SAFETY DATA SHEET
LIFE CATALYST

Section 1. Identification

GHS product identifier : LIFE CATALYST
Other means of identification : Not available.
Product type : Paste.

Relevant identified uses of the substance or mixture and uses advised against
Product use : Dental cavity liner and pulp capping agent.
Area of application : Professional applications.

Manufacturer : Kerr Corporation
1717 West Collins Avenue
Orange, CA  92867-5422
Telephone no.: 1-800-KERR-123

e-mail address of person responsible for this SDS : edwin.varela@kavokerrgroup.com

Emergency telephone number (with hours of operation) : CHEMTREC® (24 hours) U.S. : 1-800-424-9300 International: +1-703-527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
SERIOUS EYE DAMAGE - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 37.8%

GHS label elements
Hazard pictograms :

Signal word : Danger
Hazard statements : Harmful if swallowed. Causes serious eye damage.

Precautionary statements
Prevention : Wear eye or face protection. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Not applicable.
Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.
Section 2. Hazards identification

Hazards not otherwise classified
None known.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Other means of identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

CAS number/other identifiers

<table>
<thead>
<tr>
<th>CAS number</th>
<th>Other names</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl salicylate</td>
<td>methyl salicylate</td>
<td>30-60</td>
<td>119-36-8</td>
</tr>
<tr>
<td>2,2-dimethylpropane-1,3-diol</td>
<td>2,2-dimethylpropane-1,3-diol</td>
<td>5-10</td>
<td>126-30-7</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact**: No special measures are required. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.

**Inhalation**: No special measures required. If inhaled, remove to fresh air. Get medical attention if symptoms occur.

**Skin contact**: No special measures required. In case of contact, immediately flush skin with plenty of water. Get medical attention if symptoms occur.

**Ingestion**: Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Get medical attention if adverse health effects persist or are severe.

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**

**Eye contact**: Causes serious eye damage.

**Inhalation**: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

**Skin contact**: No known significant effects or critical hazards.

**Ingestion**: Harmful if swallowed. May cause burns to mouth, throat and stomach.

**Over-exposure signs/symptoms**

**Eye contact**: Adverse symptoms may include the following:

- pain
- watering
- redness

**Inhalation**: No specific data.

**Skin contact**: Adverse symptoms may include the following:

- pain or irritation
- redness
- blistering may occur
Section 4. First aid measures

**Ingestion**

Adverse symptoms may include the following:

- stomach pains

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician**

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**

No specific treatment.

**Protection of first-aiders**

In case of major fire and large quantities: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**

Do not use water jet.

**Specific hazards arising from the chemical**

No specific fire or explosion hazard.

**Hazardous thermal decomposition products**

Decomposition products may include the following materials:

- carbon dioxide
- carbon monoxide
- sulfur oxides
- halogenated compounds
- metal oxide/oxides

**Special protective actions for fire-fighters**

In case of major fire and large quantities: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Environmental precautions**

Low release. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Small spill**

Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.

**Large spill**

Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.
Section 7. Handling and storage

Precautions for safe handling

Protective measures: No special measures are required for small quantities under normal and intended conditions of product use. For professional use only. Put on appropriate personal protective equipment (see Section 8). Handle with care and dispose in a safe manner.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits: None.

Appropriate engineering controls: No special measures are required for small quantities under normal and intended conditions of product use.

Environmental exposure controls: No special measures are required for small quantities under normal and intended conditions of product use.

Individual protection measures

Hygiene measures: No special measures are required for small quantities under normal and intended conditions of product use.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection: No special measures are required for small quantities under normal and intended conditions of product use.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: No special measures are required for small quantities under normal and intended conditions of product use.
Section 9. Physical and chemical properties

Appearance
- Color: Beige. Off-white. Pink. [Slight]
- Odor: Characteristic.
- Odor threshold: Not available.
- pH: Not available.
- Melting point: Not available.
- Boiling point: Not available.
- Flash point: Not applicable.
- Evaporation rate: Not available.
- Flammability (solid, gas): Not available.
- Lower and upper explosive (flammable) limits: Not available.
- Vapor pressure: Not available.
- Vapor density: Not available.
- Relative density: 2 [Water = 1]
- Solubility: Insoluble in the following materials: cold water and hot water.
- Solubility in water: Not available.
- Partition coefficient: n-octanol/water: Not available.
- Auto-ignition temperature: Not available.
- Decomposition temperature: Not available.
- SADT: Not available.
- Viscosity: Not available.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: Strong oxidizing materials.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Section 11. Toxicological information

Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl salicylate</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>887 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>2,2-dimethylpropane-1,3-diol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3200 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

Based on the criteria of the protocol, this product is considered cytotoxic per USP 23.

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl salicylate</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitization**

Not available.

**Conclusion/Summary**

Skin: Kligman score: Grade I (weak sensitizer)

**Mutagenicity**

Not available.

**Conclusion/Summary**

Not mutagenic in Ames test.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

**Eye contact**

Causes serious eye damage.

**Inhalation**

May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

**Skin contact**

No known significant effects or critical hazards.

**Ingestion**

Harmful if swallowed. May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact**

Adverse symptoms may include the following:

- pain
- watering
- redness

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United States
Section 11. Toxicological information

Inhalation: No specific data.
Skin contact: Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur

Ingestion: Adverse symptoms may include the following:
- stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Long term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Potential chronic health effects
- General: No known significant effects or critical hazards.
- Carcinogenicity: No known significant effects or critical hazards.
- Mutagenicity: No known significant effects or critical hazards.
- Teratogenicity: No known significant effects or critical hazards.
- Developmental effects: No known significant effects or critical hazards.
- Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>1285 mg/kg</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

Toxicity
- Not available.

Persistence and degradability
- Not available.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Log(P_{ow})</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl salicylate</td>
<td>2.55</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>2,2-dimethylpropane-1,3-diol</td>
<td>-0.15</td>
<td>&lt;9</td>
<td>low</td>
</tr>
</tbody>
</table>

Mobility in soil
Section 12. Ecological information

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Section 14. Transport information

<table>
<thead>
<tr>
<th>UN number</th>
<th>DOT Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>UN proper shipping name</th>
<th>DOT Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport hazard class(es)</th>
<th>DOT Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Packing group : -

Environmental hazards : No.

Additional information : -

Special precautions for user : Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304 : Not listed

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United States
Section 15. Regulatory information

Composition/information on ingredients
No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312
Classification : Immediate (acute) health hazard

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl salicylate</td>
<td>30-60</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>2,2-dimethylpropane-1,3-diol</td>
<td>5-10</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

SARA 313
Not applicable.

State regulations

Massachusetts : The following components are listed: BARIUM SULFATE; TITANIUM DIOXIDE

New York : None of the components are listed.

New Jersey : The following components are listed: BARIUM SULFATE; SULFURIC ACID, BARIUM SALT (1:1); TITANIUM DIOXIDE; TITANIUM OXIDE (TiO2)

Pennsylvania : The following components are listed: BENZOIC ACID, 2-HYDROXY-, METHYL ESTER; BARIUM SULFATE; TITANIUM OXIDE (TiO2)

California Prop. 65
WARNING: This product contains a chemical known to the State of California to cause cancer.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Section 16. Other information

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

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Prepared by : IHS

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations

References

HCS (U.S.A.)- Hazard Communication Standard
International transport regulations

➤ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.