1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Karna Klean Asphalt & Tar Remover
GENERAL USE: Cleaner/degreaser for heavy industrial soils.
PRODUCT DESCRIPTION: Citrus Solvent Cleaner
CHEMICAL FAMILY: Solvent/detergent blend

DISTRIBUTOR
Karnak Corp.
330 Central Ave.
Clark, NJ 07066
Customer Service: 800-526-4236

24 HR. EMERGENCY TELEPHONE NUMBERS
CHEM-TEL (Medical and Transportation): 800-255-3924
POISON CONTROL CENTER (Medical): 800-222-1222

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATIONS
Health:
  Eye Irritation, Category 1
  Skin Irritation, Category 2
  Skin Sensitization, Category 1

Environmental:
  Aquatic Toxicity, Category 1

Physical:
  Flammable Liquids, Category 3

GHS LABEL

Exclamation mark  Corrosion  Flame  Environment

SIGNAL WORD: DANGER

HAZARD STATEMENTS
  H318: Causes serious eye damage.
  H315: Causes skin irritation.
  H303: May be harmful if swallowed.
  H317: May cause an allergic skin reaction.
  H226: Flammable liquid and vapour.
  H400: Very toxic to aquatic life.

PRECAUTIONARY STATEMENT(S)
Prevention:
  P280: Wear protective gloves/protective clothing/eye protection/face protection.
  P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  P240: Ground and bond container and receiving equipment.
  P242: Use non-sparking tools.
  P261: Avoid breathing fume, gas, mist, vapors, or spray.
  P262: Do not get in eyes, on skin, or on clothing.
  P270: Do not eat, drink or smoke when using this product.
P264: Wash hands thoroughly after handling.
P233: Keep container tightly closed.
P273: Avoid release to the environment.
P102: Keep out of reach of children.

Response:
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor/physician.
P302+P352: IF ON SKIN: Wash with plenty of soap and water
P362: Take off contaminated clothing.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P312: IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P370+P378: In case of fire: Use dry chemical, foam or water mist to extinguish.
P391: Collect spillage.

Storage:
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Disposal:
P501: Dispose of contents/container according to all local, state and Federal regulations.

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Orange Liquid

IMMEDIATE CONCERNS: Severe eye irritant and may cause permanent eye damage. Skin irritant.

POTENTIAL HEALTH EFFECTS

EYES: Irritating, and may injure eye tissue if not removed promptly.
SKIN: Contact may cause moderate to severe irritation.
SKIN ABSORPTION: Not Established
INGESTION: Harmful if swallowed.
INHALATION: High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches)

REPRODUCTIVE TOXICITY

TERATOGENIC EFFECTS: None known.
CARCINOGENICITY: Contains an ingredient listed under IARC Group 3 status.
MUTAGENICITY: None known.

ROUTES OF ENTRY: Eye, skin, ingestion.
IRRITANCY: Yes
SENSITIZATION: May cause skin sensitization with contact.

PHYSICAL HAZARDS: Combustible material.

3. COMPOSITION / INFORMATION ON INGREDIENTS
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Wt.%</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-Limonene</td>
<td>30 - 40</td>
<td>5989-27-5</td>
</tr>
<tr>
<td>Ethylene glycol butyl ether</td>
<td>20 - 25</td>
<td>111-76-2</td>
</tr>
<tr>
<td>Fatty acids, tall-oil, potassium salts</td>
<td>0 - 5</td>
<td>61790-44-1</td>
</tr>
<tr>
<td>Nonylphenol Ethoxylate</td>
<td>1 - 5</td>
<td>9016-45-9</td>
</tr>
<tr>
<td>Monoethanolamine</td>
<td>0 - 5</td>
<td>141-43-5</td>
</tr>
<tr>
<td>Dye</td>
<td>0 - 0.1</td>
<td>N/A</td>
</tr>
<tr>
<td>Water</td>
<td>30 - 35</td>
<td>7732-18-5</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

EYES: Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Seek medical attention immediately.

SKIN: Remove contaminated clothing. Immediately flush with water followed by washing with mild soap. Seek medical attention.

INGESTION: Get immediate medical attention. Do not induce vomiting unless instructed to do so by poison center or physician.

INHALATION: Remove victim to fresh air and monitor. Seek medical advise if irritation persists.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Severe burning sensation, tearing, redness, swelling.

SKIN: Burning sensation, redness.

SKIN ABSORPTION: Not Established

INGESTION: Irritation of mouth, throat, along with stomach upset, vomiting.

INHALATION: Headache, dizziness, nausea.

ACUTE TOXICITY: Corrosive to eyes. Causes moderate to severe skin irritation. Harmful if swallowed.

CHRONIC EFFECTS: Not Established

5. FIRE FIGHTING MEASURES

FLAMMABLE CLASS: II (100-140°F)

GENERAL HAZARD: Combustible Liquid

EXTINGUISHING MEDIA: Use Dry chemical, carbon dioxide, or water spray when fighting fires involving this material.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide from combustion

EXPLOSION HAZARDS: Fire exposed containers may burst due to increased pressure from heat.

FIRE FIGHTING PROCEDURES: Keep fire exposed containers cool with water stream or mist.

FIRE FIGHTING EQUIPMENT: Fire-fighters should wear appropriate protective equipment ans self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode.

SENSITIVE TO STATIC DISCHARGE: Not Established

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Avoid walking in product. Wipe up or otherwise flush small spills to sanitary sewer.

LARGE SPILL: Avoid walking in material. Prevent product from entering into stream, soil, storm sewer or other bodies of water.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Avoid discharges into open waterways.

LAND SPILL: Avoid discharge to soil.

AIR SPILL: No data available. Contact Env. Dept.

GENERAL PROCEDURES: Isolate spill or leak area immediately. Keep unauthorized personnel away. Do not touch or walk through spilled material. Prevent entry into waterways, sewers, or confined areas. Absorb with dry earth, sand or other non-combustible material and transfer to containers.
RELEASE NOTES: Eliminate all ignition sources. Ventilate area well.

SPECIAL PROTECTIVE EQUIPMENT: Eye protection, rubber gloves, rubber boots to protect feet.

### 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Store away from excessive heat, spark or open flame. Store at temperatures below 140F. Keep container closed until used. Do not contaminate water, food, or feed by storage or disposal.

**HANDLING:** Wear chemical resistant rubber or neoprene gloves and eye safety goggles/full face shield when handling.

**STORAGE:** Store in closed container in an area inaccessible to children.

**STORAGE TEMPERATURE:** Store at ambient temperatures.

**STORAGE PRESSURE:** Store at ambient atmospheric pressure.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE GUIDELINES**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Supplier OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ppm</td>
<td>mg/m³</td>
<td>ppm</td>
</tr>
<tr>
<td>d-Limonene</td>
<td>TWA [1]</td>
<td>[1]</td>
<td>[1]</td>
</tr>
<tr>
<td>Ethylene glycol butyl ether</td>
<td>TWA</td>
<td>50</td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monoethanolamine</td>
<td>TWA</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>6</td>
<td>15</td>
</tr>
</tbody>
</table>

Footnotes:
1. Not Established

**ENGINEERING CONTROLS:** Provide mechanical ventilation when used in confined areas, or areas with poor ventilation.

**PERSONAL PROTECTIVE EQUIPMENT**

- **EYES AND FACE:** Chemical splash goggles.
- **SKIN:** Rubber or other chemical resistant gloves.
- **RESPIRATORY:** A respirator is not needed under normal and intended conditions of product use.
- **PROTECTIVE CLOTHING:** Chemical resistant outerwear (tyvek) if contact with spray or mist is anticipated.
- **WORK HYGIENIC PRACTICES:** Wash with soap and water after handling. Do not eat, drink or smoke while using product.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Liquid

**ODOR:** Citrus

**ODOR THRESHOLD:** Not Established

**COLOR:** Orange

**pH:** NA = Not Applicable

**PERCENT VOLATILE:** >90

**FLASH POINT AND METHOD:** 48°C (118°F) Tag Closed Cup (TCC)

**FLAMMABLE LIMITS:** 0.7 to 6.0

**AUTOIGNITION TEMPERATURE:** Not Established

**VAPOR PRESSURE:** < 2 mm Hg at 20°C (68°F)

**VAPOR DENSITY:** ~ 4.7 Air = 1
BOILING POINT: 212° F; 100° C
FREEZING POINT: Not Available
THERMAL DECOMPOSITION: Not Available
SOLUBILITY IN WATER: dispersable
EVAPORATION RATE: (Water =1) <1.0
DENSITY: 7.69 at 20°C (68°F)
SPECIFIC GRAVITY: 0.922 grams/ml. at 20°C (68°F)
VISCOSITY: Water thin.
(VOC): 54.880 % by weight

10. STABILITY AND REACTIVITY

REACTIVITY: Stable
HAZARDOUS POLYMERIZATION: None known.
STABILITY: Stable under normal storage and use conditions.
CONDITIONS TO AVOID: Heat, flames and sparks.
HAZARDOUS DECOMPOSITION PRODUCTS: Not Established
INCOMPATIBLE MATERIALS: Strong oxidizers

11. TOXICOLOGICAL INFORMATION

ACUTE

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ORAL LD_{50} (rat)</th>
<th>DERMAL LD_{50} (rabbit)</th>
<th>INHALATION LC_{50} (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-Limonene</td>
<td>4400 mg/kg (rat)</td>
<td>5000 mg/kg (rabbit)</td>
<td></td>
</tr>
<tr>
<td>Ethylene glycol butyl ether</td>
<td>1300 mg/kg (rat)</td>
<td>&gt; 2000 mg/kg (rabbit)</td>
<td>&gt; 3.1 mg/l</td>
</tr>
<tr>
<td>Nonylphenol Ethoxylate</td>
<td>16000 mg/kg (rat)</td>
<td>4490 mg/kg (rabbit)</td>
<td></td>
</tr>
<tr>
<td>Monoethanolamine</td>
<td>1089 mg/kg (rat)</td>
<td>2504 mg/kg (rabbit)</td>
<td>~ 1.48 mg/l</td>
</tr>
</tbody>
</table>

EYES: Not Established
DERMAL LD_{50}: Not Established
SKIN ABSORPTION: Not Established
ORAL LD_{50}: Not Established
INHALATION LC_{50}: Not Established
EYE EFFECTS: Moderate to severe eye irritant.
SKIN EFFECTS: Moderate skin irritant.
CHRONIC: Not Established
CARCINOGENICITY
Chemical Name | NTP Status | IARC Status | OSHA Status
--- | --- | --- | ---
d-Limonene | No listed substance | Group 3 - Not classifiable as to its carcinogenicity to Humans | No listed substance
Ethylene glycol butyl ether | No listed substance | Group 3 - Not classifiable as to its carcinogenicity to Humans | No listed substance

IARC:
The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for carcinogenicity of d-Limonene in humans, but limited evidence in experimental animals (Group 3 - not classifiable as to its carcinogenicity to humans).

**IRRITATION:** Irritant

**SENSITIZATION:** May cause sensitization by skin contact.

**NEUROTOXICITY:** Central nervous system effects marked by dizziness, headache, nausea.

**GENETIC EFFECTS:** No known significant effects or critical hazards.

**REPRODUCTIVE EFFECTS:** No known significant effects or critical hazards.

**TARGET ORGANS:** Not Established

**TERATOGENIC EFFECTS:** No known significant effects or critical hazards.

**MUTAGENICITY:** No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** Toxic to aquatic life.

**ECOTOXICOLOGICAL INFORMATION:** Not Established

**BIOACCUMULATION/ACCUMULATION:** Not Established

**AQUATIC TOXICITY (ACUTE):** Not Established

**CHEMICAL FATE INFORMATION:** Not Established

13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Any method in accordance with local, state and federal laws. Best method is to recycle or reuse for intended purpose. If discarded, this material and its containers should be treated as hazardous waste based on the characteristics of ignitability as defined under federal RCRA regulations (40 CFR 261). Consult local authorities for disposal into public sewer.

**FOR LARGE SPILLS:** Consult with local and state authorities for large volume disposal.

**PRODUCT DISPOSAL:** Any method in accordance with local, state, and federal laws. Best method is to recycle or reuse for intended purpose.

**EMPTY CONTAINER:** Rinse container with clear water. Offer container for recycling, or dispose of in trash.

**RCRA/EPA WASTE INFORMATION:** Ignitability

14. TRANSPORT INFORMATION

**DOT (DEPARTMENT OF TRANSPORTATION)**

**PROPER SHIPPING NAME:** Cleaning Compound, not regulated (for US domestic shipment only)

**OTHER SHIPPING INFORMATION:** Certain shipping modes and packaging sizes may have exceptions from the transport regulations. The classifications/information provided above may not reflect applicable exceptions. Contact the manufacturer for more specific information on the proper shipping of this material.
AIR (ICAO/ATA)
SHIPPING NAME: Not Approved

VESSEL (IMO/IMDG)
SHIPPING NAME:

Flammable Liquid, n.o.s.

TECHNICAL NAME: Terpene Hydrocarbon Solution

UN/NA NUMBER: 1993

PRIMARY HAZARD CLASS/DIVISION: 3

PACKING GROUP: III

EmS: 3-07

MARINE POLLUTANT #1: Yes

PLACARDS: Flammable

LABEL: Flammable, Marine Pollutant

NOTE: Above information for containers greater than 5 gallons. Consult manufacturer for container shipping information of less than 5 gallons.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Health Hazard - Acute; Fire Hazard

FIRE: Yes PRESSURE GENERATING: No REACTIVITY: No ACUTE: Yes CHRONIC: No

313 REPORTABLE INGREDIENTS: 2-butoxyethanol 111-76-2 (Category: N230 Certain Glycol Ethers)

EPCRA SECTION 313 SUPPLIER NOTIFICATION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Wt.%</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol butyl ether</td>
<td>20 - 25</td>
<td>111-76-2</td>
</tr>
</tbody>
</table>

302/304 EMERGENCY PLANNING

EMERGENCY PLAN: No listed substance

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: No products were found.

CERCLA RQ: Not Established

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All ingredients are listed on the TSCA Chemical Inventory.
STATES WITH SPECIAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Requirements</th>
</tr>
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<tbody>
<tr>
<td>d-Limonene</td>
<td>Pennsylvania Right to Know Substance</td>
</tr>
<tr>
<td></td>
<td>New Jersey Right To Know Substance</td>
</tr>
<tr>
<td>Ethylene glycol butyl ether</td>
<td>Massachusetts Right to Know Substance</td>
</tr>
<tr>
<td></td>
<td>Pennsylvania Right to Know Substance</td>
</tr>
<tr>
<td></td>
<td>New Jersey Right To Know Substance</td>
</tr>
<tr>
<td>Nonylphenol Ethoxylate</td>
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<td></td>
<td>Pennsylvania Right to Know Substance</td>
</tr>
<tr>
<td>Monoethanolamine</td>
<td>Massachusetts Right to Know Substance</td>
</tr>
<tr>
<td></td>
<td>New Jersey Right To Know Substance</td>
</tr>
<tr>
<td></td>
<td>New York Right to Know Substance</td>
</tr>
<tr>
<td></td>
<td>Pennsylvania Right to Know Substance</td>
</tr>
</tbody>
</table>

CALIFORNIA PROPOSITION 65: No listed substance

CARCINOGEN:

The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for carcinogenicity of d-Limonene in humans, but limited evidence in experimental animals (Group 3 - not classifiable as to its carcinogenicity to humans).

16. OTHER INFORMATION

PREPARED BY: Regulatory Affairs Department  Date Prepared: 05/22/2015

HMIS RATING

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
<th>PERSONAL PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>0</td>
<td>D</td>
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</table>

NFPA CODES

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

MANUFACTURER DISCLAIMER: This company cannot anticipate all conditions of handling and use of this product. Therefore, this company accepts no responsibility for results obtained by the application of this information, or the safety and suitability of the product either alone or in combination with other products. It is the responsibility of the employer and/or user to provide a safe workplace, using health and safety information contained herein as a guide. This company will accept no liability for damages or losses incurred from the improper handling and use of this product.