

# ENYMO

FOURTH GENERATION

## ENIGMA COMPOUND



### CHEMOSTASIS ABSORPTION FACTOR

Ultra-low enviro-impact ecobalming chemical for natural/green burial and eco-cremation/disposition.

Champion's Fourth Generation **ENIGMA** line of ecobalming chemicals are predicated on synergistic mixes of essential, plant-based oils and their purified or synthesized/derived active aldehyde or phenolic components in a near-anhydrous carrier to deliver maximum tissue action. The undiluted use of **ENIGMA** chemicals, without any water whatsoever, delivers acceptable temporary preservation, good cosmetic appearance and induces temporary sanitizing effects. The Modern Tenets of Embalming are therefore completely fulfilled. A fully-disclosed, clean-sheet MSDS accompanies all **ENIGMA** chemical products confirming their nontoxic, nonhazardous nature and environmental impact. The result is an extremely safe and practical substitute for dangerous and toxic traditionalist formaldehyde embalming. Chemostasis effects, retarding/slowing of decomposition, are immediately noted after injection/infusion/application and are sufficient for effective holding of 3-5 days, and in some instances, possibly, a week or more. This allows adequate time for holding/transport and planning of the end-of-life celebration. The intent of ecobalming chemicals is to temporarily delay but not stop or inhibit natural decay processes and the natural and inevitable return to the elements of human remains. Champion's **ENIGMA** Ecobalming chemicals offer the modern embalmer a non-hazardous, nontoxic, eco-safe alternative for temporary preservation prior to final disposition.

### DIRECTIONS FOR USE

Liberal use compound as needed for contact/topical ecobalming action and absorption with sanitizing/deodorizing effects. Reapply as needed for additional absorption/ecobalming action. In addition, a highly absorbing and leak-preventing bed can easily be made by using a liberal quantity of **ENIGMA** Compound between two sheets and placing it in the bottom of a natural burial casket. Additionally, the pillowcase and side linings could be filled with **ENIGMA** Compound for enhanced effectiveness. The result is excellent leak protection with maximum sanitizing and deodorizing action.

### Notes:

The use of **ENIGMA** Ecobalming chemicals will not dehydrate or firm a body in it's action. If dehydration (as in the case of edema) is required, Champion's Third Generation **Millenium New Era** chemicals (for example: Xeros, Omega, Cavity 48, Plasma, and Alpha Factor) should be used to effect these results with the accompanying drastic reduction/use of toxic formaldehyde and the significant overall reduction in exposure to all chemicals in a traditional style embalming.

**FOR PROFESSIONAL USE ONLY.**  
**BEFORE USING, READ MATERIAL SAFETY DATA SHEET.**

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

#### 1.1. Product identifier

Trade name : ENIGMA COMPOUND

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

Use of the substance/mixture : Ecobalming compound

Use of the substance/mixture : For professional use only

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

THE CHAMPION COMPANY  
400 Harrison Street  
Springfield, Ohio 45505

Telephone No. (937) 324-5681

#### 1.4. Emergency telephone number

INFOTRAC: 1-800-535-5053 DOMESTIC or 352-323-3500 INTERNATIONAL

### SECTION 2: Hazards identification

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

##### GHS-US classification

Flam. Liq. 4 H227

Eye Irrit. 2A H319

Skin Sens. 1 H317

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) :

: Warning

Hazard statements (GHS-US) :

: H227 - Combustible liquid  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation

Precautionary statements (GHS-US) :

: P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking  
P261 - Avoid breathing dust, fume, mist, spray, vapors  
P264 - Wash hands thoroughly after handling  
P272 - Contaminated work clothing must not be allowed out of the workplace  
P280 - Wear protective clothing, protective gloves, eye protection, face protection  
P302+P352 - If on skin: Wash with plenty of water  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P333+P313 - If skin irritation or rash occurs: Get medical attention  
P337+P313 - If eye irritation persists: Get medical attention  
P362 - Take off contaminated clothing and wash before reuse  
P370+P378 - In case of fire: Use alcohol resistant foam, dry powder, carbon dioxide (CO<sub>2</sub>) to extinguish  
P403+P235 - Store in a well-ventilated place. Keep cool  
P501 - Dispose of contents and container to comply with applicable local, state, national and international regulation

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

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## Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Eugenol	(CAS No) 97-53-0	10	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Skin Sens. 1, H317
Vanillic Aldehyde	(CAS No) 121-33-5	1	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319
Granulated Corn Cob	N/A	89	N/A

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately get medical attention.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation occurs: Get medical attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	: If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER. Never give anything by mouth to a person who is not fully conscious.

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

Symptoms/injuries after inhalation	: Contains more than 80% granulated corn cob. Dust from this product may cause respiratory irritation.
Symptoms/injuries after skin contact	: May cause an allergic skin reaction. Repeated or prolonged skin contact may cause irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation. symptoms may include stinging, tearing, redness, swelling and blurred vision.
Symptoms/injuries after ingestion	: Ingestion may cause nausea and vomiting. May cause gastric irritation. Irritation of the stomach possible.

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Alcohol resistant foam, dry powder, carbon dioxide (CO <sub>2</sub> ). Water spray. Sand.
Unsuitable extinguishing media	: Do not use a solid water stream as it may scatter and spread fire.

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

Fire hazard	: Combustible liquid.
Explosion hazard	: May form flammable/explosive vapor-air mixture. Vapor heavier than air may travel considerable distance to a source of ignition and flash back. Heating will cause pressure rise with risk of bursting and subsequent explosion.

#### 5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Use water spray to cool unopened containers.
Protective equipment for firefighters	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus.
Other information	: Thermal combustion may release carbon monoxide and dioxide. On heating, there is a risk of bursting due to internal pressure build-up. Cool down the containers exposed to heat with a water spray.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid breathing dust, fume, mist, spray, vapors. Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharge.

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Collect all waste in suitable and labelled containers and dispose according to local legislation. Ensure all local, state, national and international regulations are observed. Thoroughly wash the area with water after a spill or leak clean-up. Wash with plenty of water and detergent.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Work in a well-ventilated area. When not in use, keep containers tightly closed. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take precautionary measures against static discharge. Keep away from heat and direct sunlight.

Hygiene measures : Do not eat, drink or smoke when using this product. Use good personal hygiene practices.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide local exhaust or general room ventilation. A washing facility for eye and skin cleaning purposes should be present.

Storage conditions : Keep out of reach of children. Keep only in the original container in a cool, well-ventilated place away from highly flammable substances. Keep container tightly closed and dry. Store away from direct sunlight or other heat sources.

Incompatible materials : Strong acids, bases. Oxidizing agents.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Protective goggles. Protective clothing. For certain operations, additional Personal Protection Equipment (PPE) may be required.

Hand protection : Wear protective gloves. Protective gloves made of Nitrile.

Eye protection : Chemical goggles and/or face shields are required to prevent potential eye contact, irritation or injury.

Respiratory protection : The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Other information : Do not eat, drink or smoke during use.

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Color	: Slightly yellow
Odor	: Clove-like odor
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 86.6 °C (188 °F)
Flash point	: > 87.7 °C (>190 °F TCC)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: > 1 Specific Gravity
Solubility	: Water: Slight
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Stable at normal conditions. Unstable on exposure to heat. Combustible liquid. May form flammable/explosive vapor-air mixture.

#### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong acids. Strong bases. Oxidizing agents.

#### 10.6. Hazardous decomposition products

On thermal combustion form: Fume. Carbon monoxide. Carbon dioxide.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Eugenol (97-53-0)	
LD50 oral rat	1930 mg/kg
ATE US (oral)	1930.00000000 mg/kg bodyweight

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Vanillin (121-33-5)	
LD50 oral rat	1580 mg/kg
LD50 dermal rabbit	> 5010 mg/kg
ATE US (oral)	1580.00000000 mg/kg bodyweight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)

Eugenol (97-53-0)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure)	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure)	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: Contains more than 80% granulated corn cob. Dust from this product may cause respiratory irritation.
Symptoms/injuries after skin contact	: May cause an allergic skin reaction. Repeated or prolonged skin contact may cause irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation. symptoms may include stinging, tearing, redness, swelling and blurred vision.
Symptoms/injuries after ingestion	: Ingestion may cause nausea and vomiting. May cause gastric irritation. Irritation of the stomach possible.

## SECTION 12: Ecological information

### 12.1. Toxicity

Vanillin (121-33-5)	
LC50 fishes 1	53 - 61.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	88 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
NOEC (acute)	10000 mg/kg (Exposure time: 42 Days - Species: Eisenia foetida [soil dry weight])

### 12.2. Persistence and degradability

ENIGMA COMPOUND	
Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

ENIGMA COMPOUND	
Bioaccumulative potential	Not established.

Vanillin (121-33-5)	
Log Pow	1.23 (at 22 °C)

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on ozone layer	: No additional information available
Effect on the global warming	: No additional information available
Other information	: Avoid release to the environment.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Waste disposal recommendations : Dispose in a safe manner in accordance with local, state, national and international regulations.
- Additional information : Do not re-use empty containers. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers to flames, sparks, heat, or other potential ignition sources.
- Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

- In accordance with DOT  
Not regulated for transport

#### Additional information

- Other information : No supplementary information available.

#### Transport by sea

- Not regulated for transport

#### Air transport

- Not regulated for transport

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

- No additional information available

#### 15.2. International regulations

##### CANADA

- No additional information available

##### EU-Regulations

- No additional information available

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

- No additional information available

##### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

- No additional information available

#### 15.2.2. National regulations

- No additional information available

#### 15.3. US State regulations

- No additional information available

### SECTION 16: Other information

- Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 4	flammable liquids Category 4
Skin Sens. 1	Sensitisation — Skin, category 1
H227	Combustible liquid
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation

#### HMIS III Rating

- Health : 1 Slight Hazard - Irritation or minor reversible injury possible
- Flammability : 1 Slight Hazard
- Physical : 0 Minimal Hazard

SDS US (GHS HazCom 2012)

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