started. Sealant should be heated to between the recommended pouring temperature of 270°F (132°C) and the safe heating temperature of 290°F (143°C). Melter applicators with horizontal agitators should be powered by an engine of at least 16 HP and be equipped with an agitator in first class operating condition. If vertical agitators are used, the engine should have at least 12 HP. The melter applicator should also be equipped with a rotary pump with a 2 inch (5cm) minimum port size and without an internal pressure relief valve. The pumping system should include a 2 inch (5cm) manual bypass that will allow recirculation of the sealant from the pump back into the heating vat at the top of the tank. A 15 foot (5m) sealing hose with a 1 inch (2.5cm) inside diameter, coupled to a sealing wand with a 3/4 inch to 1 inch (1.9-2.5cm) inside diameter is ideal. Superseal sealants must be charged into a clean melter. All residue from previous sealants must be cleaned out of the entire system. This is accomplished by heating the melter to remelt residue and flushing the system with 10 gallons (38L) of Crafco Flush Oil (Part No. 34630). Superseal sealants may be charged into a clean melter as soon as the oil bath heaters and sealant agitator are operational. The entire amount of material may be added at once and the polyethylene liner may also be included. Do not completely fill machine with cold sealant because the material will expand approximately 10 percent when reaching application temperature. Important precautions during heating are as follows:

1. **AGITATION:** It is absolutely essential that continuous agitation of Superseal sealants be maintained when heat is being applied.
2. **TEMPERATURE CONTROL:** Temperature controls and indicators on the sealing machine must be maintained to a degree of accuracy than can be totally relied upon. An additional hand held temperature gauge should also be used to verify sealant temperature.
3. **SAFE HEATING TEMPERATURE:** Do not exceed the safe heating temperature. Temperatures in excess of the safe heating temperature reduce the pot life

drastically and will cause gelling (curing to a solid). When this happens it is necessary to remove the sealant physically from the melter by cutting, scraping, etc. and disposing of properly. Superseal sealants may be remelted if allowed to cool and become solid, however they may not meet the intended specifications and should not be applied to pavement joints. At the safe heating temperature the application life of Superseal sealants is approximately nine hours.

4. **CIRCULATION:** Do not attempt to recirculate Superseal sealants at temperatures under 250°F (121°C)

5. **ADDITION OF FRESH MATERIAL:**

One of the following two methods is recommended:

A. Add full five gallon pail(s), the polyethylene bag liner may be included. A maximum amount of 10% fresh material should be added to the heated sealant. After addition, circulate material through plumbing and applicator wand back into the melter for a minimum of ten minutes after adding fresh material prior to restarting sealant application.

B. Place fresh material into a tray mounted inside the melter lid opening. This tray should control the rate of fresh material addition to one-half gallon,(2L) or less, per minute. The polyethylene bag liner can be added to the melter when most of the fresh material has drained from it. It is not necessary to wait for material reaction when using this method.

Special care should be given to avoid plugging the machine when adding to less than fifty gallons of heated material. Do not apply material that is below the recommended application temperature.

JOINT PREPARATION AND SEALANT APPLICATION:

New Concrete: All joints should be formed or sawed to produce a minimum joint size of 3/8" x 1 1/2"(1.0 x 3.8 cm), on approximately 15 foot (5m) spacing. Joints 1/2 inch (1.2cm) wide should be 1 3/4 inch (4.4cm) deep and 5/8 (1.6cm) inch wide should be 1 7/8 inch (4.8cm) deep. Prior to sealing the joint, surfaces should be cleaned of all dirt, curing compound residue, laitance and any other foreign material. After sawing, immediately flush the joints with water to remove a majority of the saw slurry. After the joints have dried, just prior to applying sealant, the remaining residue must be removed by sandblasting "**Both Joint faces must be adequately sandblasted to remove all traces of sawing residue**". For effective sandblasting the nozzle should be positioned within 2 inches (5cm) of the surface being cleaned. After sandblasting the joint should be cleaned using clean compressed air with a minimum pressure of 90 psi (62 N/cm²). Moisture and oil traps are required on compressor unit. The objective of the above cleaning operations is to provide vertical, intact and clean concrete bonding surfaces which are free from all contaminants and are dry. Joints should be fully inspected to assure that the appropriate level of cleanliness has

been achieved. This can be accomplished by rubbing your finger along each joint face, if any evidence of dust and contamination occur, additional sandblasting should be performed until all dust and contaminants are removed. Non-water absorptive and heat resistant backer rod which is about 25% larger than the joint width should be placed in the joint to provide a minimum sealed depth of 3/4 inch (1.9cm).* Do not puncture the backer rod. Damaged backer rod may cause sealant to bubble. Sealant should be applied at a temperature between the recommended pour temperature and the safe heating temperature. Sealant should be recessed a minimum 1/8 inch (3mm) below the pavement surface. Sealant should not be applied if ambient temperature or joint temperature is below 50°F(10°C) or in excess of 90°F (32°C). Bubbles are known to develop in hot-applied sealant which has been installed in concrete pavements. This phenomenon may develop within the first year of field service when hot summer temperatures occur. Bubbling is generally more noticeable in pavement less than one year old. Hot ambient temperatures can cause moisture in the concrete to vaporize. These moisture vapors can migrate through the sealant creating bubbles. An alternate sealant should be used if bubbling is not acceptable to the project owner. A low modulus non-sag silicone sealant will reduce the chance of bubble formation. Contact the Crafcro Product Manager for further information.

RESEALING: Old sealant should be removed by any appropriate method such as using a joint plow, a router, or hooks. After removal of old sealant, the joint is to be saw cut to an appropriate width to provide clean vertical bonding surfaces which are free from contamination by old sealant. As a general rule, the joint should be sawn to a width which is between 1/8 inch and 1/4 inch (3-6mm) wider than the original joint. The same joint depths listed in the "New Concrete" section should be used. For reservoir width of 3/4 inch (1.9cm), joint depth should be a minimum 1 7/8 inch (4.8cm). The additional sandblasting and cleaning operations contained in the above "New Concrete" section should then be followed.

CLEAN OUT: Superseal sealants should not be reheated and applied. Therefore, the sealing machine must be completely emptied at the end of the sealing run and the entire system flushed with Crafcro Flushing Oil. Ten gallons (38L) of flush oil should be used, circulating it through the bypass system as well as the sealing hose and wand. Once the system has been cleaned and emptied, the flush oil should be disposed of properly and not reused.

SAFETY PRECAUTIONS: All personnel involved with the sealing operation should read the Material Safety Data Sheet for Crafcro Superseal sealants before sealing is started. User should check D.O.T. requirements for transportation of sealant at elevated temperatures above 212°F (100°C).

STORAGE: Superseal sealants should not be stored in direct sunlight, and ambient storage temperature should not exceed 100°F (38°C). Do not store sealant outside under a tarp or plastic cover as this could lead to excessive heat buildup under the cover. Sealant should be stored inside with adequate ventilation.

SAFETY AND USAGE PRECAUTIONS: Since Superseal Sealants must be heated to elevated temperatures to prepare for use, it is essential that operations be conducted in manners which assure safety of the application personnel and other. All

personnel 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 all sections of the product Material Safety Data Sheet. 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.

HAZARDS ASSOCIATED WITH HOT APPLIED MATERIALS: Simply stated, skin contact with hot applied materials will cause burns. Additionally, over exposure to fumes may cause respiratory tract irritation, nausea, or headaches. Therefore, 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 sealing 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 wands or our pots which are used to apply product. 4. Traffic and pedestrian control measures which meet or exceed local 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 Crafcro, Inc. This information includes 1) Product Data Sheets, 2) Material Safety Data Sheets, 3) Safety Manual, 4) Sealant Selection Guide.

*For Crafcro Low-mod Superseal, #34656, minimum depth should be 1/2" (1.2 cm)



Material Safety Data Sheet

Date of Preparation: 03/27/03

Section 1 - Chemical Product and Company Identification

Product Name: Crafcro Roadsaver, Polyflex, Parking Lot, Asphalt Rubber, DF, Superflex, Loop Detector, Pavement Joint Adhesive, Polyfiber, Fiber Asphalt, Marker Adhesive Products

Chemical Name: Modified Asphalt

Chemical Formula: Mixture

CAS Number: Mixture

Manufacturer: CRAFCO, Inc. 420 N. Roosevelt Chandler, AZ 85226

EMERGENCY TELEPHONE NUMBERS: 1(602) 276-0406 Normal Business Hours
Chemtrec 1(800) 424-9300 After Business Hours

Section 2 - Composition / Information on Ingredients

| Ingredient Name | CAS Number | % wt. |
|---|------------|--------|
| Asphalt | 8052-42-4 | 40-95% |
| Vacuum Distillate | 64741-53-3 | 0-20% |
| Petroleum Distillate | 64741-96-4 | 0-20% |
| Hydrotreated Heavy Napthenic Distillate | 64742-52-5 | 0-20% |
| Styrene-Butadiene Block Copolymer | 9003-55-8 | 0-15% |
| Ethylene-Butadiene Block Copolymer | 66070-58-4 | 0-15% |
| Vulcanized Rubber Compound | N/A | 0-25% |
| Mineral Filler | 1317-65-3 | 0-50% |
| Polyester Fibers | 25038-59-9 | 0-10% |

| Ingredient | OSHA PEL | | ACGIH TLV | | NIOSH REL | | NIOSH IDLH |
|------------------------|----------|------|-----------|------|-----------|------|------------|
| | TWA | STEL | TWA | STEL | TWA | STEL | |
| Asphalt | .5 mg.m3 | N.E. | .5 mg/m3 | N.E. | 5 mg/m3 | N.E. | N.E. |
| Vacuum Distillate | 5 mg/m3 | N.E. | 10 mg/m3 | N.E. | N.E. | N.E. | N.E. |
| Petrol. Distillate | 5 mg/m3 | N.E. | 10 mg/m3 | N.E. | N.E. | N.E. | N.E. |
| H.H.N. Distillate | 5 mg/m3 | N.E. | 10 mg/m3 | N.E. | N.E. | N.E. | N.E. |
| SBS Copolymer | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. |
| EBS copolymer | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. |
| Rubber | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. |
| Mineral Filler | 15 mg/m3 | N.E. | 10 mg/m3 | N.E. | N.E. | N.E. | N.E. |
| Fibers | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. |
| N.E.- none established | | | | | | | |

Section 3 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Potential Health Effects

Primary Entry Routes: Inhalation, Skin if product is in liquid state

Inhalation: Inhalation of mists, vapors or fumes may cause headache, nausea, and dizziness. Prolonged exposure to hot asphalt fumes may produce respiratory irritation, pulmonary edema and hypoxia.

Eyes: Exposure to mists, vapors or fumes may cause irritation. Direct contact with hot material will cause thermal burns and possible blindness.

| | |
|-------------|---------|
| HMIS | |
| H | 2 |
| F | 1 |
| R | 0 |
| PPE† | |
| | †Sec. 8 |

Skin: Direct contact with hot material will cause thermal burns. Prolonged exposure may cause dermatitis, drying or irritation.

Ingestion: None expected. Ingestion of hot material will cause thermal burn. Ingestion may cause gastrointestinal disturbances, irritation, nausea, vomiting, blockage and diarrhea.

Carcinogenicity: There is inadequate evidence that bitumens alone are carcinogenic to humans. There is sufficient evidence for the extracts of steam-refined bitumens, air-refined bitumens and pooled mixtures of steam- and air-refined bitumens in experimental animals. There is inadequate evidence for the carcinogenicity of undiluted air-refined bitumens in experimental animals. There is limited evidence for the carcinogenicity of undiluted steam-refined bitumens and for cracking residue bitumens in experimental animals.

Medical Conditions Aggravated by Long-Term Exposure: Respiratory irritation and dermatitis.

Section 4 - First Aid Measures

Inhalation: Remove to fresh air. Apply artificial respiration if necessary. Seek medical attention.

Eye Contact: Flush thoroughly with water. If hot material contacts eyes, flush continuously with water and seek medical attention.

Skin Contact: If burned by hot product, cool affected area with cool water. Do not attempt to remove solidified material from skin as the damaged skin may be easily torn. Do not use solvents. Seek medical attention.

Ingestion: Do not induce vomiting. Seek medical attention.

Section 5 - Fire-Fighting Measures

Flash Point: >400F minimum

Autoignition Temperature: >700F

Lower Explosive Level (LEL): Not determined

Upper Explosive Limit (UEL): Not determined

Flammability Classification: Class III B Combustible

Extinguishing Media: Dry chemical, Carbon Dioxide,

Unusual Fire or Explosion Hazards: This product may ignite when sufficient heat is applied. Smoke from fire may be hazardous.

Combustion Products: Carbon Monoxide, Carbon Dioxide, Sulfur dioxide, Hydrogen Sulfide and other decomposition products of hydrocarbons.

Fire-Fighting Instructions and Equipment: Use of foam or water may cause frothing. Do not release runoff from fire control to sewers or waterways. Use a water spray to cool fire exposed containers. Use air supplied breathing apparatus in enclosed areas where heavy smoke may occur.



Section 6 - Accidental Release Measures

Spill /Leak Procedures: Stop spill at source. Shut off sources of ignition. Confine spill by diking or impoundment. Allow material to cool and scrape up material for disposal. Clean up spill but do not flush to sewer or surface water. Ventilate area and avoid breathing mists, vapors or fumes. Notify local health and pollution control agencies as appropriate. Follow applicable OSHA regulations (29 CFR 1910.120). This material is not a hazardous waste as defined in RCRA. For disposal follow all federal, state and local regulations regarding solid waste.

Section 7 - Handling and Storage

Handling and Storage Precautions: Unheated material presents no known hazards.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Use engineering controls to reduce air contamination to permissible exposure limits and/or threshold limit values (Section 2).

Eye / Face Protection: Safety glasses or goggles and face shield.

Skin Protection: Use gloves that protect against thermal burns when handling hot material. At a minimum wear long sleeved cotton shirt buttoned at the collar and full length cotton pants. Synthetic fibers can melt and adhere to the skin when heated. Do not fold back or roll up cuffs.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH approved respirator.

Section 9 - Physical and Chemical Properties

Physical State: Solid at room temperatures. Liquid above the softening point

Appearance: Black, Dark Brown

Odor: Petroleum

Odor Threshold: Not determined

Vapor Pressure: Not determined

Vapor Density (Air=1): Not determined

Specific Gravity (H₂O=1): 1.0-1.7

Water Solubility: Negligible

Boiling Point: >800F

Melting Point: See Product Data Sheet

% Volatile: <1%

Evaporation Rate: Not determined

pH: Not determined

Section 10 - Stability and Reactivity

Stability: Stable

Polymerization: Will not occur

Chemical Incompatibilities: Strong oxidizing agents

Conditions to Avoid (Stability): None known

Hazardous Decomposition Products: See Section 5

Section 11- Toxicological Information

Carcinogenicity: There is inadequate evidence that bitumens alone are carcinogenic to humans. There is sufficient evidence for the extracts of steam-refined bitumens, air-refined bitumens and pooled mixtures of steam- and air-refined bitumens in experimental animals. There is inadequate evidence for the carcinogenicity of undiluted air-refined bitumens in experimental animals. There is limited evidence for the carcinogenicity of undiluted steam-refined bitumens and for cracking residue bitumens in experimental animals.

Component: Asphalt Cement

Toxic dose- LD 50: 5-15 mg/kg (oral rat)

Section 12 - Ecological Information

Ecotoxicity: No Data

Environmental Transport: No Data

Environmental Degradation: No Data

Soil Absorption: No Data

Section 13 - Disposal Considerations

This product, as supplied, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261). Under the Resource Conservation and Recovery Act, it is the responsibility of the user to determine, at the time of disposal, whether the material is a hazardous waste subject to RCRA.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

Section 14 - Transport Information

Ambient Temperature Material (solid in box)
Proper Shipping Name: Not regulated by D.O.T.
Hazard Class: Not applicable
D.O.T. I.D. No.: Not applicable
D.O.T. Shipping Label: Not regulated by D.O.T.

Hot Material (liquid above 212F)
Proper Shipping Name: Elevated Temperature Liquid N.O.S.
Hazard Class: 9
Packing Group: PGIII
Labels Required: Class 9
Placards Required: "HOT" UN3257

Section 15 - Regulatory Information

U.S. Federal Regulatory Information:

RCRA Hazardous Waste Number; Not listed
RCRA Hazardous Waste Classification (40 CFR 261): This material should not be hazardous due to characteristics

CERCLA: Not listed

CERCLA Reportable Quantity(RQ): This material in its solid form is not a hazardous substance and does not have a reportable quantity. However, if spilled in liquid form into the waters of the U.S., it may be reportable under the Clean Water Act.

| | | |
|----------------------|-----------------------------------|-----|
| SARA 311 Categories: | Immediate (Acute) Health Effects | Yes |
| | Delayed (Chronic) Health Effects | Yes |
| | Fire Hazard | No |
| | Sudden Release of Pressure Hazard | No |
| | Reactivity Hazard | No |

EPA/TSCA Inventory: yes

State Regulations: The following chemicals are specifically listed by individual states, for details on each states regulatory requirements you should contact the appropriate agency in that state.

Pennsylvania Right-to-Know-Limestone (calcium carbonate), Asphalt (fumes)

Rhode Island Hazardous Substances List-Limestone (calcium carbonate). Asphalt (fumes)

Florida Hazardous Substance List- Asphalt (fumes)

Minnesota Right-to-know-Limestone (calcium carbonate), Asphalt (fumes)

Massachusetts Right-to-Know-Limestone (calcium carbonate), Asphalt (fumes), mineral oil, petroleum distillates, heavy naphthenic, carcinogen, extraordinarily hazardous

New Jersey Right-to-Know- Asphalt (fumes)

Texas Air Contaminants With Health Effects Screening Level

Illinois Toxic Substance Disclosure to Employees List

California State Superfund Hazardous Substance

California Proposition 65 Carcinogens or Reproductive Toxins List: This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

Other Regulations: None known

Foreign Inventories: Canadian WHMIS

Section 16 - Other Information

NFPA Hazard Rating

| | |
|--------------|------------|
| - Health | 2 Moderate |
| - Fire | 1 Slight |
| - Reactivity | 0 Least |

Prepared By: John Hobbs **Phone:** 602-276-0476

Preparation Date: 03/27/03

Supersedes MSDS Dated: 05/12/02

Disclaimer: CRAFCO, INC. PROVIDES THIS INFORMATION FOR THE USER'S CONSIDERATION. CRAFCO, INC. BELIEVES THE INFORMATION IS ACCURATE, BUT NOT ALL INCLUSIVE, IN ALL CIRCUMSTANCES. USER SHOULD ENSURE THAT USER HAS CURRENT DATA RELEVANT FOR ITS' PUPOSES. NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY, FITNESS OR OTHERWISE IS GIVEN.



Date of Preparation: 04/28/03

Section 1 - Chemical Product and Company Identification

Product Name: Crafcro Superseal 777, 1614A, Low-Mod JFR
Chemical Family: Aromatic Hydrocarbons and Aromatic Oils
Chemical Formula: Mixture
CAS Number: Mixture
Manufacturer: CRAFCO, Inc. 420 N. Roosevelt Chandler, AZ 85226

EMERGENCY TELEPHONE NUMBERS: 1(602) 276-0476 Normal Business Hours
 Chemtrec 1(800) 424-9300 After Business Hours

Section 2 - Composition / Information on Ingredients

| Ingredient Name | OSHA PEL | | ACGIH TLV | | NIOSH REL | | NIOSH IDLH |
|------------------------------------|-----------|---------|-----------|------|-----------|------|------------|
| Ingredient | TWA | STEL | TWA | STEL | TWA | STEL | IDLH |
| Refined Tar | 0.2 mg/m3 | N.E. | 0.2mg/m3 | N.E. | N.E. | N.E. | N.E. |
| Distillates, Heavy Thermal Cracked | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. |
| Polyvinyl Chloride | N.E. | 5 mg/m3 | 10 mg/m3 | N.E. | N.E. | N.E. | N.E. |
| Butyl Benzyl Phthalate | 5 mg/m3 | N.E. | 5 mg/m3 | N.E. | N.E. | N.E. | N.E. |
| Mineral Filler | 15 mg/m3 | N.E. | 10 mg/m3 | N.E. | N.E. | N.E. | N.E. |
| N.E.- none established | | | | | | | |

Section 3 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

HMIS
H 2
F 1
R 0
PPE†
 †Sec. 8

Potential Health Effects

Primary Entry Routes: Inhalation and Absorption

Inhalation: Exposure to product fumes, vapors or mist may result in irritation to the respiratory tract. Prolonged exposure in excess of the permissible exposure air concentrations may result in acute toxic effects such as respiratory difficulty, convulsions, central nervous system effects and possible cardiovascular collapse.

Eyes: Exposure to product fumes, vapors or mists may cause irritation. Liquid exposure may cause irritation. Symptoms may include a burning sensation, intolerance to light, redness/swelling/tearing, and possible erosion of the surface of the cornea. Contact with hot material will cause thermal burns.

Skin: Short-term contact with the skin can result in irritation which when accentuated by sunlight may result in a phototoxic reaction. Prolonged and repeated liquid contact can cause dermatitis, folliculitis, oil acne or skin tumors. Absorption through the skin may cause liver damage. Contact with hot material will cause thermal burns.

Ingestion: Ingestion may cause irritation of the gastrointestinal tract followed by one or more of the following: nausea, vomiting, abdominal discomfort. Significant ingestion could result in liver damage.

Medical Conditions Aggravated by Long-Term Exposure: Individuals with chronic respiratory or pre-existing skin disorders may be adversely affected by exposure to product fumes, vapors or mists. Persons with a history of liver disease, kidney disease or central nervous system depression are at a greater than normal risk of developing adverse health effects when working with this product.

Effects of Acute Exposure: Exposure to product fumes, vapors or mists at concentrations above the PEL/TLV may lead to systemic symptoms (salivation, vomiting, respiratory difficulties, dizziness, headache, loss of pupillary reflexes, cyanosis, hypothermia, and mild convulsions).

Effects of Chronic Exposure: Inhalation of fumes, vapors or mists over a prolonged period of time may present a lung cancer hazard. Prolonged and repeated skin contact in the absence of recommended hygiene practices may cause oil acne, folliculitis, and more serious skin disorders (e.g. changes in skin pigmentation, ulcerations, benign skin growths, skin cancer).

Carcinogenicity: The International Agency for Research on Cancer (IARC), the National Toxicology Material Program (NTP), the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) have determined that there is sufficient evidence that coal tar products are carcinogenic in humans and animals and aromatic oils are carcinogenic in animals. IARC and NTP have concluded that certain polycyclic aromatic hydrocarbons (i.e. Chrysene, Benz(A)Anthracene and fluoranthene) are probably carcinogenic in humans (Group 2B).

Section 4 - First Aid Measures

Inhalation: Remove to fresh air. Apply artificial respiration if needed. Seek medical attention.

Eye Contact: Flush eyes immediately with large amounts of water for at least 15 minutes. Seek medical attention.

Skin Contact: Remove all contaminated clothing and wash exposed area thoroughly with nonabrasive soap and water.

Ingestion: If person is conscious, first induce vomiting to prevent further absorption. After vomiting, the victim may be given a slurry of 100 g of activated charcoal in 8 ounces of water. Do not give anything by mouth to an unconscious person. Seek medical attention.

Section 5 - Fire-Fighting Measures

Flash Point: 300F

Autoignition Temperature: Not determined

Lower Explosive Level (LEL): Not determined

Upper Explosive Limit (UEL): Not determined

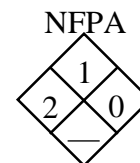
Flammability Classification: Class IIIB

Extinguishing Media: CO₂, dry chemical, foam, water spray

Unusual Fire or Explosion Hazards: Material is not a combustible liquid per the OSHA Hazard Communication Standard but will ignite and burn at temperatures exceeding the flash point. Closed containers may explode when exposed to extreme heat. Water spray may cause frothing.

Combustion Products: Carbon Monoxide, Carbon Dioxide, Sulfur Dioxide, Hydrogen Sulfide. Upon decomposition (burning), may emit toxic fumes/vapors which can form flammable/explosive mixtures in air.

Fire-Fighting Instructions and Equipment: Do not release runoff from fire control methods to sewers or waterways. Use a foam or water spray to cool containers. Use self-contained breathing apparatus and full protective equipment where heavy smoke appears.



Section 6 - Accidental Release Measures

Spill /Leak Procedures: Stop spill at source if possible without hazard. Remove sources of heat or ignition. Avoid breathing vapors, mists, or fumes. Avoid skin contact. Cleanup personnel should be provided with appropriate clothing. Contain spilled material by diking/berming with absorbent solids such as sand or soil. Do not release runoff into sewer or waterways. In cases involving release to the environment such as a waterway of the United States, contact the National Response Center at 1-800-424-8802. In Canada report releases to the appropriate Provincial authorities. This material is a hazardous waste as defined in RCRA.

Section 7 - Handling and Storage

Handling and Storage Precautions Avoid prolonged or repeated contact with the skin or breathing fumes, vapors or mists. Use appropriate grounding and bonding practices. Wear appropriate protective equipment when performing maintenance on contaminated equipment. Store in properly closed, labeled containers away from sources of ignition. Store containers in a well ventilated, clean and dry area. Store at less than 100F and out of direct sunlight.

Work Hygiene Practices: Exercise good personal hygiene including the removal of contaminated clothing and prompt washing with soap and water.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Use local or general exhaust ventilation in enclosed areas or if there is inadequate ventilation to control exposure.

Eye / Face Protection: Safety glasses or goggles and face shield where splashing may occur. Wear protective eyeglasses including side shields or safety goggles per OSHA eye and face protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Skin Protection: Full industrial-type clothing closed at the neck and sleeves. Wear chemical resistant gloves (e.g. nitrile, Viton, Tyvek/Saranex 23) and chemical resistant footwear and coveralls. Use of barrier creams (sunscreens) may be beneficial.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH approved respirator. Select respirator based on its suitability to provide maximum worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *WARNING! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Safety Stations Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Black high viscosity liquid

Odor: Aromatic

Odor Threshold: Noticeable

Vapor Pressure: Not available

Vapor Density (Air=1): Not available

Specific Gravity (H₂O=1): 1.2-1.35

Water Solubility: Not soluble

Boiling Point: Not available

Melting Point: Not available

% Volatile: Not available

Evaporation Rate: Not available.

pH: Not available

Section 10 - Stability and Reactivity

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Will not occur

Chemical Incompatibilities: Strong oxidizing agents such as chlorates, nitrates, and peroxides.

Conditions to Avoid (Stability): None known

Hazardous Decomposition Products: Carbon Monoxide, Hydrogen Sulfide, Aldehydes, Aromatics. Irritating and/or toxic fumes maybe released if burned.

Section 11- Toxicological Information

Acute Studies: None known

Eye Effects: Not known

Skin Effects: Lifetime skin painting studies with materials similar to major components of Crafcro Superseal 777, 1614A and Low-Mod JFR have produced tumors following prolonged and repeated skin contact. Repeated dermal application of these materials (30 MG/KG/Day for 13 weeks) resulted in anemia, liver degeneration, and injury to bone marrow and lymphoid tissues. Treatment related mortality and body weight reduction was observed at 500 MG/KG. Repeated dermal application (125 MG/KG/Day) of these materials to pregnant rats during gestation produced maternal and fetal toxicity. Increased resorptions were observed at doses of 30 MG/KG/Day and above.

Acute Oral Effects: None known

Acute Inhalation Effects: None known

Section 12 - Ecological Information

Ecotoxicity: Product can foul shoreline and be toxic to aquatic life.

Environmental Transportation; No data

Environmental Degradation; No data

Soil Absorption/Mobility; No data

Section 13 - Disposal Considerations

Under the Resource Conservation and Recovery Act, it is the responsibility of the user to determine, at the time of disposal, whether the material is a hazardous waste according to RCRA.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268, and 270. Disposal can occur only in the properly permitted facilities. Check state and local regulations for any additional requirements, as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this product may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity or other sources of ignition. They may explode and cause injury or death. Recommend using a non-hazardous solvent to remove the product. Follow Federal, state and local regulations for the disposal of the waste material, regardless of its' waste classification.

Section 14 - Transport Information

Proper Shipping Name: Other regulated substances, liquid, N.O.S.

Hazard Class: 9

DOT ID No.: UN 3082

DOT Shipping Label: Class 9

Section 15 - Regulatory Information

U.S. Federal Regulatory Information:

| | |
|---|-----|
| OSHA Hazard Communication Standard (29 CFR 1910.1200) | Yes |
| SARA 311 Categories: | |
| Immediate (Acute) Health Effects | Yes |
| Delayed (Chronic) Health Effects | Yes |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactivity Hazard | No |

EPA/TSCA Inventory: This product and/or its components are listed on the TSCA Chemical Inventory. Additional reporting (Tier II, Tier I or Toxic Chemical Release Reporting) may be required.

State Regulations: The following chemicals are specifically listed by individual states, for details on each states regulatory requirements you should contact the appropriate agency in that state.

Pennsylvania Right-to-Know- Limestone (calcium carbonate)

Rhode Island Hazardous substance List- Limestone (calcium carbonate)

Minnesota Right-to-Know- Limestone (calcium carbonate)

Massachusetts Right-to-Know- Limestone (calcium carbonate), petroleum distillates

California Proposition 65 Carcinogens or Reproductive Toxins List: This product contains a chemical known to the State of California to cause cancer ,birth defects, or other reproductive harm.

This product maybe regulated by Louisiana's Right-to-Know law. Review applicable state regulations to determine the regulatory status of this product.

Section 16 - Other Information

NFPA Hazard Rating

| | |
|--------------|------------|
| - Health | 2 Moderate |
| - Fire | 1 Slight |
| - Reactivity | 0 Least |

Prepared By: John Hobbs

Phone: (602) 276-0476

Preparation Date: 04/28/03

Supersedes MSDS Dated: 03/25/02

Disclaimer: CRAFTCO, INC. PROVIDES THIS INFORMATION FOR THE USER'S CONSIDERATION. CRAFTCO, INC. BELIEVES THIS INFORMATION IS ACCURATE, BUT NOT ALL INCLUSIVE, IN ALL CIRCUMSTANCES. USER SHOULD ENSURE THAT USER HAS CURRENT DATA RELEVANT FOR ITS' PUPOSES. NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY, FITNESS OR OTHERWISE IS GIVEN.



420 N. Roosevelt Ave. • Chandler AZ 85226
 1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513
 www.crafco.com

PRODUCT DATA SHEET
ROADSAVER 201
 PART NO. 34201

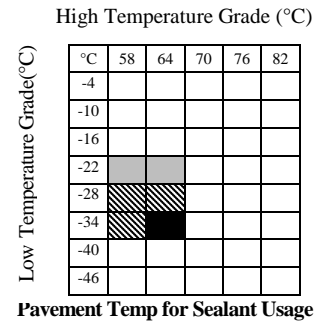
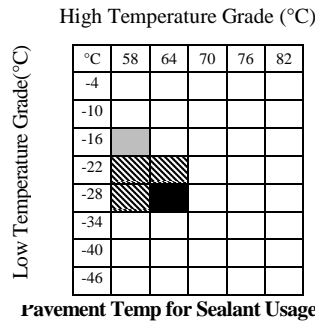
JANUARY 2002

READ BEFORE USING THIS PRODUCT

GENERAL Crafco RoadSaver 201 is a single component, hot-applied, petroleum based product which is used to seal and fill cracks and joints in both asphalt or portland cement concrete pavements in moderate to cold climates. RoadSaver 201 is supplied in solid form which when melted and properly applied forms a highly adhesive and flexible compound that resists cracking in the winter and is resistant to flow at summer temperatures. RoadSaver 201 can be used in highway, street and airfield pavements. It can be applied to pavement cracks and joints using pressure feed melter applicators or pour pots. At application temperature, RoadSaver 201 is a medium viscosity product. The unique formulation of RoadSaver 201 contains a minimum of 18% recycled rubber by weight of asphaltic components.

USAGE GUIDELINES RoadSaver 201 pavement temperature performance limits are 64-28 for crack sealing and 64-34 for crack filling. Usage recommendations are shown in Crafco pavement temperature grade charts shown at the right. Refer to Crafco Product Selection Procedures to determine sealant or filler use and pavement temperature grades.

| | | | |
|--|--|--|--------------------|
| | | | Suited for Use |
| | | | Recommended |
| | | | Performance Limits |
| | | | Not Recommended |



SPECIFICATION CONFORMANCE RoadSaver 201 meets all requirements of ASTM D6690, Type II, "Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements", (formerly ASTM D3405), and AASHTO M301. RoadSaver 201 exceeds requirements of ASTM D6690, Type I, ASTM D1190, AASHTO M173, and Federal Specification SS-S-164.

| | |
|-------------------------------|-----------------------------------|
| Test | ASTM D6690, Type II Limits |
| Cone Penetration, 77°F (25°C) | 90 max. |
| Resilience, 77°F (25°C) | 60% min |
| Flow, 140°F (60°C) | 3mm max. |
| Bond, -20°F, 50% ext. | Pass 3 cycles |
| Asphalt Compatibility | Compatible |
| Recommend Pour Temperature | 380°F (193°C) |
| Safe Heating Temperature | 410°F (210°C) |

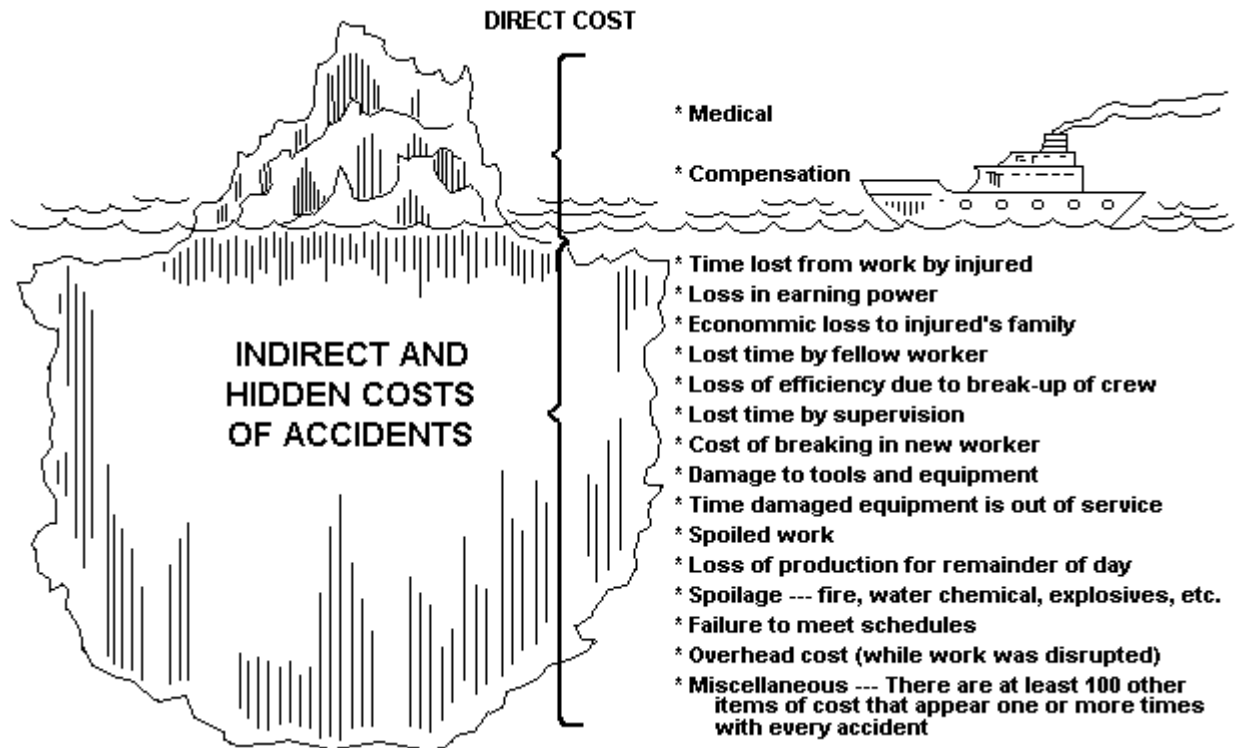
APPLICATION The unit weight of Crafco RoadSaver 201 is 9.3 lbs. per gallon (1.12 kg/L) at 60°F (15.5°C). **Prior to use, the user must read and follow Application Instructions** for Hot Applied RoadSaver, PolyFlex, Parking Lot and Asphalt Rubber Products (January 2002) to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each pallet of product.

PACKAGING Packaging consists of individual boxes of product which are palletized into shipping units. Boxes contain a non-adherent film which permits easy removal of the product. Each pallet contains 72 boxes which are stacked in six layers of 12 boxes per layer. The weight of product in each box does not exceed 40 lbs. (18kg) and pallet weights do not exceed 2,880 lbs. (1310kg) Pallets of product are weighed and product is sold by the net weight of product. Product boxes are manufactured from double wall kraft board producing a minimum bursting test certification of 350 psi (241 N/cm²) and using water resistant adhesives. Boxes use tape closure and do not contain any staples. Boxes are labeled with the product name, part number, lot number, specification conformance, application temperatures and safety instructions. Palletized units are protected from the weather using a three mil thick plastic bag, a weather and moisture resistant cap sheet and a minimum of two layers of six month u.v. protected stretch wrap. Pallets are labeled with the product part number, lot number and net weight. Application Instructions are provided with each pallet in a weather resistant enclosure.

WARRANTY CRAFTCO, Inc. warrants that CRAFTCO 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.**

**FOR YOUR
INFORMATION**

THE HIDDEN COSTS OF ACCIDENTS



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

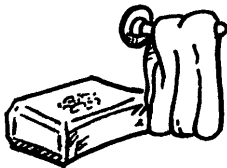
WHAT DOES A WORK ACCIDENT *REALLY* COST?



A bakery must bake 47,620 loaves of bread at .75 cents a loaf.



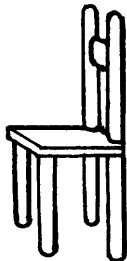
A supermarket must ring up 1,540 sales of \$25 each.



A soap manufacturer must produce 39,680 bars of soap at 20 cents a bar.



A tool maker must manufacture 910 hammers at \$10 each.



A furniture manufacturer must make 120 \$50 chairs.

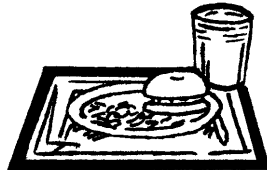
How much does a work accident really cost in terms of production? Manufacturers' and suppliers' costs in the adjacent examples are estimated on the basis of figures published by *Business Week*. The costs may vary somewhat from the figures used, depending on outside factors affecting a particular operation's actual production cost. This representative sample of manufacturers and suppliers of typical goods and services shows the production needed to offset a \$500 work accident loss if paid directly out of profits by the producer.



A paint manufacturer must produce 2,305 seven-dollar gallons of paint.



A garment manufacturer must sell 640 men's \$15 shirts.



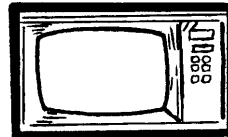
A restaurant must serve 1,940 three-dollar lunches.



A publisher must sell 25,315 newspapers at 25 cents each.



A telephone company must handle 30,120 local 20-cent pay phone calls.



An electronics factory must build 20 color TV sets at \$400 each.



An appliance factory must make 1,350 electric irons at \$10 each.



A department store must sell 12,500 pairs of boy's socks at \$1.25 a pair.



A meat packer must process 29,760 pounds of hamburger at \$1.40 a pound.

Journal of American Insurance

APPENDIX A

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

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 A

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 A

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 A

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

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



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:

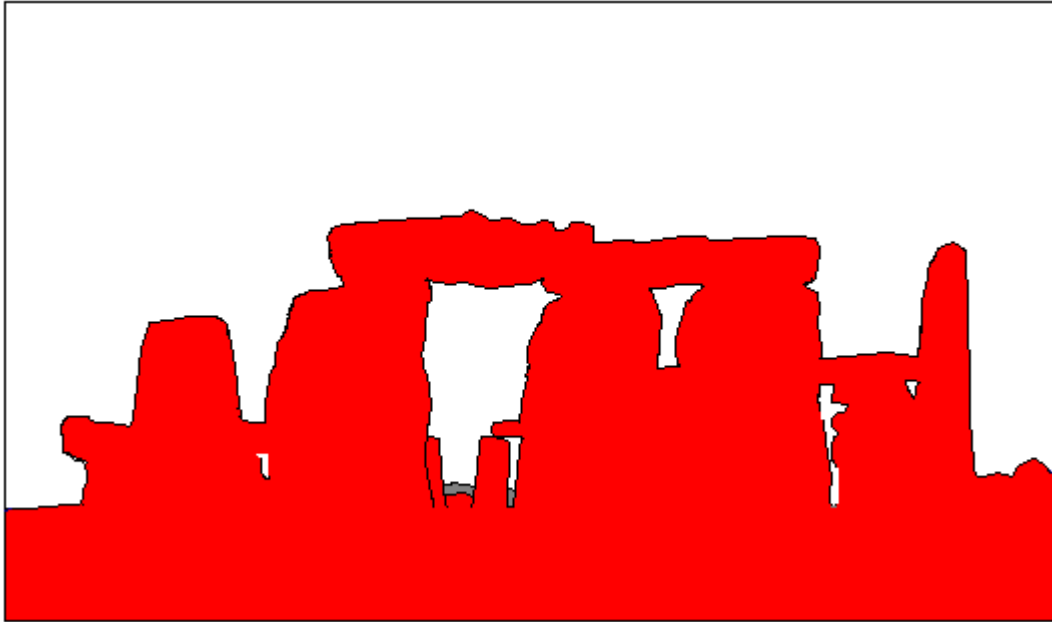
1. Keep victim lying down and quiet.
2. Keep victim covered with a blanket or something similar to keep body temperature at normal, 98°F (37°C).
3. Keep victim's head lower than feet to promote blood supply to head and chest.

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.



SINCE THE DAWN
OF CIVILIZATION
MAN HAS HAD TO FACE
THE CONSEQUENCES
OF FIRE AND BURN
EMERGENCIES . . .

. . . NOW THERE'S
WATER-JEL





THERE'S A WATER-JEL PRODUCT TO FIT ANY EMERGENCY.

As the use of Water-Jel has spread, there is an increased need for specialized products. Today, Water-Jel offers fire blankets and sterile burn dressings for virtually any circumstance.

STERILE DRESSINGS

WATER-JEL BURN DRESSINGS

- Five sizes: 2" x 6" (5 cm x 15 cm); 4" x 4" (10 cm x 10 cm); 4" x 16" (10 cm x 40 cm) 8" x 18" (20 cm x 46 cm)

- Ideal for small burns
- Available in foil packets

WATER-JEL FACE MASK

- 12" x 16" (30.5 cm x 40.5 cm)
- Allows for free access to nasal passages, mouth and eyes
- Will not irritate skin or eyes
- Does not adhere to skin



BLANKETS

WATER-JEL HEAT SHIELD

- 8' x 6' (244 cm x 183 cm)
- Protects rescuer from heat and flames
- Extinguishes flames on burning victims
- Available in canister

WATER-JEL FIRE BLANKET PLUS

- 6' x 5' (183 cm x 152 cm). Standard fire blanket size
- All the benefits of the Heat Shield
- Available in canister or pouch

WATER-JEL BURN WRAP/ EXTINGUISHER

- 3' x 2'6" (91 cm x 76 cm)
- Designed for localized burns
- Extinguishes small fires
- Available in canister or pouch



WATER-JEL®

SINCE MAN DISCOVERED FIRE, THERE'S NEVER BEEN A BURN CARE PRODUCT THAT'S DONE SO MUCH.

For centuries, the methods used for fire and burn emergencies have been painfully inadequate. But now Water-Jel® Fire Blankets and Sterile Burn Dressings have revolutionized the way we can approach such an emergency.

Water-Jel is a simple-to-use, one-step product that efficiently performs numerous fire protection, rescue and emergency burn care tasks. The scientifically-formulated gel combines with a special carrier material to:

- Provide long-lasting emergency burn care
- Put out flames on victims
- Shield rescuer and victim from intense heat and flames
- Extinguish small fires

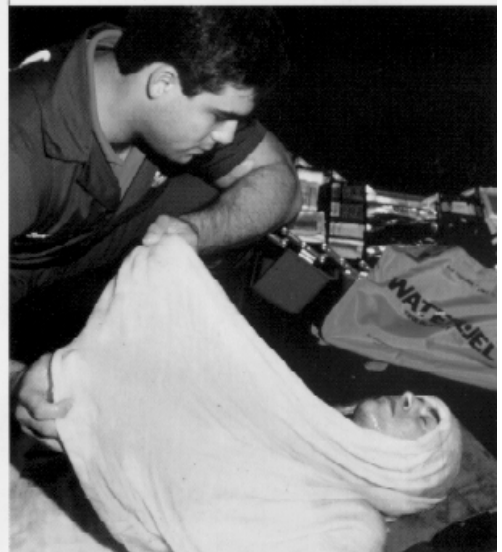
Water-Jel can be used on all types of burns. The United States Army and the Illinois Institute of Technology Research have even found it to be effective on white phosphorous.

When applied to a burn, Water-Jel:

- Immediately cools the skin
- Eases the pain
- Stabilizes skin temperature
- Helps calm the victim
- Cools through transference reducing the risk of hypothermia
- Protects covered wound from further contamination
- Is water soluble to facilitate removal of burnt clothing
- Won't harm skin or eyes
- Does not require a water source for continuous cooling

Water-Jel is easy to store and transport. It comes packaged in heat sealed foil packets or, in its larger sizes, airtight canisters. And because it requires no special training to use, Water-Jel is ideal for all types of industries, businesses, government facilities and the military as well as medical and emergency organizations.

Modern technology applied to fire protection and emergency burn care... that's Water-Jel. If it's not on hand... you're playing with fire.



WATER-JEL®

MAKES SENSE WHEREVER A FIRE OR BURN EMERGENCY MAY OCCUR.

Water-Jel is so easy to store and carry that it makes sense for it to be available wherever you might place a fire extinguisher. Here is just a partial listing of the major areas where it can be useful:

INDUSTRIAL

- Power Plants, Refineries, Welding Facilities...
any plant facility
- Outside/Location Work Site
- Trucks
- Utilities

BUSINESSES

- Retail Establishments
- Restaurants/Fast Food
- Hotels
- Cleaners
- Airplanes
- Cruise Ships
- Busses/Trains

HOSPITAL/MEDICAL

- Emergency Rooms
- Ambulances
- Laboratories
- Industrial Physicians' or Nurse' Stations
- EMS Facilities and Vehicles

MILITARY

- Hospitals
- First Aid Stations
- Transport Vehicles Aircraft
- Naval Carriers
- Individual Personnel First Aid Supply

OTHER GOVERNMENT FACILITIES

- Police/Law Enforcement Agencies, Fire Departments,
- Educational Institutions
- Power/Electric Facilities

WATER-JEL®

TECHNOLOGIES

243 Veterans Boulevard, Carlstadt, NJ 07072
(201) 507-8300 • FAX: (201) 507-8325 • TELEX: 798217 BDI USA

SOME OF THE COMPANIES AND ORGANIZATIONS WHO ARE SOLD ON WATER-JEL

Allied Chemical
Allstate Insurance Co.
Aluminum Company of America
American Cyanamid
Amoco Oil Co.
Arco Oil & Gas
A.T.&T.
Bristol Myers Products
British Railway System
Brooklyn Union Gas Co.
Carter Mining Co.
Cascade Steel Rolling Mills, Inc.
Caterpillar Tractor Co.
Chase Manhattan Bank
Chinese Petroleum co.
Con Edison
Corning Glass Works
Danish Ferry System
Delco Remy Div. GMC
Drew Chemical Corp.
E.I. DuPont
Elf Aquitaine Norge A/S
Exxon Corporation
Federal Reserve Bank
FMC Corporation
Fredrikstad E-verk
General Electric Co.
General Motors
Getty Oil Co.
Gulf Oil Co.
Haukeland Sykehus
Hercules, Inc.
Hooker Industrial Chemicals Div.
Hotell Gustaf Froding
I.B.M. Corporation
Indian Railways
Indian Telephone System
Israeli Defense Forces
Italian Army
Kendall Co.
Kimberly-Clark
Lockheed Missiles & Space Co.
Long Island Lighting Co. (LILCO)
Maersk Lines
Mayamar Marine
Mobil Chemical Co.
Nitro Nobel-Nora
Norsk Hydro A/S
Northern Natural Gas Co.
Norwegian Army
Pacific Gas & Electric
Pennsylvania Power & Light
Phillips Petroleum Co.
Power Authority State of N.Y.
Proctor Silex Corporation
Public Service Electric & Gas Co. (NJ)
Ramada Inn
RCA Corporation
Saab-Scania Trolhatten
S A S
Saudi Defense Forces
Shell Chemical Co.
Shell Oil Co.
Stauffer Chemical Company
Sun Chemical Corp.
T'ao Yuan Oil Refinery
Texaco, Inc.
U.N. Forces-Lebanon
Union Oil Co. of California
U.S. Army
U.S. Coast Guard
U.S. Forest Service
U.S. Navy
U.S. Steel Company

COPYRIGHT WATER-JEL 1991 079110MABF

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 Crafcoc or your local distributor prior to the operation of any Crafcoc machinery.

**Pioneering Leadership and
Innovation in Quality
Pavement Maintenance
Materials.**



420 N. Roosevelt Avenue • Chandler, Arizona 85226

(602) 276-0406 • (800) 528-8242

FAX (480) 961-0513

www.crafco.com

© Copyright 2003 by Crafco Inc.