Safety Data Sheet

Material Name: KOSTER VAP I® 2000 FS Part A   Product Code: 06.03310

*** Section 1 – Chemical Product and Company Identification ***

Product Use: Part A of a 2 component Epoxy Primer

Manufacturer Information
KOSTER American Corp. Phone: 1-757-425-1206
2585 Aviator Drive
Virginia Beach, VA 23453

Emergency # INFOTRAC: 1-800-535-5053

Section 1 Notes: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

*** Section 2 – Hazards Identification ***

2.1. Classification of the substance or mixture
Indications of danger: Xi - Irritant, N - Dangerous for the environment

R phrases:
Irritating to eyes and skin.
May cause sensitization by skin contact.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

GHS classification
Hazard categories:
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory/skin sensitization: Skin Sens. 1
Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

2.2. Label elements
Hazardous components which must be listed on the label
epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-A-(epichlorhydrin)
Bisphenol-F-Epoxidharz (MW < 700)
Signal word: Warning
Pictograms: GHS07-GHS09

Hazard statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
**Section 3 – Composition/information on ingredients**

### 3.2. Mixtures

**Chemical characterization**
Contains epoxy constituents with an average molecular weight of 700.

**Hazardous components**

<table>
<thead>
<tr>
<th>EC No</th>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Epoxy resin (number average molecular weight &lt;=700), reaction product</td>
<td>500-033-5</td>
<td>Xi – Irritant, N – Dangerous for the environment r36/38-43-51-53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25068-38-6</td>
<td>Xi – Irritant, N – Dangerous for the environment r36/38-43-51-53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>603-074-00-8</td>
<td>Eye irrit. 2, Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H319 H315 H317 H411</td>
</tr>
</tbody>
</table>

**Reach No**

| 500-033-5 | 25068-38-6 | 603-074-00-8 | 9003-36-5 |

**Quantity**

| <90% | <90% | <15% |

Full text of R and H phrases: see Section 16

**Section 4 – First Aid Measures**

### 4.1. Description of first aid measures

**General information:** First aid assistant: Pay attention to self-protection!

**After inhalation:** Provide fresh air. Move victim to fresh air. Put victim at rest and keep warm. In case of irregular breathing or respiratory arrest provide artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus. In case of unconsciousness place in unconscious position and seek medical advice.

**After contact with skin:** Wash with generous amount of water. Change contaminated clothing.

**After contact with eyes:** Rinse immediately carefully and thoroughly with eye-bath or water. Medical advice absolutely required!

**After ingestion:** Rinse mouth immediately and drink large quantities of water. Remove casualty to fresh air and keep warm and at rest. Rinse mouth thoroughly with water. Let water be swallowed in little sips (dilution effect). Caution if victim vomits: Risk of aspiration! In case of unconsciousness place in unconscious position and seek medical advice.

**Section 5 – Fire Fighting Measures**

### 5.1. Extinguishing media

**Suitable extinguishing media:** Extinguishing materials should be selected according to the surrounding area.

**Extinguishing media which must not be used for safety reasons:** High power water jet.

### 5.2. Special hazards arising from the substance or mixture

The product itself is not combustible.

### 5.3. Advice for firefighters:

In case of fire: Wear self-contained breathing apparatus. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**Additional information:** Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
**Section 6 – Accidental Release Measures**

6.1. Personal precautions, protective equipment and emergency procedures
Guide people to safety. Wear chemical resistant suit. Do not breathe gas/vapor.

6.2. Environmental precautions
Do not empty into drains or the aquatic environment. In case of gas being released or leakage into waters, ground or the drainage system, the appropriate authorities must be informed.

6.3. Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the assimilated material according to the section on waste disposal.

**Section 7 – Handling and Storage**

7.1. Precautions for safe handling
Advice on safe handling
Do not eat, drink, smoke or sneeze at the workplace. Avoid release to the environment. Keep only in the original container in a cool, well-ventilated place. Do not breathe gas/fumes/vapor/spray. People who suffer from skin problems, asthma, allergies, chronic or recurring respiratory illnesses must not be deployed in processes, which use this substance. Avoid release to the environment.

Advice on protection against fire and explosion
Usual measures for fire prevention.

Further information on handling
Do not eat, drink, smoke or sneeze at the workplace. Avoid release to the environment. Keep only in the original container in a cool, well-ventilated place. Do not breathe gas/fumes/vapor/spray. Avoid release to the environment. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Keep away from food, drink and animal feeding stuffs. Protect from sunlight.

**Section 8 – Exposure Controls / Personal Protection**

8.1. Control parameters
8.2. Exposure controls
Occupational exposure controls
If suction of the immediate vicinity is impossible or insufficient, the entire working place must be sufficiently ventilated using appropriate machines. If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn.

Protective and hygiene measures
Take off immediately all contaminated clothing. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Respiratory protection
If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. Only use OSHA/NIOSH approved breathing apparatus.

Hand protection
When handling chemical substances, chemical protective gloves must be worn with CE label including a four digit code. Suitable material: NBR (Nitrile rubber), PVC (Polyvinyl chloride). Butyl rubber. Breakthrough times and swelling characteristics of the material must be taken into consideration.

Eye protection
Tightly sealed safety glasses.

Skin protection
When handling chemical substances, chemical protective clothing must be worn. Only wear fitting, comfortable and clean protective clothing.
**Section 9 – Physical & Chemical Properties**

- **Physical State:** Liquid
- **Color:** Transparent
- **Odor:** Characteristic
- **Boiling Point:** >392°F / >200°C
- **Flash Point:** >320°F / >160°C
- **Explosive Properties:** Not explosive
- **Oxidizing Properties:** Not oxidizing
- **Vapor Pressure:** 0.000075 (mm Hg) @ 73.4°F / 0.0001 hPa @ 23°C
- **Density:** 9.17 lb/gal (1.1 g/cm³)
- **Viscosity / dynamic:** <1000 mPa's @ 73.4°F / 23°C

**Section 10 – Stability & Reactivity**

10.1. **Reactivity**
No risks worthy of mention.

10.2. **Chemical stability**
No risks worthy of mention.

10.3. **Possibility of hazardous reactions**
No risks worthy of mention.

10.4. **Conditions to avoid**
Keep cool. Protect from sunlight.

10.5. **Incompatible materials**
No risks worthy of mention.

10.6. **Hazardous decomposition products**
No risks worthy of mention.

**Section 11 – Toxicological Information**

- **Information on toxicological effects**
  - **Toxicocinetics, metabolism and distribution:** No information available.
  - **Acute toxicity:** No information available.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>Bisphenol-F (Epichlorhydrin MW&lt;700)</td>
<td>Oral</td>
<td>LD50</td>
<td>&gt;23800 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>2000 mg/kg</td>
<td>Rabbit</td>
<td></td>
</tr>
</tbody>
</table>

- **Specific effects in experiment on an animal:** No information available.
- **Irritation and corrosivity:** Irritating to eyes. After skin contact: irritant.
- **Sensitizing effects:** May cause sensitization by skin contact.
- **Severe effects after repeated or prolonged exposure:** May produce an allergic reaction.
- **Carcinogenic/mutagenic/toxic effects for reproduction:** No information available.

**Section 12 – Ecological Information**

12.1 **Toxicity**
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical Name</th>
<th>Aquatic Toxicity</th>
<th>Method</th>
<th>Dose</th>
<th>Hrs</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>Bisphenol F – (epichlorhydrin),</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>1.5-7.7 mg/l</td>
<td>96</td>
<td>Oncorhynchus mykiss</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>220 mg/l</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>1.1 – 3.6 mg/l</td>
<td>48</td>
<td>Daphnia magna</td>
</tr>
</tbody>
</table>

12.2 ** Persistence and degradability:**
Product is not easily biodegradable.
12.3 Bioaccumulative potential:
On the basis of existing data about disposal/decomposition and bio-accumulation potential, long term environmental damage cannot be ruled out.

12.4 Mobility in soil:
No information available.

12.5 Results of PBT and vPvB assessment:
The components in this formulation do not meet the criteria for classification as PBT or vPvB.

Further information: Do not empty into drains or the aquatic environment.

*** Section 13 – Disposal Considerations ***

13.1. Waste treatment methods
Advice on disposal
Do not empty into drains or the aquatic environment. Waste disposal according to official state regulations.

Contaminated packaging
Cleaned containers may be recycled. Handle contaminated packaging in the same way as the substance itself.

*** Section 14 – Transportation Information ***

Land transport (ADR/RID)
14.1. UN number: UN3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epichlorhydrin)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9
Classification code: M6
Special Provisions: 274 335 601
Limited quantity: 5 L
Transport category: 3
Hazard No: 90
Tunnel restriction code: E
Other applicable information (land transport): E1

Inland waterways transport (ADN)
14.1. UN number: UN3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epichlorhydrin)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9
Classification code: M6
Special Provisions: 274 335 601
Limited quantity: 5 L
Other applicable information (inland waterways transport) E1

Marine transport (IMDG)
14.1. UN number: UN3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epichlorhydrin)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9
Material Safety Data Sheet

Material Name: KOSTER VAP I® 2000 FS Part A Product Code: 06036a

Special Provisions: 274, 335
Limited quantity: 5 L
EmS: F-A, S-F
Other applicable information (marine transport) E1

Air transport (ICAO)
14.1. UN number: UN3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epichlorhydrin)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9
Special Provisions: A97 A158
Limited quantity Passenger: 30 kg G
IATA-packing instructions - Passenger: 964
IATA-max. quantity - Passenger: 450 L
IATA-packing instructions - Cargo: 964
IATA-max. quantity - Cargo: 450 L

Other applicable information (air transport) E1
Passenger-LQ: Y964

14.5. Environmental hazards
Dangerous for the environment: yes

*** Section 15 – Regulatory Information ***

All raw materials are on the U.S. EPA TSCA Inventory list.

VOC 1% (1 g/L)

Check individual state and country requirements, as additional regulations may apply.
This product is not regulated as a Marine Pollutant / Environmentally Hazardous Substance (UN3082, Class 9) by US-DOT, but may be regulated as such in some countries.

*** Section 16 – Other Information ***

Full text of R phrases referred to under Sections 2 and 3
36/38 Irritating to eyes and skin.
43 May cause sensitisation by skin contact.
51 Toxic to aquatic organisms.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
53 May cause long-term adverse effects in the aquatic environment.

Full text of H statements referred to under Sections 2 and 3
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

DISCLAIMER: Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty expresses or implied with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. It is the user’s responsibility to satisfy oneself as to the suitability and completeness of this information for his particular use.

MSDS History
New MSDS Date: 05/14/2013

This is the end of SDS
**Section 1 – Chemical Product and Company Identification**

1. **Product Identifier**
   KOSTER VAP I 2000 FS B

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

   **Use of the substance/mixture**
   The product is intended for professional use.

   **Uses advised against**
   No identified use(s).

1.3. **Details of the supplier of the safety data sheet**

   **Company Name:** KOSTER American Corporation
   **Street:** 2585 Aviator Drive
   **Place:** Virginia Beach, VA 23453
   **Telephone:** 757-425-1206
   **e-mail:** info@kosterusa.com
   **Internet:** www.kosterusa.com
   **Emergency Response:** INFOTRAC

1.4. **Emergency Telephone Number:** 800-535-5053

**Section 2 – Hazards Identification**

2.1. **Classification of the substance or mixture**

   **Indications of danger:** C - Corrosive, Xn - Harmful

   **R phrases:**
   - Harmful if swallowed.
   - Causes severe burns.
   - May cause sensitization by skin contact.
   - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

   **GHS Classification**
   - **Hazard categories:**
     - Acute toxicity: Acute Tox. 4
     - Skin corrosion/irritation: Skin Corr. 1B
     - Serious eye damage/eye irritation: Eye Dam. 1
     - Respiratory/skin sensitization: Skin Sens. 1
     - Aspiration hazard: Asp. Tox. 1
   - **Hazardous to the aquatic environment:** Aquatic Chronic 3
   - **Hazard Statements:**
     - Harmful if swallowed.
     - Causes severe skin burns and eye damage.
     - May cause an allergic skin reaction.
     - May be fatal if swallowed and enters airways.
     - Harmful to aquatic life with long lasting effects.

2.2. **Label elements**

   **Hazardous components which must be listed on the label**
   - Polyoxypropyldiamin
   - 1,3-Benzendimethanamin
   - 3-aminomethyl-3,5,5-trimethylcyclohexylamine
   - 2-piperazin-1-ylethylamine

   **Signal word:** Danger
   **Pictograms:** GHS05 – GHS07 – GHS08
Material Name: KOSTER VAP I® 2000 FS Part B

Hazard statements
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H304 May be fatal if swallowed and enters airways.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
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.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P321 Specific treatment (see warning on this label).
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P352 Wash with plenty of soap and water.
P363 Wash contaminated clothing before reuse.
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.
P405 Store locked up.
P501 Dispose of contents/container to IAW local, state, and federal regulations.

*** Section 3 – Composition/information on ingredients ***

3.2. Mixtures
Chemical characterization: amines

Hazardous Components

<table>
<thead>
<tr>
<th>EC No</th>
<th>Chemical name</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>9046-10-0</td>
<td>Polyoxypropylendiamine</td>
<td>C-Corrosive R34</td>
</tr>
<tr>
<td>216-032-5</td>
<td>1,3-Benzendimethanamin</td>
<td>Corrosive, XN – Harmful r20/22/35-43-52-53</td>
</tr>
<tr>
<td>1477-55-0</td>
<td>C-Corrosive, XN – Harmful r20/22-35-43-52-53</td>
<td>Acute Tox. 3, Acute Tox. 4, Skin Corr. 1, Skin Sens. 1, Aquatic Chronic 3; H331 H302 H314 H317 H412</td>
</tr>
<tr>
<td>203-585-2</td>
<td>1,3-benzenediol, resorcinol</td>
<td>3,5-trimethylcyclohexylamine</td>
</tr>
<tr>
<td>108-46-3</td>
<td>Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R22-36/38-50</td>
<td></td>
</tr>
<tr>
<td>604-010-00-1</td>
<td>Acute Tox. 4, Eye Irrit. 2, Skin Irrit. 2, Aquatic Acute 1; H302 H319 H315 H400</td>
<td></td>
</tr>
<tr>
<td>220-666-8</td>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td></td>
</tr>
<tr>
<td>2855-13-2</td>
<td>C - Corrosive, Xn - Harmful R21/22-34-43-52-53</td>
<td></td>
</tr>
<tr>
<td>612-067-00-9</td>
<td>Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 H412</td>
<td></td>
</tr>
</tbody>
</table>
**Section 4 – First Aid Measures**

4.1. Description of first aid measures

**General information**
First aid assistant: Pay attention to self-protection! Move victim out of danger zone.

**After inhalation**
Provide fresh air. In case of breathing difficulties administer oxygen. Seek medical treatment if necessary.

**After contact with skin:**
- **IF ON SKIN (or hair):** Immediately remove all contaminated clothing. Rinse skin with water/shower. Seek medical treatment if necessary.
- **After contact with eyes:**
  In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Consult an ophthalmologist.

**After ingestion:**
Rinse mouth immediately and drink large quantities of water. Do not induce vomiting. Hazards identification: Stomach perforation. Immediately get medical attention. Do not allow a neutralization agent to be drunk. Caution if victim vomits: Risk of aspiration!

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**Section 5 – Fire Fighting Measures**

5.1. Extinguishing media

**Suitable extinguishing media**
Extinguishing materials should be selected according to the surrounding area.

**Extinguishing media which must not be used for safety reasons**
High power water jet.

5.2. Special hazards arising from the substance or mixture

The product itself is not combustible.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical resistant suit. Full protective suit.

**Additional information**
Use a water spray jet to knock down vapors/gases/mists. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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**Section 6 – Accidental Release Measures**

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Do not breathe gas/fumes/vapors/spray. Avoid contact with skin, eye and clothing. Wear personal protection equipment.

6.2. Environmental precautions

Do not empty into drains or the aquatic environment.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the assimilated material according to the section on waste disposal.
*** Section 7 – Handling and Storage ***

7.1. Precautions for safe handling

Advice on handling
In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapor/spray. If suction of the immediate vicinity is impossible or insufficient, adequate airing of the working place must be ensured.

Advice on protection against fire and explosion
No special fire protection measures are necessary.

Further information on handling
No special handling instructions are necessary.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Keep locked up. Store in a place accessible only to authorized persons.

Requirements for storage rooms and vessels
Provide for sufficient ventilation and suction at critical points.

Advice on storage compatibility
Do not store together with: acid.

Further information on storage conditions
Keep only in the original container in a cool, well-ventilated place. Keep container tightly closed.

7.3. Specific end use(s)

*** Section 8 – Exposure Controls / Personal Protection ***

8.1. Control parameters

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical Name</th>
<th>ml/m3</th>
<th>mg/m3</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-46-3</td>
<td>Resorcinol</td>
<td>10</td>
<td>46</td>
<td>TWA (8h)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>92</td>
<td>STEL (15 min)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Occupational exposure controls
In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapor/spray. Work in well ventilated zones or use proper respiratory protection.

Protective and hygiene measures
Take off immediately all contaminated clothing. Protect skin by using skin protective cream. After work, wash hands and face.
When using do not eat or drink.

Respiratory protection
Work in well ventilated zones or use proper respiratory protection.

Hand protection
When handling chemical substances, OSHA/NIOSH approved chemical protective gloves must be worn. Suitable material: NBR (Nitrile rubber). penetration time (maximum wearing period): 480 min. Breakthrough times and swelling characteristics of the material must be taken into consideration.

Eye protection:
Tightly sealed safety glasses.

Skin protection:
When handling chemical substances, chemical protective clothing must be worn.

*** Section 9 – Physical & Chemical Properties ***

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Color: Transparent
Odor: Pungent/Amine-like
Material Safety Data Sheet

Material Name: **KOSTER VAP I® 2000 FS Part B**

**Changes in the physical state**
- Boiling Point: 392 °F (>200°C)
- Flash Point: >320°F (>160°C)

**Explosive properties:** Not explosive
**Oxidizing Properties:** Not Oxidizing
**Vapor Pressure:** 0.015 mmHg (5 hPa)
**Density:** 1.05 g/cm³
**Viscosity:** 300 cps @ 73.4°F (23° C)

<table>
<thead>
<tr>
<th><strong>Section 10 – Stability &amp; Reactivity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10.1. Reactivity</strong></td>
</tr>
<tr>
<td>No risks worthy of mention.</td>
</tr>
<tr>
<td><strong>10.2. Chemical stability</strong></td>
</tr>
<tr>
<td>No risks worthy of mention.</td>
</tr>
<tr>
<td><strong>10.3. Possibility of hazardous reactions</strong></td>
</tr>
<tr>
<td>No risks worthy of mention.</td>
</tr>
<tr>
<td><strong>10.4. Conditions to avoid</strong></td>
</tr>
<tr>
<td>Keep cool. Protect from sunlight.</td>
</tr>
<tr>
<td><strong>10.5. Incompatible materials</strong></td>
</tr>
<tr>
<td>No risks worthy of mention.</td>
</tr>
<tr>
<td><strong>10.6. Hazardous decomposition products</strong></td>
</tr>
<tr>
<td>No risks worthy of mention.</td>
</tr>
</tbody>
</table>

**Section 11 – Toxicological Information**

**11.1. Information on toxicological effects**
Toxicokinetics, metabolism and distribution: No information available.
Acute toxicity: Acute toxicity, dermal.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>1477-55-0</td>
<td>1,3-Benzendimethanamin</td>
<td>oral</td>
<td>ATE</td>
<td>500 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>2000 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) vapor</td>
<td>LC50</td>
<td>4.6 mg/l</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative aerosol</td>
<td>ATE</td>
<td>0.5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>108-46-3</td>
<td>1,3-benzenediol, resorcinol</td>
<td>Oral</td>
<td>LD50</td>
<td>301 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>3360 mg/kg</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td>2855-13-2</td>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>Oral</td>
<td>LD50</td>
<td>1030 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dermal</td>
<td>ATE</td>
<td>1100 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>140-31-8</td>
<td>2-piperazin-1-ylethylamine</td>
<td>oral</td>
<td>ATE</td>
<td>500 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>ATE</td>
<td>1100 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2579-20-6</td>
<td>1,3-Cyclohexanbis(methylamine)</td>
<td>oral</td>
<td>ATE</td>
<td>500 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>ATE</td>
<td>1100 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69-72-7</td>
<td>Salicylic acid</td>
<td>oral</td>
<td>LD50</td>
<td>891 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>10000 mg/kg</td>
<td>Rabbit</td>
<td></td>
</tr>
</tbody>
</table>

Specific effects in experiment on an animal: No information available.
Material Name: KOSTER VAP I® 2000 FS Part B  
Product Code: 06.03310

Sensitizing effects: May cause sensitization by skin contact.
Carcinogenic/mutagenic/toxic effects for reproduction: No information available.
Additional information on tests:

*** Section 12 – Ecological Information ***

12.1. Toxicity
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. No information available.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical Name</th>
<th>Aquatic Toxicity</th>
<th>Method</th>
<th>Dose</th>
<th>Hr</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1477-55-0</td>
<td>1,3-Benzendimethanamin</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>75 mg/l</td>
<td>96</td>
<td>Leuciscus idus (golden orfe)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>12 mg/l</td>
<td>72</td>
<td>Scenedesmus subspicatus</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>15.2 mg/l</td>
<td>48</td>
<td>Daphnia magna</td>
<td></td>
</tr>
<tr>
<td>108-46-3</td>
<td>1,3-benzenediol, resorcinol</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>31.6 mg/l</td>
<td>96</td>
<td>Leuciscus idus</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>605 mg/l</td>
<td>72</td>
<td>Chlorella vulgaris</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>1.28 mg/l</td>
<td>48</td>
<td>Daphnia magna</td>
<td></td>
</tr>
<tr>
<td>140-31-8</td>
<td>2-piperazin-1-ylethylamine</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>368 mg/l</td>
<td>96</td>
<td>Leuciscus idus</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>495 mg/l</td>
<td>72</td>
<td>Selenastrum capricornutum</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>32 mg/l</td>
<td>48</td>
<td>Daphnia magna</td>
<td></td>
</tr>
<tr>
<td>2579-20-6</td>
<td>1,3-Cyclohexanbis(methylamine)</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>&gt; 100 mg/l</td>
<td>96</td>
<td>Leuciscus idus (golden orfe)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>276 mg/l</td>
<td>72</td>
<td>Pseudokirchneriella subcapitata</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>29 mg/l</td>
<td>48</td>
<td>Daphnia magna</td>
<td></td>
</tr>
<tr>
<td>69-72-7</td>
<td>Salicylic acid</td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>870 mg/l</td>
<td>48</td>
<td>Daphnia magna</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability: No information available.
12.3. Bioaccumulative potential: No information available.

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical Name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-46-3</td>
<td>1,3-benzenediol, resorcinol</td>
<td>0.93</td>
</tr>
<tr>
<td>2855-13-2</td>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>1.9</td>
</tr>
<tr>
<td>140-31-8</td>
<td>2-piperazin-1-ylethylamine</td>
<td>-1.48</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil: No information available.
12.5. Results of PBT and vPvB assessment: The components in this formulation do not meet the criteria for classification as PBT or vPvB.
Further information: Do not empty into drains or the aquatic environment.

*** Section 13 – Disposal Considerations ***

13.1. Waste treatment methods
Advice on disposal
Waste disposal according to official state regulations.
Contaminated packaging
Cleaned containers may be recycled. Handle contaminated packaging in the same way as the substance itself.
**Section 14 – Transportation Information**

### Land transport (ADR/RID)

**14.1. UN number:** UN2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxypropylenediamine, 1,3-Benzendimethanamin)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  
Classification code: C7  
Special Provisions: 274  
Limited quantity: 1 L  
Transport category: 2  
Hazard No: 80  
Tunnel restriction code: E  

**Other applicable information (land transport)**

- E1  
- E2

### Inland waterways transport (ADN)

**14.1. UN number:** UN2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxypropylenediamine, 1,3-Benzendimethanamin)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  
Classification code: C7  
Special Provisions: 274  
Limited quantity: 1 L  

**Other applicable information (inland waterways transport)**

- E1  
- E2

### Marine transport (IMDG)

**14.1. UN number:** UN2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxypropylenediamine, 1,3-Benzendimethanamin)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  
Special Provisions: 274  
Limited quantity: 1 L  
EmS: F-A, S-B  

**Other applicable information (marine transport)**

- E1  
- E2

### Air transport (ICAO)

**14.1. UN number:** UN2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S.  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  
Special Provisions: A3 A803  
Limited quantity Passenger: 0.5 L  
IATA-packing instructions - Passenger: 851  
IATA-max. quantity - Passenger: 1 L  
IATA-packing instructions - Cargo: 855  
IATA-max. quantity - Cargo: 30 L
**Section 15 – Regulatory Information**

All raw materials are on the U.S. EPA TSCA Inventory list.

**Section 16 – Other Information**

**Full text of R phrases referred to under Sections 2 and 3**

- 20/22 Harmful by inhalation and if swallowed.
- 21/22 Harmful in contact with skin and if swallowed.
- 22 Harmful if swallowed.
- 34 Causes burns.
- 35 Causes severe burns.
- 36/38 Irritating to eyes and skin.
- 37/38 Irritating to respiratory system and skin.
- 41 Risk of serious damage to eyes.
- 43 May cause sensitisation by skin contact.
- 50 Very toxic to aquatic organisms.
- 52 Harmful to aquatic organisms.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 53 May cause long-term adverse effects in the aquatic environment.

**Full text of H statements referred to under Sections 2 and 3**

- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.
- H400 Very toxic to aquatic life.
- H412 Harmful to aquatic life with long lasting effects.

**DISCLAIMER**: Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty expresses or implied with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. It is the user’s responsibility to satisfy oneself as to the suitability and completeness of this information for his own particular use.

**MSDS History**

New MSDS Date: 5/14/2013

This is the end of MSDS