MATERIAL SAFETY DATA SHEET

TOLUENE

PAVE CHEM
SEALERS AND CLEANERS FOR HARDSCAPES

SECTION I – PRODUCT IDENTIFICATION

Manufacturer's Name:
Unocal Chemicals Division - Petrochem. Group
Union Oil Company of California
1345 North Meacham Road
Schaumburg, IL 60196
1-800-424-9300 (cont. US)
1-202-483-7616 (collect)

Name: Toluene
Class: Flammable Liquid
CAS No.: 108-88-3 Toluene
UN No.: UN1294

SECTION II – HAZARDOUS INGREDIENTS

Toluene 99 - 100%

SECTION III – PHYSICAL DATA

VOC: 871 g/L
BOILING POINT: 231-232°F
VAPOR DENSITY: 3.2
EVAPORATION RATE: 1.90
% VOLATILE: 100%
% SOLUBILITY IN WATER: <0.1
VAPOR PRESSURE: 24 (mm Hg)
Clear, little if any color, liquid with a characteristic odor.

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 45°F

LOWER EXPLOSIVE LIMIT (% VOL.): 1.0

UPPER EXPLOSIVE LIMIT (% VOL.): 7.0

EXTINGUISHING MEDIA: Dry Chemical, Carbon Dioxide, Halon, Foam or Water Spray is recommended. Water may be ineffective.

UNUSUAL FIRE & EXPLOSION HAZARD: This material is flammable and may be ignited by heat, sparks, flame, or other sources of ignition (eg. static electricity, Pilot lights, Mechanical/Electrical equipment). Vapors may travel considerable distances to a source of ignition where they may ignite, flashback or explode. Vapor/Air explosion hazard indoors/outdoors or in sewers. Vapors are heavier than air and may accumulate in low areas. If container is not properly cooled, it may explode in the heat of a fire.

SPECIAL FIREFIGHTING PROCEDURES: Wear appropriate protective equipment including respiratory protection as conditions warrant. Stop spill/release if it can be done without risk. Water spray may be useful in minimizing or dispersing vapors and cooling equipment exposed to heat and flame. Avoid spreading burning liquid with water used for cooling purposes.

SECTION V – HEALTH HAZARD DATA & FIRST AID PROCEDURES

EYE CONTACT: This material is an eye irritant. Direct contact with liquid or exposure to vapors or mists may cause stinging, tearing, redness and swelling

SKIN CONTACT: This material may cause mild skin irritation. Prolonged or related contact may cause redness, burning, and drying and cracking of the skin. Contact may result in skin absorption but symptoms of toxicity are not anticipated the route alone under normal conditions of use. Persons with pre-existing skin disorders may be more susceptible to the effects of this material.

INHALATION (Breathing): While this material has a low degree of toxicity, breathing high concentrations of vapors or mists may cause irritation of the nose and throat and signs of nervous system depression (eg. Headache, Drowsiness, Dizziness, Loss of coordination and Fatigue). Respiratory symptoms associated with pre-existing lung disorders (eg. Asthma-like conditions) may be aggravated by exposure to this material.

INGESTION (Swallowing): While this material has a low degree if toxicity, ingestion of excessive quantities may cause irritation of the digestive tract and signs of nervous system depression (eg. Headache, Drowsiness, Dizziness, Loss of coordination and Fatigue).

ASPIRATION HAZARD - this material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

COMMENTS: Intentional misuse by deliberate inhalation of toluene has been shown to cause liver, kidney and brain damage. Concentrating and inhaling this product may be harmful or fatal. Exposure to high concentrations of toluene can cause irreversible changes in the genetic material (DNA) of a cell. Persons with pre-existing heart disorders may be more susceptible to irregular heartbeats (arrhythmias) if exposed to high concentrations. Toluene causes harm to the fetus in laboratory animal studies.

FIRST AID PROCEDURES

EYE CONTACT: Move victim away from exposure and into fresh air. If irritation or redness develops, flush eyes with clean water and seek medical attention. For direct contact , hold eyelids apart and flush affected area with clean water for at least 15 minutes. Seek medical attention.

SKIN CONTACT: Remove contaminated shoes and clothing and cleanse effected areas thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.

INHALATION (Breathing): If respiratory symptoms or other symptoms of exposure develop move victim away from source of exposure and into fresh air, If symptoms persist, seek medical attention. If victim is not breathing, immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

INGESTION (Swallowing): This material is a potential Aspiration Hazard. If swallowed, seek emergency medical attention. If victim is drowsy or unconscious, place on the left side with the head down and do not give anything by mouth. Because of potential toxicity, if victim is conscious and alert, vomiting should be induced for ingestion of large amounts (more than 5 ounces in an adult) preferably with syrup of ipecac under direction from a physician or poison center. If possible, do not leave victim unattended.

SECTION VI – REACTIVITY DATA

STABILITY: Stable under normal conditions of storage and handling.

CONDITIONS TO AVOID: Avoid all possible sources of ignition.

INCOMPATIBILITY: This product is incompatible with strong acids or bases, oxidizing agents and select amins.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may yield carbon monoxide and/or carbon dioxide. Do not breathe smoke or fumes. Wear appropriate protective equipment.

SECTION VII – SPILL OR LEAK PROCEDURES

RELEASE OR SPILL:

- Flammable. Keep all sources of ignition and hot metal surfaces away from spill/release.
- Stay upwind and away from the spill/release.
- Isolate hazard area and limit entry to emergency crew.
- Stop spill/release if it can be done without risk.
- Wear appropriate protective equipment including respiratory protection as conditions warrant.
- Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways.
- Dike ahead of spill for later recovery or disposal.
- Spilled material may be absorbed into an appropriate absorbent material.
- Notify fire authorities and appropriate federal, state and local agencies.
- Immediate cleanup of any spill is recommended.

SECTION VIII – SPECIAL PROTECTION

VENTILATION: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used.

RESPIRATORY PROTECTION: Respiratory protection is advised when concentrations exceed the established exposure limits. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (NIOSH approved, if available) or supplied air equipment.

PROTECTIVE GLOVES: The use of gloves impermeable to the specific material handled is advised to prevent skin contact, possible irritation and absorption.

EYE PROTECTION: Approved eye protection to safeguard against potential eye contact, irritation or injury is recommended.

OTHER PROTECTIVE EQUIPMENT: It is suggested that a source of clean water be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

SECTION VIII – STORAGE AND SPECIAL PRECAUTIONS

- Keep containers tightly closed.
- Use and store this material in a cool, dry, well ventilated area away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Store only in approved containers.
- Post area "No Smoking or Open Flame".
- Bond and ground all equipment when transferring from one vessel to another.
- Keep away from incompatible materials.
- Protect containers against physical damage.
- The use of explosion-proof equipment is recommended and may be required.
- Do not enter confined areas such as tanks pits without following proper entry procedures such as ASTM D-4276.
- Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.
- The use of respiratory protection is advised when concentrations exceed the established exposure limits.
- Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice.
- "Empty" containers contain residue (liquid or vapor) that can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition; they may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance the governmental regulations.
- Before working on or in tanks which contain or have contained this product, refer to occupational safety and health administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

MSDS updated 12/98