* * * Section 1 - Product and Company Identification * * *

Material Name: CERAM-KOTE 54 Part A (LMA-MR005A Form 1 Spec.)

Manufacturer Information
CERAM-KOTE COATINGS INCORPORATED
1800 Industrial Drive
Big Spring, TX USA 79720

Phone: 432-263-8497
Emergency # ChemTel: +1 (800) 255-3924 Contract #: MIS1807449
Outside the USA: 1-813-248-0585 For Australia: 1-300-954-583
For Brazil: 0-800-591-6042, China: 400-120-0751, India: 000-800-100-4086, Mexico: 800-099-0731

* * * Section 2 - Hazards Identification * * *

GHS Classification:
- Flammable Liquids - Category 2
- Skin Corrosion/Irritation - Category 2
- Eye Damage/Irritation - Category 2
- Skin Sensitization - Category 1
- Specific Target Organ Toxicity (Single Exposure) - Category 3
- Aquatic Toxicity Chronic - Category 3

GHS LABEL ELEMENTS
Symbol(s)

Signal Word
Danger

Hazard Statements
- Highly flammable liquid and vapour.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause an allergic skin reaction.
- May cause respiratory irritation, drowsiness or dizziness.
- Harmful to aquatic life with long lasting effects.

Precautionary Statements
Prevention
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools.
- Take precautionary measures against static discharge.
Safety Data Sheet

Wear protective gloves/eye protection/face protection.
Wash thoroughly after handling.
Avoid breathing mist/vapours/spray.
Contaminated work clothing should not be allowed out of the workplace.
Use only outdoors or in a well-ventilated area.

Response
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
In case of fire: Use foam, carbon dioxide, or dry chemical for extinction.
Avoid release to the environment.

Storage
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 3 - Composition / Information on Ingredients ***

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1</td>
<td>Aluminum oxide</td>
<td>30-60%</td>
</tr>
<tr>
<td>25068-38-6</td>
<td>Bisphenol A-epichlorohydrin polymer</td>
<td>6-20%</td>
</tr>
<tr>
<td>14807-96-6</td>
<td>Talc</td>
<td>5-15%</td>
</tr>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>4-7%</td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidyl ether</td>
<td>1-8%</td>
</tr>
<tr>
<td>41638-13-5</td>
<td>Oxirane, 2,2’-[oxybis[(methyl-2,1-ethanediyl)oxymethylene]]bis-</td>
<td>2-6%</td>
</tr>
<tr>
<td>67762-90-7</td>
<td>Fumed silica</td>
<td>2-5%</td>
</tr>
</tbody>
</table>

*** Section 4 - First Aid Measures ***

First Aid: Eyes
Flush with running water for at least 15 minutes. Seek medical attention.

First Aid: Skin
Wash with flowing water. Remove contaminated clothing and launder before re-wearing. If irritation persists, seek medical attention.

First Aid: Ingestion
DO NOT induce vomiting. Seek medical attention.

First Aid: Inhalation
Remove individual to fresh air. If breathing is difficult, administer oxygen and obtain medical aid.
**Section 5 - Fire Fighting Measures**

**General Fire Hazards**
See Section 9 for Flammability Properties.
Highly flammable liquid and vapour. Prevent smoking, open flame, static and other electrical sparking. Excessive heat may cause lids of containers to pop open from excessive vapour pressure.

**Hazardous Combustion Products**
Primary combustion products are carbon monoxide, carbon dioxide, and low molecular weight hydrocarbons.
Other undetermined compounds could be released in small quantities.

**Extinguishing Media**
Use foam, carbon dioxide, or dry chemical.

**Unsuitable Extinguishing Media**
None.

**Fire Fighting Equipment/Instructions**
Treat as a flammable liquid type fire. In a sustained fire wear self-contained breathing apparatus and full protective gear.

**Section 6 - Accidental Release Measures**

**Recovery and Neutralization**
Stop the flow of material, if this is without risk.

**Materials and Methods for Clean-Up**
Land Spill: Prevent material from entering sewers or waterways. Remove all ignition sources. Ventilate area. Absorb with inert materials (e.g. vermiculite or sand) and place in a closed container for proper disposal. Wash spill area well with trisodium phosphate and water.

Water Spill: Material is mostly insoluble. The material will sink. Notify local environmental, health and wildlife authorities, and water intake operators. Contain with booms and minimize spread on water. Disperse any remaining residue to reduce aquatic harm.

Air Release: Spills of this material may release volatile organic compounds into the air. Spills should be cleaned or covered to prevent volatilization.

**Emergency Measures**
Isolate area. Keep unnecessary personnel away.

**Personal Precautions and Protective Equipment**
Wear appropriate protective equipment and clothing during clean-up.

**Environmental Precautions**
Avoid release to the environment.

**Prevention of Secondary Hazards**
None

**Section 7 - Handling and Storage**

**Handling Procedures**
Avoid contact with skin and eyes. Wash thoroughly after handling. Avoid breathing vapors or mists of this product. Ground/bond container and receiving equipment. Use non-sparking tools.

**Storage Procedures**
Keep away from heat and ignition sources.
Incompatibilities
Avoid organic peroxides and oxidizers.

### *** Section 8 - Exposure Controls / Personal Protection ***

**Substance Exposure Limits**

**Aluminum oxide (215-691-6)**

<table>
<thead>
<tr>
<th>Country</th>
<th>TWA Concentrations (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>10 mg/m³ STEL [KZW] (alveolar dust, respirable fraction, smoke), 2 X 60 min</td>
</tr>
<tr>
<td></td>
<td>5 mg/m³ TWA [TMW] (alveolar dust, respirable fraction, smoke)</td>
</tr>
<tr>
<td>Belgium</td>
<td>1 mg/m³ TWA (as Al)</td>
</tr>
<tr>
<td>Denmark</td>
<td>5 mg/m³ TWA (total, as Al); 2 mg/m³ TWA (respirable, as Al)</td>
</tr>
<tr>
<td>France</td>
<td>10 mg/m³ TWA [VME]</td>
</tr>
<tr>
<td>Germany</td>
<td>4 mg/m³ TWA MAK (dust, inhalable fraction); 1.5 mg/m³ TWA MAK (dust, respirable fraction)</td>
</tr>
<tr>
<td>Greece</td>
<td>10 mg/m³ TWA (inhalable fraction); 5 mg/m³ TWA (respirable fraction)</td>
</tr>
<tr>
<td>Portugal</td>
<td>10 mg/m³ TWA [VLE-MP] (particulate matter containing no Asbestos and &lt; 1% Crystalline silica)</td>
</tr>
<tr>
<td>Spain</td>
<td>10 mg/m³ TWA [VLA-ED]</td>
</tr>
<tr>
<td>Sweden</td>
<td>5 mg/m³ LLV (total dust, as Al); 2 mg/m³ LLV (respirable dust, as Al)</td>
</tr>
</tbody>
</table>

**Talc (238-877-9)**

<table>
<thead>
<tr>
<th>Country</th>
<th>TWA Concentrations (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>2 mg/m³ TWA (particulate matter containing no asbestos and &lt;1% crystalline silica, respirable fraction)</td>
</tr>
<tr>
<td>Austria</td>
<td>2 mg/m³ TWA [TMW] (Asbestos-free fibers, respirable fraction)</td>
</tr>
<tr>
<td>Belgium</td>
<td>2 mg/m³ TWA</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.3 fiber/cm³ TWA (containing fibers)</td>
</tr>
<tr>
<td>Finland</td>
<td>0.5 fiber/cm³ TWA (fiber)</td>
</tr>
<tr>
<td>Greece</td>
<td>10 mg/m³ TWA (inhalable fraction); 2 mg/m³ TWA (respirable fraction) 10</td>
</tr>
<tr>
<td>Ireland</td>
<td>mg/m³ TWA (total inhalable dust); 0.8 mg/m³ TWA (respirable dust)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.25 mg/m³ TWA</td>
</tr>
<tr>
<td>Portugal</td>
<td>2 mg/m³ TWA [VLE-MP] (respirable fraction, particulate matter containing no Asbestos and &lt; 1% Crystalline silica)</td>
</tr>
<tr>
<td>Spain</td>
<td>2 mg/m³ TWA [VLA-ED] (this value is for the particulate matter that is free from Asbestos and contains less than 1% of Crystalline silica, respirable fraction)</td>
</tr>
<tr>
<td>Sweden</td>
<td>2 mg/m³ LLV (total dust); 1 mg/m³ LLV (respirable dust)</td>
</tr>
</tbody>
</table>
Methyl ethyl ketone (201-159-0)

ACGIH:

- 300 ppm STEL 200 ppm TWA

Austria:

- 200 ppm STEL [KZW] (4 X 30 min); 590 mg/m3 STEL [KZW] (4 X 30 min)
- 100 ppm TWA [TMW]; 295 mg/m3 TWA [TMW]

Skin notation

Belgium:

- 300 ppm STEL; 900 mg/m3 STEL
- 200 ppm TWA; 600 mg/m3 TWA

Denmark:

- 50 ppm TWA; 145 mg/m3 TWA

Potential for cutaneous absorption 100

Finland:

- ppm STEL; 300 mg/m3 STEL Potential for cutaneous absorption

France:

- 300 ppm STEL [VLCT] (restrictive limit); 900 mg/m3 STEL [VLCT] (restrictive limit)
- 200 ppm TWA [VME] (restrictive limit); 600 mg/m3 TWA [VME] (restrictive limit)

Germany:

- 200 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1); 600 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1)

- 5 mg/L Medium: urine Time: end of shift Parameter: 2-Butanone
- 200 ppm TWA MAK; 600 mg/m3 TWA MAK
- 200 ppm Peak; 600 mg/m3 Peak 300

Greece:

- ppm STEL; 900 mg/m3 STEL
- 200 ppm TWA; 600 mg/m3 TWA

Ireland:

- 300 ppm STEL; 900 mg/m3 STEL
- 200 ppm TWA; 600 mg/m3 TWA

Potential for cutaneous absorption

Italy:

- 200 ppm TWA; 600 mg/m3 TWA

Netherlands:

- 900 mg/m3 STEL 590 mg/m3 TWA

Skin notation

Portugal:

- 200 ppm TWA [VLE-MP]

Spain:

- 300 ppm STEL [VLA-EC]; 900 mg/m3 STEL [VLA-EC]
- 200 ppm TWA [VLA-ED] (indicative limit value); 600 mg/m3 TWA [VLA-ED] (indicative limit value)

Sweden:

- 50 ppm LLV; 150 mg/m3 LLV
- 100 ppm STV; 300 mg/m3 STV
Engineering Measures
General dilution ventilation and/or exhaust ventilation should be provided as necessary to maintain exposures below regulatory limits.

Personal Protective Equipment: Respiratory
If irritation occurs, or if the TLV or PEL is exceeded, use a NIOSH approved air purifying respirator with organic vapor cartridges or canisters, or supplied air respirators.

Personal Protective Equipment: Hands
Use chemical resistant gloves such as neoprene or natural rubber gloves.

Personal Protective Equipment: Eyes
Chemical protective goggles.

Personal Protective Equipment: Skin and Body
Loose fitting long sleeved shirt and long pants are recommended.
**Section 9 - Physical & Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Translucent</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>ND</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>116°C (241°F)</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>ND</td>
</tr>
<tr>
<td>Viscosity</td>
<td>1200 to 2000 cP</td>
</tr>
<tr>
<td>Octanol/H2O Coeff.</td>
<td>ND</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>ND</td>
</tr>
<tr>
<td>Lower Flammability Limit (LFL)</td>
<td>1.2</td>
</tr>
<tr>
<td>Auto Ignition</td>
<td>399°C (750°F)</td>
</tr>
<tr>
<td>Odor</td>
<td>Aromatic</td>
</tr>
<tr>
<td>pH</td>
<td>Slight Acidic</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>3.2 (Air=1)</td>
</tr>
<tr>
<td>Melting Point</td>
<td>ND</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>ND</td>
</tr>
<tr>
<td>VOC</td>
<td>1.76 lb/gal (210.92 g/l) less water</td>
</tr>
<tr>
<td>Flash Point</td>
<td>399°C (750°F)</td>
</tr>
<tr>
<td>Upper Flammability Limit (UFL)</td>
<td>8.0</td>
</tr>
<tr>
<td>Burning Rate</td>
<td>ND</td>
</tr>
</tbody>
</table>

**Section 10 - Chemical Stability & Reactivity Information**

**Chemical Stability**

This is a stable material.

**Hazardous Reaction Potential**

Product may undergo hazardous polymerization.

**Conditions to Avoid**

Avoid excessive heat, contamination and prolonged storage above 70°F (21.1°C).

**Incompatible Products**

Avoid organic peroxides and oxidizers.

**Hazardous Decomposition Products**

May form: carbon dioxide, carbon monoxide, and low molecular weight hydrocarbons.

**Section 11 - Toxicological Information**

**Acute Toxicity**

**Component Analysis - LD50/LC50**

- **Aluminum oxide (1344-28-1)**
  - Oral LD50 Rat >5000 mg/kg

- **Bisphenol A-epichlorohydrin polymer (25068-38-6)**
  - Oral LD50 Rat 11400 mg/kg

- **Methyl ethyl ketone (78-93-3)**
  - Inhalation LC50 Mouse 32 g/m3 4 h; Oral LD50 Rat 2737 mg/kg; Dermal LD50 Rabbit 6480 mg/kg
Potential Health Effects: Skin Corrosion Property/Stimulativeness
May cause dryness, cracking and possible dermatitis with prolonged or repeated contact.

Potential Health Effects: Eye Critical Damage/ Stimulativeness
Direct eye contact may cause immediate irritation with redness, burning, tearing and blurred vision.

Potential Health Effects: Ingestion
May cause mouth, throat and gastrointestinal irritation, nausea, vomiting, and diarrhea if ingested.

Potential Health Effects: Inhalation
May cause respiratory irritation.

Respiratory Organs Sensitization/Skin Sensitization
May cause an allergic skin reaction.

Generative Cell Mutagenicity
Product is not reported to have any mutagenic effects.

Carcinogenicity
A: General Product Information
Product is not reported to have any carcinogenic effects.

B: Component Carcinogenicity
Talc (14807-96-6)
ACGIH: A4 - Not Classifiable as a Human Carcinogen (containing no asbestos fibers)
IARC: Monograph 93 [2010] (inhaled); Supplement 7 [1987]; Monograph 42 [1987] (Group 3 (not classifiable))

Reproductive Toxicity
Product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

Specified Target Organ General Toxicity: Repeated Exposure
Product is not reported to have any specific target organ toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard
Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal.

*** Section 12 - Ecological Information ***

Ecotoxicity
A: General Product Information
Harmful to aquatic life with long lasting effects.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity
Talc (14807-96-6)
Test & Species Conditions
### Safety Data Sheet

96 Hr LC50 Brachydanio rerio | >100 g/L [semi-static]
---|---

**Methyl ethyl ketone (78-93-3)**

<table>
<thead>
<tr>
<th>Test &amp; Species</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 Hr LC50 Pimephales promelas</td>
<td>3130 - 3320 mg/L [flow-through]</td>
</tr>
<tr>
<td>48 Hr EC50 Daphnia magna</td>
<td>&gt;520 mg/L</td>
</tr>
<tr>
<td>48 Hr EC50 Daphnia magna</td>
<td>5091 mg/L</td>
</tr>
<tr>
<td>48 Hr EC50 Daphnia magna</td>
<td>4025 - 6440 mg/L [Static]</td>
</tr>
</tbody>
</table>

### Persistence/Degradability
No information available for the product.

### Bioaccumulation
No information available for the product.

### Mobility in Soil
No information available for the product.

### *** Section 13 - Disposal Considerations ***

**Waste Disposal Instructions**
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

**Disposal of Contaminated Containers or Packaging**
Dispose of contents/container in accordance with local/regional/national/international regulations.

### *** Section 14 - Transportation Information ***

**IATA Information**
- **Shipping Name:** Resin Solution
- **UN #:** 1866 **Hazard Class:** 3 **Packing Group:** III

**ICAO Information**
- **Shipping Name:** Resin Solution
- **UN #:** 1866 **Hazard Class:** 3 **Packing Group:** III

**IMDG Information**
- **Shipping Name:** Resin Solution
- **UN #:** 1866 **Hazard Class:** 3 **Packing Group:** III
**Section 15 - Regulatory Information**

**EU MARKING AND LABELLING:**

**Symbol(s):**

F Xi

**Risk Phrases:**

R11 Highly flammable.
R36/38 Irritating to eyes and skin.

**Substance Analysis - Inventory**

<table>
<thead>
<tr>
<th>Component/CAS</th>
<th>EC #</th>
<th>EEC</th>
<th>CAN</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide 1344-28-1</td>
<td>215-691-6</td>
<td>EINECS</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Bisphenol A-epichlorohydrin polymer 25068-38-6</td>
<td>500-033-5</td>
<td>No</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Talc 14807-96-6</td>
<td>238-877-9</td>
<td>EINECS</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Methyl ethyl ketone 78-93-3</td>
<td>201-159-0</td>
<td>EINECS</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Phenol, polymer with formaldehyde, glycidyl ether 28064-14-4</td>
<td>-</td>
<td>No</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Oxirane, 2,2'[oxybis[(methyl-2,1-ethanediyl)oxymethylene]]bis-41638-13-5</td>
<td>-</td>
<td>No</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Fumed silica 67762-90-7</td>
<td>-</td>
<td>No</td>
<td>DSL</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Section 16 - Other Information**

**Key/Legend**

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

**Literature References**

Available on request.

End of Sheet