

**Product**  
Code:  
Supersedes: Version 5, dated June 2013

**3AEY**  
Version: 6

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Date Prepared: September 2015

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Synonyms

**MEVALONE (3AEY)**

Microparticle Encapsulated Terpene

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

Uses: Agricultural bio-pesticide

Not to be used for: Any other than above

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

Company Identification

Eden Research plc  
Keble House  
Church End, South Leigh  
Witney  
Oxfordshire, OX29 6UR

Tel:

+44 (0)1993 862761

Fax:

+44 (0)1993 776480

Contact:

John Edmonds

[JohnE@edenresearch.com](mailto:JohnE@edenresearch.com)

### 1.4. Emergency telephone number

+44 (0)7764 268199

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

CLP Classification

Eye Damage Category 2 - H319

### 2.2. Label elements



GHS07

#### WARNING

**H319:** Causes serious eye irritation.

**EUH208:** Contains eugenol, geraniol and thymol. May produce an allergic reaction.

**EUH401:** To avoid risks to human health and the environment, comply with the instructions for use.

**P264:** Wash hands thoroughly after handling.

**P270:** Do not eat, drink or smoke when using this product.

**P280:** Wear protective gloves/protective clothing/eye protection/face protection.

**P305+P351+P338:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**P337+P313:** If eye irritation persists: Get medical advice/attention.

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**2.3. Other hazards**

Contains eugenol, geraniol and thymol. May produce an allergic reaction.

Does not fulfil the criteria for classification as PBT or vPvB.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2. Mixtures**

Hazardous component(s)

Under CLP EC1272/2008

Ingredient	CAS/EC Number	REACH Registration Number	%	CLP Hazard Category	H-Statements
Thymol	89-83-8 / 201-944-8	01-2119552430-49	5 - 10	Acute Toxic Category 4 Skin Corrosive Category 1B Aquatic Chronic Category 2	H302 H314 H411
Geraniol	106-24-1 / 203-377-1	01-2119511177-46	5 - 10	Skin Irritation Category 2 Eye Irritation Category 2 Skin Sensitiser Category 1	H315 H319 H317
Eugenol	97-53-0 / 202-589-1	Not yet available	3 - 5	Acute Toxic Category 4 Skin Irritation Category 2 Eye Irritation Category 2 Skin Sensitiser Category 1	H302 H315 H319 H317

See also Section 16 for definition of H-statements

**SECTION 4: FIRST-AID MEASURES**

**4.1. Description of first aid measures**

Inhalation

Remove patient to fresh air, allow to rest and keep warm. Seek medical attention.

Skin contact

Wash immediately with plenty of water. Remove any contaminated clothing and laundry before reuse. Seek medical attention.

Eye contact

Flush immediately with plenty of water for at least 15 minutes, keeping eyelids open. Seek medical attention.

Ingestion

DO NOT induce vomiting! Rinse mouth out with water, but do not give anything to drink. Seek medical attention.

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Personal precautions

Ensure that those giving first aid treatment do not get contaminated by product spills, etc. Wear suitable protective clothing, gloves, safety goggles. See also Section 8.

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

Irritating to eyes.  
Contains eugenol, geraniol and thymol. May produce an allergic reaction.

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

None other than above.

## SECTION 5: FIRE-FIGHTING MEASURES

**5.1. Extinguishing media**

- Suitable

Water spray, foam, carbon dioxide, dry powder.

- Not to be used

Water jet.

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

May decompose on heating to give toxic fumes, including oxides of carbon

**5.3. Advice for fire fighters**

As required for surrounding fire.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Wear suitable protective clothing, gloves, safety goggles.

**6.2. Environmental precautions**

Prevent from entering sewers or the immediate environment. In case of large spill, inform local authorities and Environment Agency.

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

- on soil

Absorb onto inert material such as sand, sawdust, etc.

Transfer along with any contaminated soil to secure container for safe disposal. See Section 13.

- on water

None known.

**6.4. Reference to other sections**

See Section 8 for details of protective equipment.

See Section 13 for details of disposal.

## SECTION 7: HANDLING AND STORAGE

**7.1. Precautions for safe handling**

Avoid contact with skin and eyes. Do not ingest or inhale vapours or spray.

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

Keep in original containers in a cool dry place.

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**7.3. Specific end use(s)** Agricultural bio-pesticide for professional use

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

-WEL (EH40UK) None set

Monitoring procedures Not required

**8.2. Exposure Controls**

Recommended engineering controls Ensure good ventilation. Arrange for eye wash possibility.

Personal protection

Always check applicability with your supplier of protective equipment.

- Respiratory protection If spraying, or if large quantities are handled wear EN143 mask fitted with Type P-SL filter or EN149 mask fitted with Type FFP-SL filter.
- Skin protection Laboratory coat or overalls
- Eye protection Chemical goggles or full face visor
- Hand protection Viton or butyl rubber gloves. However, since glove performance is governed by many variables, it is strongly recommend that specialist advice on the selection and use of protective gloves is sought.  
Note: Break-through times can vary depending on thickness, use and source. Change gloves regularly.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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

Appearance	Light cream coffee brown (beige), viscous liquid
Odour	Oil of cloves
Odour Threshold Value:	Not determined
pH (concentrated product)	5.7
Melting point (°C)	Approx 0 (aqueous solution)
Boiling point/range (°C)	Approx 100 (aqueous solution)
Flash point (Pensky Martens) (°C)	Not flammable
Evaporation rate	Not applicable
Flammability	Not flammable
Explosive properties	None
Vapour pressure (mbar at 25°C)	Not determined
Vapour density	Not determined
Density at 20°C (kg/m <sup>3</sup> )	1033

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Solubility in water (% by weight)	Miscible
Solubility in solvents	Not determined
Partition coefficient (log $K_{ow}$ )	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Oxidising properties	None
Viscosity	Not determined

**9.2. Other information**

*Note: These are typical values and do not constitute a specification.*

**SECTION 10: STABILITY AND REACTIVITY**

<b>10.1. Reactivity</b>	Stable product under recommended storage and handling conditions.
<b>10.2. Chemical stability</b>	Stable product under recommended storage and handling conditions.
<b>10.3. Possibility of hazardous reactions</b>	Stable product under recommended storage and handling conditions.
<b>10.4. Conditions to avoid</b>	Avoid exposure to extreme temperatures (freezing).
<b>10.5. Incompatible materials</b>	Avoid contact with strong oxidising agents.
<b>10.6. Hazardous decomposition products</b>	Not known.

**SECTION 11: TOXICOLOGICAL INFORMATION**

<b>11.1. Information on toxicological effects</b>	
(a) acute toxicity data for 3AEY as follows:	
Oral LD <sub>50</sub> rat (mg/kg)	> 2000
Dermal LD <sub>50</sub> rat (mg/kg)	> 2000
Inhalation LD <sub>50</sub> rat (mg/l/4hr)	> 2.28
(b) skin corrosion/irritation	Mild irritant, but not sufficient for classification
(c) serious eye damage/irritation	Irritant
(d) respiratory or skin sensitisation	The undiluted product is not a skin sensitiser. Contains eugenol, geraniol and thymol. May produce an allergic reaction.
(e) mutagenicity	Reason for no classification: Data conclusive but not sufficient for classification.
(f) carcinogenicity	Reason for no classification: Data conclusive but not sufficient for classification.
(g) reproductive toxicity	Reason for no classification: Data conclusive but not sufficient for classification.
(h) STOT-single exposure	Vapours may cause drowsiness and dizziness.
(i) STOT-repeated exposure	Reason for no classification: Data conclusive but not sufficient for classification.

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(j) aspiration hazard	Reason for no classification: Data conclusive but not sufficient for classification.
Likely routes of exposure	Contact with skin and eyes or by inhalation of spray.
Symptoms related to the physical, chemical and toxicological characteristics	Irritating to eyes. Contains eugenol, geraniol and thymol. May produce an allergic reaction.
Delayed and immediate effects as well as chronic effects from short and long-term exposure	None known.
Other information	Calculations according to the precepts of the Classification, Labelling and Packaging Regulation (EC1272/2008 as amended) show this product to be classified as causes eye irritation.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Aquatic toxicity: Data for 3AEY as follows:

- LC <sub>50</sub> , <i>Oncorhynchus mykiss</i> , 96hr (mg/l)	32.1
- EC <sub>50</sub> , <i>Daphnia magna</i> , 48hr (mg/l)	35.4
- E <sub>b</sub> C <sub>50</sub> , Algae, 72hr (mg/l)	65.2

Harmful to aquatic organisms

### 12.2. Persistence and degradability

All ingredients are readily biodegradable.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

### 12.4. Mobility in soil

Fairly mobile, but rapidly degraded.

### 12.5. Results of PBT and vPvB assessment

Does not fulfil the criteria for classification as PBT or vPvB.

### 12.6. Other adverse effects

None known Calculations according to the precepts of the Classification, Labelling and Packaging Regulation (EC1272/2008 as amended) show this product to be Harmful to aquatic life with long lasting effects.

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**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

Disposal of product

Dispose of as Hazardous Waste, via a licensed contractor ensuring that all national and local authority requirements are complied with.

Disposal of packaging

Contaminated packing should be disposed of as Hazardous Waste, as above, according to local authority guidelines. Washed and decontaminated packing should be disposed of as Controlled Waste.

**SECTION 14: TRANSPORT INFORMATION**

Not classified as dangerous for transport.

**14.1. UN number**

None

**14.2. UN proper shipping name**

None

**14.3. Transport hazard class(es)**

None

**14.4. Packing group**

None

**14.5. Environmental hazards**

None

**14.6. Special precautions for user**

See S-phrases above

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**SECTION 15: REGULATORY INFORMATION**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Control of Substances Hazardous to Health Regulations 2002

Environmental Protection Act 1990

Hazardous Waste Regulations 2005

Waste Management Licensing Regulations 1994

Sludge Use in Agriculture Regulations 1989

Collection and Disposal of Waste Regulations 1988

All as amended from time to time.

**15.2. Chemical Safety Assessment**

A Chemical Safety Assessment has not been carried out on this mixture.

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**SECTION 16: OTHER INFORMATION**

Inventories - All ingredients listed in EINECS unless exempted.

Sources of key data used	CLP Annex VI Tables 3.1 and 3.2 REACH Registered Substance Database EFSA Journal 2012;10(11):2914, EFSA Journal 2012;10(11):2915 and EFSA Journal 2012;10(11):2916 and their associated background documents from the EU Review according to Directive 91/414 and subsequently approved according to Regulation 1107/2009 via Regulation 540/2011.
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Nature of revision	Section 2.1, 2.2, 3.2, 4.2, 11.1, 12.6. (updated to CLP classification)

CLP Classification carried out by calculation method

CLP classification is given below for information only

GHS07  
 Warning  
 Eye irritation Category 2  
 H319 Causes serious eye irritation

H-statements used in Section 3

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
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

Based on EU Regulation 1907/2006 as amended by Regulation 453/2010