1. Identification

1.1. Product identifier

Product Identity: 83 Asphalt Cements/Mastics/Coatings
Alternate Names: 83 Asphalt Cements/Mastics/Coatings

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: See Technical Data Sheet.
Application Method: See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name: Karnak Corporation
330 Central Ave.
Clark, NJ 07066 USA

Emergency: www.karnakcorp.com
CHEMTREC (USA): (800) 424-9300
24 hour Emergency Telephone No.: OUTSIDE THE U.S AND CANADA 1-202-483-7616
Customer Service: Karnak Corporation: 1-800-526-4236

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Flam. Liq. 3; H226: Flammable liquid and vapor.
Skin Sens. 1; H317: May cause an allergic skin reaction.
STOT RE 1; H372: Causes damage to organs through prolonged or repeated exposure. Specific Target Organs: (central nervous system)

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

H226 Flammable liquid and vapor.
H317 May cause an allergic skin reaction.
H372 Causes damage to organs through prolonged or repeated exposure.

[Prevention]:
P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.
P235 Keep cool.
P240 Ground / bond container and receiving equipment.
P241 Use explosion-proof electrical / ventilating / light / equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves / eye protection / face protection.

[Response]:
P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
P313 Get medical advice / attention.
P314 Get Medical advice / attention if you feel unwell.
P321 Specific treatment (see information on this label).
P331 Do NOT induce vomiting.
P333+313 If skin irritation or a rash occurs: Get medical advice / attention.
P363 Wash contaminated clothing before reuse.
P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:
P403+233 Store in a well ventilated place. Keep container tightly closed.

[Disposal]:
P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients
This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.
4. First aid measures

4.1. Description of first aid measures

General

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Skin: Moderately irritating.
Ingestion: Abdominal irritation.
Inhalation: If enlivened by primer or heat, over exposure to fume could cause irritation, dizziness.

Inhalation

If respiratory discomfort occurs, remove to fresh air. If discomfort continues, administer oxygen and get medical attention.

Eyes

Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin

If this product comes in contact with skin, remove material with mineral oil, then wash with soap and plenty of water.

Ingestion

If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview

Pre-existing eye, skin, and respiratory disorders may be aggravated by exposure to these products. Exposure to high concentrations of fumes may have an anesthetic effect.

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Repeated or prolonged contact with the preparation may cause removal of natural fat from
the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents
may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation
and soreness with possible reversible damage. See section 2 for further details.

Skin
May cause an allergic skin reaction.

5. Fire-fighting measures

5.1. Extinguishing media
Class "B" dry chemical, carbon dioxide, or other suitable extinguishing material such as dry sand. Do not use
halogenated agents. When flames have been eliminated, cover residue with dry extinguishing agent or dry sand and
allow it to remain undisturbed until it has cooled. If fire appears to increase in intensity, stop using these agents. Apply
Class "D" extinguishing agent or more dry, inert, granular material. Ring fire with extinguishing material and allow the
fire to burn out.

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition: Oxides of carbon, various hydrocarbon fragments
Keep away from heat / sparks / open flames / hot surfaces - No smoking.
Keep cool.
Ground / bond container and receiving equipment.
Use explosion-proof electrical / ventilating / light / equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust / fume / gas / mist / vapors / spray.
Do not get in eyes, on skin, or on clothing.

5.3. Advice for fire-fighters
When heated above flash point, material will release flammable vapors which can burn or be explosive in confined
spaces if ignited. Do not mix with strong oxidants such as liquid chlorine or concentrated oxygen.
If the fire does not respond to above agents or they are not available, use foam or water FOG as a last resort. Water
may also be used to cool exposed, but not burning, containers. These products may float and be re-ignited on top of
water.
Closed containers may explode in a fire. Keep containers cool and remove to a safe location.
In a confined space, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face-piece and
protective clothing. Persons without respiratory protection should leave area.

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Put on appropriate personal protective equipment (see section 8).
6.2. Environmental precautions

Do not allow spills to enter drains or waterways.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Contain spill as quickly as possible. Keep flowing material away from heat, sparks, or open flames. Do not smoke near a spill. Use clay (Oil Dry™), sand, earth, etc. to absorb the spill. Put material into a suitable steel drum which can be closed securely.

7. Handling and storage

7.1. Precautions for safe handling

The requirements of the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations apply if the flashpoint is between 21°C and 32°C.
See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Store in cool, dry area, away from heat, sparks and naked flames.
Keep containers sealed when not in use.
Keep container closed when not in use. Store in a dry ventilated area. Maintain package labeling during storage.
Incompatible materials: Strong oxidizing agents
Vapors are heavier than air and may travel along the ground or be moved by ventilation to locations distant from the point of material handling. To prevent fumes from entering buildings or confined areas, close all air intake sources near the material handling or the work area. To prevent ignition, avoid smoking, keep away from heat, open flames and sources of static or electrical sparking. Use explosion proof motors and equipment. Tank trucks or other containers should be grounded and/or bonded when the material is transferred.
Avoid prolonged or repeated inhalation of vapors or spray mists. Avoid prolonged or repeated skin contact. Adhere to good hygienic practices. Avoid open flames. Use with adequate ventilation.
Store in a cool, dry place, out of direct sunlight and away from heat, sparks, and flame.
See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

Health studies have shown that many petroleum hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

8. Exposure controls and personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001332-58-7</td>
<td>Kaolin</td>
<td>OSHA</td>
<td>TWA 15 mg/m3 (total) TWA 5 mg/m3 (resp)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>TWA: 2 mg/m3</td>
</tr>
</tbody>
</table>
## Carcinogen Data

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001332-58-7</td>
<td>Kaolin</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;</td>
</tr>
<tr>
<td>0008052-41-3</td>
<td>Stoddard solvent</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;</td>
</tr>
<tr>
<td>0008052-42-4</td>
<td>Asphalt (petroleum)</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: Yes; Group 3: No; Group 4: No;</td>
</tr>
<tr>
<td>0009003-55-8</td>
<td>Styrene-Butadiene polymer</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: Yes; Group 3: Yes; Group 4: No;</td>
</tr>
<tr>
<td>0009004-34-6</td>
<td>Cellulose</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: Yes; Group 3: Yes; Group 4: No;</td>
</tr>
</tbody>
</table>

### 8.2. Exposure controls

**Respiratory** In case of burning material, use SCAB.

**Eyes** Safety glasses or face shield for liquid material.
Skin
Protective clothing as necessary to prevent wetting of the skin. Solvent-resistant gloves.

Engineering Controls
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices
Long sleeves and impervious clothing to protect against splashing. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild Petroleum</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not Measured</td>
</tr>
<tr>
<td>pH</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>NA</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>300-350F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>(PMCC): 104F min.</td>
</tr>
<tr>
<td>Evaporation rate (Ether = 1)</td>
<td>(Butyl Acetate=1)@77F: 0.2</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Lower Explosive Limit: Not Measured</td>
</tr>
<tr>
<td></td>
<td>Upper Explosive Limit: Not Measured</td>
</tr>
<tr>
<td>Vapor pressure (Pa)</td>
<td>3</td>
</tr>
<tr>
<td>Vapor Density (Air=1): &gt; 4</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>(H2O=1): 0.8 - 1.2</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Kow)</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td>Not Measured</td>
</tr>
</tbody>
</table>

9.2. Other information
No other relevant information.

10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.

10.2. Chemical stability
Stable under normal circumstances.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
Excessive heat and open flame.

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products
Oxides of carbon, various hydrocarbon fragments

11. Toxicological information

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50, mg/kg</th>
<th>Skin LD50, mg/kg</th>
<th>Inhalation Vapor LC50, mg/L/4hr</th>
<th>Inhalation Dust/Mist LC50, mg/L/4hr</th>
<th>Inhalation Gas LC50, ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt (petroleum) - (8052-42-4)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Stoddard solvent - (8052-41-3)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Kaolin - (1332-58-7)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Cellulose - (9004-34-6)</td>
<td>5,000.00, Rat - Category: 5</td>
<td>2,000.00, Rabbit - Category: 4</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Styrene-Butadiene polymer - (9003-55-8)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).
12. Ecological information

12.1. Toxicity
The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and GHS and is not classified as dangerous for the environment, but contains substance(s) dangerous for the environment. See section 3 for details.

Aquatic Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>96 hr LC50 fish, mg/l</th>
<th>48 hr EC50 crustacea, mg/l</th>
<th>ErC50 algae, mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt (petroleum) - (8052-42-4)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Stoddard solvent - (8052-41-3)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Kaolin - (1332-58-7)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Cellulose - (9004-34-6)</td>
<td>Not Available</td>
<td>100.00, Fish (Piscis)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Styrene-Butadiene polymer - (9003-55-8)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
There is no data available on the preparation itself.

12.3. Bioaccumulative potential
Not Measured

12.4. Mobility in soil
No data available.
12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects
No data available.

13. Disposal considerations

13.1. Waste treatment methods
Bury in an approved landfill according to federal, state, and local regulations. Empty containers that have been completely emptied and the residue allowed to dry are not considered hazardous waste.

14. Transport information

<table>
<thead>
<tr>
<th>DOT (Domestic Ground Transportation)</th>
<th>IMO / IMDG (Ocean Transportation)</th>
<th>ICAO/IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>UN1999</td>
<td>UN1999</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not regulated, non-bulk</td>
<td>Tars, liquid including road oils and cutback bitumens</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>IMDG: 3</td>
<td>Air Class: 3</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>EmS No. F-E, S-E</td>
<td></td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>IMDG: Marine Pollutant: No</td>
<td>Air Class: 3</td>
</tr>
<tr>
<td>14.6. Special precautions for user</td>
<td>ERG Guide 130</td>
<td>ERG Guide 130</td>
</tr>
</tbody>
</table>

15. Regulatory information

Regulatory Overview: The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA): All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification: B3 D2A

US EPA Tier II Hazards

Fire: Yes
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): Yes

EPCRA 311/312 Chemicals and RQs:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):
- Asphalt (petroleum)
- Cellulose
- Kaolin
- Stoddard solvent

Pennsylvania RTK Substances (>1%):
- Asphalt (petroleum)
- Cellulose
- Kaolin
- Stoddard solvent

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H372 Causes damage to organs through prolonged or repeated exposure.
This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

Disclaimer: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The information has been completed to the best of our knowledge and is believed to be accurate and reliable as from the date indicated. However, no warranty is made as to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy oneself as to the suitability and completeness of such information for his own particular use.

End of Document