

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### Identification of the substance or mixture

**Catalog #:** 10041-1, 10041-2  
**Product Name:** Kaempferol  
**CAS-No.:** 520-18-3

### Company/undertaking identification

Cepharm Life Sciences Inc.  
 11830 W Market Place, Suite K  
 Fulton, MD 20759  
 USA  
 Toll Free: 1-800-257-1565  
 Phone: 410-636-4954

**24-hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident, Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Toll Free: 1-800-424-9300/ +1 703-527-3887 CCN 1010970**

**For Research Use Only. Not for use in diagnostic procedures.**

## SECTION 2: Hazards identification


### Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 3), H301  
 Germ cell mutagenicity (Category 2), H341

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS Label elements, including precautionary statements

Pictogram Signal word		Danger
Hazard statement(s) H301 H341		Toxic if swallowed. Suspected of causing genetic defects.
Precautionary statement(s) P201 P202  P264 P270 P281 P301 + P310 + P330  P308 + P313 P405 P501		Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. IF exposed or concerned: Get medical advice/ attention. Store locked up. Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS – none

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## SECTION 3: Composition / Information on Ingredients

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### Substances

Synonyms: Robigenin  
3,4',5,7-Tetrahydroxyflavone  
3,5,7-Trihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one

Formula: C<sub>15</sub>H<sub>10</sub>O<sub>6</sub>  
Molecular Weight: 286.24 g/mol  
CAS-No.: 520-18-3

### Hazardous Components

Component	Classification	Concentration
<b>3,4',5,7-Tetrahydroxyflavone</b>	Acute Tox. 3; Muta. 2; H301, H341	<= 100%
<b>Acetone</b>	Flam. Liq. 2; Eye Irrit. 2A; STOT SE 3; H225, H319, H336	>= 1 - < 5%
<b>Ethanol</b>	Flam. Liq. 2; Eye Irrit. 2A; H225, H319	>= 1 - <5%

For the full text of the H-Statements mentioned in this section, see Section 16.

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## SECTION 4: First Aid Measures

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### Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling.

### Indication of any immediate medical attention and special treatment needed

No data available.

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## SECTION 5: Firefighting Measures

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### Extinguishing Media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

No data available.

#### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### Further information

No data available.

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## SECTION 6: Accidental Release Measures

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### Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.  
Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling & Storage

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### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.  
Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.  
Light sensitive. Keep in a dry place.  
Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### Specific end use(s)

Apart from the users mentioned in section 1, no other specific uses are stipulated.

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## SECTION 8: Exposure Controls / Personal Protection

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### Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control Parameters	Basis
Acetone	67-64-1	TWA	500.000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment Hematologic effects Upper Respiratory Tract Irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See notice of intended changes (NIC) Substances for which there is a biological exposure index or indices (See BEI section) Not classifiable as a human carcinogen		
		TWA	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract Irritation Eye irritation 2015 adoption Substances for which there is a biological exposure index or indices (See BEI section) Not classifiable as a human carcinogen		
		STEL	750.00000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Hematologic effects Upper Respiratory Tract Irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See notice of intended changes (NIC)		

		Substances for which there is a biological exposure index or indices (See BEI section) Not classifiable as a human carcinogen	
		STEL	500 ppm USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract Irritation Eye irritation 2015 Adoption Substances for which there is a biological exposure index or indices (See BEI section) Not classifiable as a human carcinogen	
		TWA	1000.0000 ppm 2400.0000 mg/m3 USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate	
		TWA	250.000 ppm 590.000 mg/m3 USA. NIOSH Recommended Exposure Limits
		STEL	750 ppm 1780 mg/m3 California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		C	3000 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		PEL	500 ppm 1200 mg/m3 California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Ethanol	64-17-5	TWA	1000.000 ppm USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract Irritation Confirmed animal carcinogen with unknown relevance to humans	
		TWA	1000 ppm, 1900 mg/m3 USA. OSHA-Table Z-1 Limits for Air Contaminants- 1910.10000
		TWA	1000 ppm, 1900 mg/m3 USA. Occupational Exposure Limits (OSHA) - Table Z- 1 Limits for Air contaminants
		The value in mg/m3 is approximate	
		TWA	1000 ppm, 1900 mg/m3 USA. Occupational Exposure Limits (OSHA) - Table Z- 1 Limits for Air contaminants
		The value in mg/m3 is approximate	
		TWA	1000 ppm, 1900 mg/m3 USA. NIOSH Recommended Exposure Limits
		STEL	1000.000 ppm USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract Irritation Confirmed animal carcinogen with unknown relevance to humans	

Hazardous components without workplace control parameters

**Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological Specimen	Basis
Acetone	67-64-1	Acetone	50.0000 mg/l	Urine	ACGIH-Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			
		Acetone	25 mg/l	Urine	ACGIH-Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			

**Exposure controls**

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal Protective Equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Body protection

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## SECTION 9: Physical and Chemical Properties

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### Information on basic physical and chemical properties

a) Appearance	Form: powder
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: 277 degrees C (531 degrees F)
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	log Pow: 1.158
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

### Other safety information

No data available

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## SECTION 10: Stability & Reactivity

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### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

No data available

### Incompatible materials

Strong oxidizing agents.

#### **Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Other decomposition products - No data available  
In the event of fire: see section 5

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## **SECTION 11: Toxicological Information**

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### **Information on toxicological effects**

#### **Acute toxicity**

Inhalation: No data available  
Dermal: No data available  
TDLo Oral – Mouse – 0.02 mg/kg

#### **Skin corrosion / irritation**

No data available

#### **Serious eye damage/eye irritation**

No data available

#### **Respiratory or skin sensitization**

No data available

#### **Germ cell mutagenicity**

In vitro tests showed mutagenic effects which were not observed with in vivo test.

Hamster

Ovary

Mutation in mammalian somatic cells

Hamster

Ovary

Sister chromatid exchange

#### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

No data available

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

#### **Additional Information**

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Kidney - Irregularities - Based on Human Evidence

Skin - Dermatitis - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

Kidney - Irregularities - Based on Human Evidence (Acetone)

Skin - Dermatitis - Based on Human Evidence (Acetone)

Stomach - Irregularities - Based on Human Evidence (Ethanol)

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## SECTION 12: Ecological Information

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**Toxicity**

No data available

**Persistence and degradability**

No data available

**Bio-accumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects**

No data available.

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## SECTION 13: Disposal Considerations

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**Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product

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## SECTION 14: Transport Information

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**DOT (US)**

UN number: 2811                      Class: 6.1                      Packing group: III  
Proper shipping name: Toxic solids, organic, n.o.s. (3,4',5,7-Tetrahydroxyflavone)  
Reportable Quantity (RQ): 5000 lbs

Poison inhalation Hazard: No

**IMDG**

UN number: 2811                      Class: 6.1                      Packing group: III                      EMS-No: F-A, S-A  
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Gambogic acid)

**IATA**

UN number: 2811                      Class: 6.1                      Packing group: III  
Proper shipping name: Toxic solid, organic, n.o.s. (Gambogic acid)

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## SECTION 15: Regulatory Information

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**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right to Know Components**

Acetone	CAS-No. 67-64-1	Revision Date	2007-03-01
Ethanol	64-17-5		2007-03-01

**Pennsylvania Right to Know Components**

3,4',5,7-Tetrahydroxyflavone	520-18-3
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Acetone	67-64-1	2007-03-01
Ethanol	64-17-5	2007-03-01

**New Jersey Right to Know Components**

3,4',5,7-Tetrahydroxyflavone	520-18-3	
Acetone	67-64-1	2007-03-01
Ethanol	64-17-5	2007-03-01

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**SECTION 16: Other Information**

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**Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
Muta.	Germ cell mutagenicity
STOT SE	Specific target organ toxicity – single exposure

**HMIS Rating**

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical Hazard	0

**NFPA Rating**

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

**Disclaimer:**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not represent any guarantee of the properties of the product. Cepham Life Sciences Incorporated and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.