

Safety Data Sheet

according to Regulation (EC) 1907/2006 (REACH)



Revision date: 2021-11-08

Supersedes date: 2021-11-01

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

1.1. Product identifier:

Product trade name: Kalama* Ocimene PQ
Company product number: OCIMENEPQ
REACH registration number: 01-2120896123-52-0000
Substance name: Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene
Substance identification number: EC 933-779-9
Other means of identification: 32176

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

Uses: Fragrance ingredient. Industrial applications.
Uses advised against: None identified

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

Manufacturer/Supplier: Emerald Kalama Chemical Limited
Dans Road
Widnes, Cheshire WA8 0RF
United Kingdom
Telephone: +44 (0) 151 423 8000

EU Only Representative: Penman Consulting bvba
Avenue des Arts 10
B-1210 Brussels
Belgium
Telephone: +32 (0) 2 403 7239
email: pcbvba10@penmanconsulting.com

For further information about this SDS: Email: product.compliance@emeraldmaterials.com

1.4. Emergency telephone number:

ChemTel (24 hours): 1-800-255-3924 (USA); +1-813-248-0585 (outside USA).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

Product classification according to Regulation (EC) 1272/2008 (CLP) as amended:

Flammable Liquid, category 3, H226
Skin Irritation, category 2, H315
Skin sensitizer, category 1B, H317
Hazardous to the aquatic environment, Acute, category 1, H400
Hazardous to the aquatic environment, Chronic, category 1, H410
See Section 2.2 for full text of H (Hazard) statements (EC 1272/2008).

2.2. Label elements:

Product labeling according to Regulation (EC) 1272/2008 (CLP) as amended:

Hazard pictogram(s):



Signal word:

Warning

Hazard statements:

H226 Flammable liquid and vapour.
H315 Causes skin irritation.

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H317 May cause an allergic skin reaction.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use carbon dioxide, dry chemical, foam to extinguish.
P391 Collect spillage.

Supplemental information: No Additional Information

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Annex III and ECHA Guidance on Labelling and Packaging. Regulations in individual countries/regions may determine which statements are required on the product label. See product label for specifics.

2.3. Other hazards:

PBT/vPvB criteria: Not Available
Endocrine disrupting properties: No specific information available.
Other hazards: No Additional Information

See Section 11 for toxicological information.

SECTION 3: Composition/information on ingredients

3.1. Substance:

| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>Weight%</u> | <u>Classification</u> | <u>H Statements</u> |
|----------------|---|-------------------------------|--|--------------------------|
| See Notes | Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | 90-<95 | Aquatic Acute 1- Aquatic Chronic 1- Flam. Liq. 3- Skin Irrit. 2- Skin Sens. 1B | H226-315-317-400-410 |
| See Notes | Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | 5-<10 | Acute Tox. 4 Oral- Aquatic Acute 1- Aquatic Chronic 1- Asp. Tox. 1- Skin Irrit. 2- Skin Sens. 1B | H302-304-315-317-400-410 |
| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>REACH Registration No.</u> | <u>EC/List Number</u> | |
| See Notes | Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | 01-2120896123-52-0000 | 933-779-9 | |
| See Notes | Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | 01-2120771718-41-0000 | 947-982-5 | |
| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>M-factor</u> | <u>SCLs</u> | <u>ATE</u> |
| See Notes | Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | 1 | N/E | Not Available |
| See Notes | Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | 1 | N/E | Oral ATE 1900 mg/kg |

See Section 16 for full text of H (Hazard) statements (EC 1272/2008).

Notes: OCIMENE PQ: Reaction mass of dipentene (CAS# 138-86-3, EC 205-341-0) and (Z)-3,7-dimethylocta-1,3,6,-triene (CAS# 3338-55-4, EC 222-081-3). ALLO-OCIMENE: Reaction mass of (E,E)-2,6-dimethylocta-2,4,6-triene (CAS# 3016-19-1, EC 221-153-1) and (E,Z)-2,6-dimethylocta-2,4,6-triene (CAS# 7216-56-0, EC 230-603-6); Alternative CAS# 673-84-7.

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: First aid measures

4.1. Description of first aid measures:

General: If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Following eye contact: Immediately flush eyes with plenty of clean water for an extended time, not less than fifteen (15)

minutes. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and roll eyes in a circular motion. If eye irritation persists: Get medical advice/attention.

Following skin contact: Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Following inhalation: If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Following ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.

Protection of first aid responders: Wear proper personal protective clothing and equipment.

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

Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact. See section 11 for additional information.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media:

Suitable: Use water spray, ABC dry chemical, "alcohol" foam or CO₂. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect emergency responders attempting to stop a leak. Water spray may be used to flush spills away from exposures and to dilute spills to nonflammable mixtures.

Unsuitable: Do not use direct water stream. May spread fire.

5.2. Special hazards arising from the substance or mixture:

Unusual fire/explosion hazards: Issue warning: combustible liquid. Eliminate all ignition sources. Ventilate the area. If spill is large, be prepared to isolate the hazard area. Deny access to the spill area to persons who are not involved in the cleanup and/or who have not been properly trained in spill management of hazardous/flammable liquids. Vapors may explode if ignited in an enclosed area. Run off to sewer may cause a fire or explosion hazard. Protect product from flames of any kind; maintain proper clearance when using heat devices, etc. Closed container may rupture (due to build up in pressure) when exposed to extreme heat. Product may burn if an ignition source is present. Gives off volatile vapors that are heavier than air and may travel along the ground or may be moved by ventilation and ignited by flame, sparks, heaters, or other ignition sources at distant locations (flashback potential).

Hazardous combustion products: Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See section 10 (10.6 Hazardous decomposition products) for additional information.

5.3. Advice for firefighters:

Use water/water spray to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures and to dilute spills to non-combustible mixtures. Do not flush combustible liquids into sewer as a fire or vapor explosion hazard may result. Never direct a hose stream directly onto a burning flammable/combustible liquid. Solid or straight hose stream will cause fire to spread if directed onto a burning spill or into an open container of burning liquid. Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

See section 9 for additional information.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

See Section 8 for recommendations on the use of personal protective equipment. Eliminate ignition sources. Ventilate areas of spill. Personal Protective Equipment must be worn.

6.2. Environmental precautions:

Do not flush liquid into public sewer, water systems or surface waters.

6.3. Methods and material for containment and cleaning up:

Contain by diking with sand, earth or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

6.4. References to other sections:

See Section 8 for recommendations on the use of personal protection and Section 13 for waste disposal.

SECTION 7: Handling and storage**7.1. Precautions for safe handling:**

As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye and skin contact. Avoid inhalation of aerosol, mist, spray, fume or vapor. Avoid drinking, tasting, swallowing or ingesting this product. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area. Bond and ground all containers when transferring chemical. Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). Use spark-proof tools and equipment. Vapors may travel to distant ignition sources.

7.2. Conditions for safe storage, including any incompatibilities:

Store in combustible storage area and away from heat and open flame. Keep away from heat, sparks and open flames. Store under well-ventilated conditions. Keep container upright, when not in use, to prevent leakage. Avoid storing containers in direct sunlight as vapors may accumulate in the head space creating pressure. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use. Emptied container may contain residual vapors or liquid which may ignite or explode. Do not reuse empty container without commercial cleaning or reconditioning. Bond and ground all containers when transferring chemical. Shelf life: 24 months.

7.3. Specific end use(s):

No Additional Information

SECTION 8: Exposure controls / personal protection**8.1. Control parameters:****Occupational exposure limits (OEL):**

| <u>Chemical Name</u> | <u>EU OELV</u> | <u>EU IOELV</u> | <u>ACGIH - TWA/Ceiling</u> | <u>ACGIH - STEL</u> |
|---|----------------|-----------------|----------------------------|---------------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | N/E | N/E | N/E | N/E |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | N/E | N/E | N/E | N/E |

| <u>Chemical Name</u> | <u>UK WEL</u> | <u>Ireland OEL</u> |
|---|---------------|--------------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | N/E | N/E |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | N/E | N/E |

N/E=Not established (no exposure limits established for the listed substances for listed country/region/organization).

Derived No Effect Levels (DNELs):**Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene**

| <u>Population</u> | <u>Route</u> | <u>Acute (local)</u> | <u>Acute (systemic)</u> | <u>Long Term (local)</u> | <u>Long Term (systemic)</u> |
|--------------------|--------------|--------------------------------------|-------------------------|--------------------------------------|-----------------------------|
| Workers | Dermal | Medium hazard (no threshold derived) | N/E | Medium hazard (no threshold derived) | N/E |
| General population | Dermal | Medium hazard (no threshold derived) | N/E | Medium hazard (no threshold derived) | N/E |

Predicted No Effect Concentration (PNECs):**Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene**

| <u>Compartment</u> | <u>PNEC</u> |
|-----------------------|----------------------------------|
| Freshwater | 0,225 µg/L |
| Freshwater sediment | 54,8 µg/kg dw |
| Marine water | 0,0225 µg/L |
| Marine water sediment | 5,48 µg/kg dw |
| Intermittent releases | 2,25 µg/L |
| Soil | 10,8 µg/kg dw |
| STP | 10 mg/L |
| Oral | No potential for bioaccumulation |

N/E=Not established; N/A=Not applicable (not required); bw=body weight; dw=dry weight; ww=wet weight.

8.2. Exposure controls:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Eliminate ignition sources (e.g.,

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sparks, static buildup, excessive heat, etc.).

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear eye protection.

Hand protection: Avoid skin contact when mixing or handling the material by wearing impervious and chemical resistant gloves. In case of prolonged immersion or frequently repeated contact, gloves with breakthrough times greater than 480 minutes (protection class 6) are recommended. For brief contact or splash applications, gloves with breakthrough times of 30 minutes or greater are recommended (protection class 2 or greater). Suggested materials for protective gloves: Polyvinyl chloride (PVC), Viton. The protective gloves to be used must comply with the specifications of the Regulation (EU) 2016/425 and the resultant standard EN 374. Suitability and durability of a glove is dependent on usage (e.g. frequency and duration of contact, other chemicals which may be handled, chemical resistance of glove material and dexterity). Always seek advice of the glove supplier as to the most suitable glove material.

Skin and body protection: Use good laboratory/workplace procedures including personal protective clothing: labcoat, safety glasses and protective gloves.

Respiratory protection: No Information

Further information: Eyewash fountains and safety showers are recommended in the work area.

Environmental exposure controls: See Sections 6 and 12.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

| | |
|---|--|
| Physical state: | Liquid |
| Colour: | Colorless |
| Odour: | Characteristic |
| Odour threshold: | Not Available |
| Melting point/Freezing point: | -20 °C (-4 °F) @ 101.3 kPa |
| Boiling point °C: | >177 °C |
| Boiling point °F: | >351 °F |
| Flammability: | Flammable liquid category 3 |
| Lower and upper explosion limit: | LEL: 0.7% (Dipentene) UEL: 6.1% (Dipentene) |
| Flash point: | 53-57 °C (128-135 °F) EU A.9 closed cup |
| Auto-ignition temperature: | >216°C (>421°F) |
| Decomposition temperature: | Not Available |
| pH: | Not Available |
| Kinematic viscosity: | 6 mm ² /s @ 40°C |
| Solubility in water: | 8.73 mg/L @ 20°C (OECD 105) |
| Partition coefficient n-octanol/water (log value): | 5.5 (OECD 117) |
| Vapour pressure: | 150 Pa @ 20°C |
| Density and/or relative density: | 0.806-0.811 (20°C) |
| Relative vapour density: | Not Available |
| Particle characteristics: | Not Applicable |
| % Volatile by weight: | Not Available |
| VOC: | Not Available |
| Surface tension: | 71.55 mN/m @ 20°C (OECD 115) |

Amounts specified are typical and do not represent a specification.

9.2. Other information:

Information with regard to physical hazard classes:

Explosive properties: Not explosive

Oxidising properties: Not oxidizing

Other safety characteristics:

Evaporation rate: Not Available

SECTION 10: Stability and reactivity

10.1. Reactivity:

None known.

10.2. Chemical stability:

This product is stable.

10.3. Possibility of hazardous reactions:

Hazardous polymerization will not occur.

10.4. Conditions to avoid:

Excessive heat and ignition sources.

10.5. Incompatible materials:

Avoid contact with strong oxidizing agents.

10.6. Hazardous decomposition products:

Carbon dioxide, carbon monoxide and hydrocarbons.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity:** Not classified (based on available data, the classification criteria are not met).

| <u>Chemical Name</u> | <u>Inhalation LC50</u> | <u>Species</u> | <u>Oral LD50</u> | <u>Species</u> | <u>Dermal LD50</u> | <u>Species</u> |
|---|------------------------|----------------|--------------------------------|-------------------|--------------------------------|----------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | N/E | N/E | >2000 mg/kg (OECD 423) | Rat/ adult female | N/E | N/E |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | N/E | N/E | 1900 mg/kg (similar materials) | Rat/ adult | 2400 mg/kg (similar materials) | Rabbit/ adult |

Skin corrosion/irritation: Causes skin irritation - Category 2.

| <u>Chemical Name</u> | <u>Skin irritation</u> | <u>Species</u> |
|---|---------------------------|-------------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | Irritant (OECD 431 & 439) | In-Vitro |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | Irritant | Similar materials |

Serious eye damage/irritation: Not classified (based on available data, the classification criteria are not met).

| <u>Chemical Name</u> | <u>Eye irritation</u> | <u>Species</u> |
|---|-------------------------|-------------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | Non-irritant (OECD 438) | In-Vitro |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | Non-irritant (OECD 492) | Similar materials |

Respiratory or skin sensitization: Skin sensitization - Category 1B.

| <u>Chemical Name</u> | <u>Skin sensitisation</u> | <u>Species</u> |
|---|---------------------------|------------------------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | Sensitizer | Mouse/Local lymph node assay |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | Sensitizer (read-across) | Similar material(s) |

Germ cell mutagenicity: Not classified (based on available data, the classification criteria are not met). OCIMENE PQ: In vitro testing showed no mutagenic activity (OECD 471, OECD 487, OECD 490).**Carcinogenicity:** Not classified (no relevant information found).**Reproductive toxicity:** Not classified (based on available data, the classification criteria are not met). OCIMENE PQ: Reproductive toxicity, oral study in rats: NOAEL (no-observed adverse-effect-level) 175 mg/kg bw/day (female), 500 mg/kg bw/day (male) (OECD 422). Developmental toxicity oral study, rats: NOAEL, developmental toxicity=175 mg/kg bw/day (OECD 422).**Specific target organ toxicity (STOT) - single exposure:** Not classified (based on available data, the classification criteria are not met).**Specific target organ toxicity (STOT) - repeated exposure:** Not classified (based on available data, the classification criteria are not met). OCIMENE PQ: Repeated dose study, oral, rats (OECD 422): NOAEL (no-observed-adverse-effect-level)=175 mg/kg bw/day (systemic effects); 60 mg/kg bw/day (local effects).**Aspiration hazard:** Not classified (no relevant information found).**Information on likely routes of exposure:****General:** Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure.**Eyes:** May cause eye irritation.**Skin:** May cause allergic skin reaction. Causes skin irritation.**Inhalation:** High airborne concentrations of vapors resulting from heating, misting or spraying may cause irritation of the

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respiratory tract and mucous membranes.

Ingestion: Ingestion may cause irritation.

11.2. Information on other hazards

Endocrine disrupting properties: No specific information available.

Other information: No additional information available.

SECTION 12: Ecological information

12.1. Toxicity:

No ecological testing has been conducted on this product.

| <u>Chemical Name</u> | <u>Species</u> | <u>Acute</u> | <u>Acute</u> | <u>Chronic</u> |
|---|-----------------|---|--------------|--|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | Fish | LC50 0.785 mg/L (96 hours) (geometric mean measured) | N/E | N/E |
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | Invertebrates | EC50 0.312 mg/L (48 hours) (geometric mean measured) | N/E | N/E |
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | Algae | EC50 0.225 mg/L (72 hours) (geometric mean measured) | N/E | EC10 0.199 mg/L(72 hours) (geometric mean measured) |
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | Micro-organisms | EL50 >1000 mg/L (3 hours) (OECD 209) | | |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | Fish | N/E | N/E | N/E |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | Invertebrates | EC50 >0.33-<1 mg/L (48 hours) (similar materials) | N/E | N/E |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | Algae | EC50 0.97 mg/L (72 hours) (calculated) | N/E | N/E |

12.2. Persistence and degradability:

| <u>Chemical Name</u> | <u>Biodegradation</u> |
|---|---------------------------------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | Not readily biodegradable (OECD 301F) |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | Not readily biodegradable (OECD 301D) |

12.3. Bioaccumulative potential:

| <u>Chemical Name</u> | <u>Bioconcentration Factor (BCF)</u> | <u>Log Kow</u> |
|---|--------------------------------------|-------------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | 426-890 L/kg (calculated) | 5.5 (OECD 117) |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | N/E | 4.71 (calculated) |

12.4. Mobility in soil:

| <u>Chemical Name</u> | <u>Mobility in soil (Koc/Kow)</u> |
|---|-----------------------------------|
| Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene | 2398 @ 20°C (OECD 121) |
| Reaction Mass of (E,E)-2,6-dimethylocta-2,4,6-triene and (E,Z)-2,6-dimethylocta-2,4,6-triene (Allo-Ocimene) | N/E |

12.5. Results of PBT and vPvB assessment:

Not Available.

12.6. Endocrine disrupting properties:

No specific information available.

12.7. Other adverse effects:

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

Dispose of unused contents (incineration) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where

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appropriate.

See Section 8 for recommendations on the use of personal protective equipment.

SECTION 14: Transport information

The information below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions.

14.1. UN number or ID number: UN3295

14.2. UN proper shipping name:

Hydrocarbons, liquid, n.o.s. (Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene)

14.3. Transport hazard class(es):

U.S. DOT hazard class: 3

Canada TDG hazard class: 3

Europe ADR/RID/ADN hazard class: 3

IMDG Code (ocean) hazard class: 3

ICAO/IATA (air) hazard class: 3

A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.

14.4. Packing group: III

14.5. Environmental hazards:

Marine pollutant: Marine Pollutant: Reaction mass of dipentene and (Z)-3,7-dimethylocta-1,3,6,-triene.

Hazardous substance (USA): Not Applicable

14.6. Special precautions for user:

Not Applicable

14.7. Maritime transport in bulk according to IMO instruments

Not Applicable

Notes: For surface shipment within the United States, flammable liquids with a flash point of 100-141 F (38-60 C) may be reclassified: In containers of 119 gallons capacity or less: NOT REGULATED. In containers of more than 119 gallons capacity: COMBUSTIBLE LIQUID.

SECTION 15: Regulatory information

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

Europe REACH (EC) 1907/2006: Applicable components are registered, exempt or otherwise compliant. EU REACH is only relevant to substances either manufactured or imported into the EU. Emerald Kalama Chemical has met its obligations under the EU REACH regulation. EU REACH information regarding this product is provided for informational purposes only. Each Legal Entity may have differing EU REACH obligations, depending on their place in the supply chain. Emerald's compliance with EU REACH does not imply automatic coverage for Downstream Users located in the EU. For material manufactured outside of the EU, the importer of record must understand and meet their specific obligations under the regulation.

EU Authorizations and/or restrictions on use: Not Applicable

Other EU information: No Additional Information

National regulations: No Additional Information

Chemical inventories:

| <u>Regulation</u> | <u>Status</u> |
|---|---------------|
| Australian Inventory of Industrial Chemicals (AIIC): | Y |
| Canadian Domestic Substances List (DSL): | Y |
| Canadian Non-Domestic Substances List (NDSL): | N |
| China Inventory of Existing Chemical Substances (IECSC): | Y |
| European EC Inventory (EINECS, ELINCS, NLP): | Y |
| Japan Existing and New Chemical Substances (ENCS): | Y |
| Japan Industrial Safety and Health Law (ISHL): | Y |
| Korean Existing and Evaluated Chemical Substances (KECL): | Y |
| New Zealand Inventory of Chemicals (NZIoC): | N |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS): | Y |
| Taiwan Inventory of Existing Chemicals: | Y |
| U.S. Toxic Substances Control Act (TSCA) (Active): | Y |

A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" listing indicates that for one or more components: 1) there is no listing on the public inventory (or is not on the ACTIVE inventory for U.S. TSCA); 2) no information is available; or 3) the component has

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not been reviewed. A "Y" for New Zealand may mean that a qualified group standard may exist for the components in this product.

Chemical inventory notes: ALLO-OCIMENE: Alternative CAS# 673-84-7. OCIMENE PQ: Alternative CAS# 3338-55-4 & CAS# 138-86-3.

15.2. Chemical safety assessment:

A chemical safety assessment has been carried out for the substance or mixture.

SECTION 16: Other information

Hazard (H) Statements in the Composition section (Section 3):

| | |
|------|---|
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Reason for revision: Changes in Section(s): 1, 2, 3, 9, 11, 12, 15

Evaluation method for classification of mixtures: Calculation method

Legend:

* : Trademark owned by Emerald Kalama Chemical, LLC.
ACGIH: American Conference of Governmental Industrial Hygienists
ATE: Acute toxicity estimate
EU OELV: European Union Occupational Exposure Limit Value
EU IOELV: European Union Indicative Occupational Exposure Limit Value
N/A: Not Applicable
N/E: None Established
SCL: Specific concentration limit
STEL: Short Term Exposure Limit
TWA: Time Weighted Average (exposure for 8-hour workday)

Users Responsibility/Disclaimer of Liability:

The information set forth herein is based on our current knowledge, and is intended to describe the product solely with respect to health, safety and the environment. As such, it must not be interpreted as a guarantee of any specific property of the product. As a result, the customer shall be solely responsible for deciding whether said information is suitable and beneficial.

Safety Data Sheet Preparer:
Product Compliance Department
Emerald Kalama Chemical, LLC
1499 SE Tech Center Place, Suite 300
Vancouver, WA 98683
United States

Annex

Document in process