

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

1.1 Product identifier

Trade name: **SYLVAMBER**

Product number: 000142

Substance name according to REACH identification requirements:

Reaction mass of 1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one and 1-(1,2,3,4,6,7,8,8a-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one and 1-(1,2,3,5,6,7,8,8a-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one

EC number: 915-730-3

REACH Registration number: 01-2119489989-04-0001

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

Relevant identified uses: fragrance substance

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

LES DERIVES RESINIQUES ET TERPENIQUES (DRT)

30 rue Gambetta

BP 206

F-40105 DAX CEDEX

FRANCE

Tel: 33-(0)558566200

Fax: 33-(0)558566222

Email: fds@drf.fr

1.4 Emergency telephone number

CHEMTREC (24/24 – 7/7)

International: +1 703 527 3887

From United Kingdom (London): 0870 820 0418

Other countries: see section 16

2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC:



Xi; Irritant

R38: Irritating to skin.



Xi; Sensitising

R43: May cause sensitisation by skin contact.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

The substance is classified and labelled according to the CLP regulation.

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· Hazard pictograms

GHS07 GHS09

· Signal word: Warning**· Hazard statements:**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

· Precautionary statements:

P273 Avoid release to the environment.

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

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards**· Results of PBT and vPvB assessment****· PBT:**

According to Annex XIII of REACH Regulation, the substance is not considered to be Persistent, Bioaccumulative and Toxic.

· vPvB:

According to Annex XIII of REACH Regulation, the substance is not considered to be very Persistent and very Bioaccumulative.

3 Composition/information on ingredients

· 3.1 Chemical characterization: Substance multiconstituent**· Identification number(s)****· EC number:** 915-730-3**· Description:**

Multiconstituent substance composed of 1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one (CAS No. 54464-57-2) and 1-(1,2,3,4,6,7,8,8a-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one (CAS No. 68155-66-8) and 1-(1,2,3,5,6,7,8,8a-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one (CAS No. 68155-67-9). Tetramethylacetyloctahydronaphthalenes.

4 First aid measures

· 4.1 Description of first aid measures**· After inhalation:**

Supply fresh air. If symptoms are experienced, get medical attention.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Immediately rinse with plenty of water.

Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Get medical attention if irritation or skin rash occurs.

· After eye contact:

Immediately rinse with plenty of water. Remove contact lenses, if present and easy to do. Hold eyelids apart and flush eyes with plenty of cool low-pressure water for 15 minutes. Consult an ophthalmologist.

· After swallowing:

If the person is conscious, rinse out mouth with water.

Call for a doctor immediately.

· 4.2 Most important symptoms and effects, both acute and delayed No data available.

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- **4.3 Indication of any immediate medical attention and special treatment needed** No specific indications.

5 Firefighting measures

· 5.1 Suitable extinguishing agents

Foam
Fire-extinguishing powder
Carbon dioxide (CO₂)

- **For safety reasons unsuitable extinguishing agents:** Water with jet

- **5.2 Special hazards arising from the substance or mixture** In case of fire, may release irritant and toxic fumes.

· 5.3 Advice for firefighters

· Protective equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus.

- **Additional information:** Cool endangered receptacles with water spray.

6 Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Keep unprotected persons away.
Provide adequate ventilation.

· 6.2 Environmental precautions

Do not allow product to reach soil, waterways, drains and sewers.
Inform the relevant authorities if the product has caused environmental pollution (soil, waterways, drains or sewers).

· 6.3 Methods and material for containment and cleaning up

Small spills:

Absorb spilled liquid with inert absorbent. Collect and seal in an appropriate container properly labelled for disposal.

Large spills:

Stop spill if it can be done without danger. Dike. Pump as much liquid as possible with an explosion-proof pump or a hand pump. Absorb the remaining liquid with inert absorbent. Collect and seal in an appropriate container properly labelled for disposal.

· 6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **7.1 Precautions for safe handling** Wear personal protective equipment. Provide adequate ventilation.

· Information about fire - and explosion protection:

Keep ignition sources away.

Protect from heat.

· 7.2 Conditions for safe storage

Store under cover in a cool well-ventilated location.

Keep container tightly sealed.

Keep away from sources of ignition.

Protect from heat and direct sunlight.

- **7.3 Specific end use(s)** Only identified uses listed in section 1 are covered by exposure scenarios.

8 Exposure controls/personal protection

· 8.1 Control parameters

- **Components with limit values that require monitoring at the workplace:** None

- **DNEL (Derived No-Effect Level): Workers - Acute/short-term exposure** Local effects - dermal: 101.1 µg/cm²

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· **DNEL (Derived No-Effect Level): Workers - Long-term exposure**

Systemic effects - dermal: 1.73 mg/kg bw/day

Systemic effects - inhalation: 1.76 mg/m³

· **DNEL (Derived No-Effect Level): General population - Acute/short-term exposure**

Local effects - dermal: 50.6 µg/cm²

· **DNEL (Derived No-Effect Level): General population - Long-term exposure**

Systemic effects - dermal: 0.86 mg/kg bw/day

Systemic effects - inhalation: 0.43 mg/m³

Systemic effects - oral: 0.25 mg/kg bw/day

· **PNEC (Predicted No-Effect Concentration) aqua (freshwater):** 2.8 µg/L

· **PNEC (Predicted No-Effect Concentration) aqua (marine water):** 0.28 µg/L

· **PNEC (Predicted No-Effect Concentration) Sewage Treatment Plant:** 10 mg/L

· **PNEC (Predicted No-Effect Concentration) sediment (freshwater):** 3.73 mg/kg sediment dw

· **PNEC (Predicted No-Effect Concentration) sediment (marine water):** 0.75 mg/kg sediment dw

· **PNEC (Predicted No-Effect Concentration) soil:** 0.705 mg/kg soil dw

· **PNEC (Predicted No-Effect Concentration) oral:** 10 mg/kg food

· **PNEC (Predicted No-Effect Concentration) aqua (intermittent releases):** 13 µg/L

· **Additional information:**

This sheet is based on the current valid lists for occupational exposure limit values. The DNELs and PNECs values are derived from the chemical safety assessment conducted for REACH.

· **8.2 Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Immediately remove all soiled and contaminated clothing.

Avoid contact with eyes and skin.

· **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.

· **Protection of hands:**

Protective gloves resistant to chemicals (standard EN 374-1). Gloves should be discarded and replaced regularly.

They should be replaced immediately if there is any indication of degradation or chemical breakthrough.

· **Eye protection:** Safety glasses (standard EN 166)

· **Body protection:** Protective work clothing

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Colourless-slightly yellow

· **Odour:** Woody

· **Odour threshold:** Not determined

· **Change in condition**

Melting/freezing point: < - 20 °C

Initial boiling point and boiling range: 290.4 °C

· **Flash point:** 134 °C (closed cup)

· **Auto-ignition temperature:** 260 °C

· **Decomposition temperature:** Not determined

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· Explosive properties:	The substance does not contain any chemical groups associated with explosive properties.
· Oxidizing properties:	The substance does not contain any chemical groups associated with oxidizing properties.
· Vapour pressure:	0.233 (23 °C)
· Density:	
Relative density	0.96 - 0.97 (20 °C)
· Evaporation rate:	Not determined
· Solubility(ies) in water:	2.68 mg/L (pH 6.6 and 20 °C)
· Partition coefficient (n-octanol/water):	log Kow = 5.6 - 5.7 (30 °C)
· Viscosity:	
Dynamic:	32.61 mPa.s (20 °C)
· 9.2 Other information	No other data

10 Stability and reactivity

- **10.1 Reactivity** No data from specific reactivity tests are available for this product or this class of product.
- **10.2 Chemical stability**
Product stable under storage and handling conditions according to specifications (cf section 7).
- **10.3 Possibility of hazardous reactions**
No hazardous reactions known except those with incompatible products listed in point 10.5.
- **10.4 Conditions to avoid** Keep away from heat and sources of ignition.
- **10.5 Incompatible materials**
Strong acids
Strong oxidizing agents
Alkali agents
- **10.6 Hazardous decomposition products** No dangerous decomposition products known.

11 Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity:

· LD₅₀/LC₅₀ values relevant for classification:

Oral	LD ₅₀	> 5000 mg/kg (rat)
Dermal	LD ₅₀	> 5000 mg/kg (rat)

· Skin corrosion/irritation:

· on the skin:

The substance was found irritating in an in vitro study using a reconstructed human epidermis (EPISKIN).

· Serious eye damage/irritation:

Based on the irritation properties of two structural analogues, the substance is considered as not irritating to eyes.

· Sensitisation:

The substance was found to be skin sensitizing in several assays performed in mice according to the OECD guideline 429 (LLNA - Local Lymph Node Assay).

· Mutagenicity/genotoxicity:

No mutagenicity was observed with the substance in several in vitro assays:

- in bacteria (Ames test carried out according to the OECD 471 guideline);
- in mammalian cells (mouse lymphoma - test carried out according to the OECD 476 guideline).

No genotoxicity was observed in vitro with the substance:

- in a chromosome aberration test in human lymphocytes (test carried out according to the OECD 473 guideline).

No genotoxicity was observed in vivo with the substance in mammalian erythrocyte micronucleus tests carried out

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according to the OECD 474 guideline:

- in rats;
- in male mice.

The result was ambiguous in females.

· Carcinogenicity:

The substance is not expected to be carcinogenic: it is not mutagenic/genotoxic and there is no evidence from the repeated dose toxicity study that the substance is able to induce hyperplasia or preneoplastic lesions.

· Reproductive toxicity:

No developmental effects were observed in an oral toxicity study carried out in rats:

NOAEL (maternal toxicity): 240 mg/kg bw/day (effects on body weight and food consumption)

NOAEL (developmental toxicity): 480 mg/kg bw/day (highest concentration tested).

No reproductive toxicity is supported by the absence of effects on reproductive organs in the 28-day repeated dose toxicity study.

· Specific target organ toxicity - single exposure:No specific target organ toxicity was observed in the LD₅₀ determination studies.**· Specific target organ toxicity - repeated exposure:**

A 28-day oral repeated dose toxicity study was conducted with the substance in rats (according to the OECD 407 guideline):

NOAEL: 150 mg/kg bw/day (reversible liver effects).

· Aspiration hazard: No aspiration hazard expected.**· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

According to Regulation (EC) No 1272/2008, the substance is not considered to be CMR.

12 Ecological information

· 12.1 Aquatic toxicity**Short term tests** were conducted.Water accommodated fractions (WAF) of the ¹⁴C-labeled substance were prepared (the treatment solutions were stirred during 20 hours and left to settle for one hour). Concentrations were measured using Liquid Scintillation Counting.

- Fish study carried out according to a method similar to the OECD 203 guideline

LC₅₀ (96 h), fish (lepisomis macrochirus): 1.3 mg/L

- Daphnia study carried out according to a method similar to the OECD 202 guideline

EC₅₀ (48 h), daphnia (Daphnia magna): 1.38 mg/L

- Algae study carried out according to a method similar to the OECD 201 guideline

EC₅₀ (72 h), algae (Desmodesmus subspicatus): > 2.6 mg/L (based on growth rate)EC₅₀ (72 h), algae (Desmodesmus subspicatus): > 2.6 mg/L (based on biomass)

NOEC (72 h), algae (Desmodesmus subspicatus): 2.6 mg/L (based on growth rate)

Longer term tests were also carried out.Flow-through systems were used with the ¹⁴C-labeled substance dissolved in acetone. Concentrations were measured using Liquid Scintillation Counting.

- Fish study carried out according to the OECD 210 guideline

NOEC (30 d), fish (Danio rerio): 0.54 mg/L (based on egg survival)

NOEC (30 d), fish (Danio rerio): 0.54 mg/L (based on time to hatch)

NOEC (30 d), fish (Danio rerio): 0.3 mg/L (based on post hatch survival)

NOEC (30 d), fish (Danio rerio): 0.16 mg/L (based on length and weight)

LOEC (30 d), fish (Danio rerio): 0.29 mg/L (based on length and weight)

- Daphnia study carried out according to the OECD 211 guideline

NOEC (21 d), daphnia (Daphnia magna): 0.448 mg/L (based on mortality)

NOEC (21 d), daphnia (Daphnia magna): 0.028 mg/L (based on reproduction)

NOEC (21 d), daphnia (Daphnia magna): 0.096 mg/L (based on body length)

LOEC (21 d), daphnia (Daphnia magna): 0.096 mg/L (based on reproduction)

LOEC (21 d), daphnia (Daphnia magna): 0.244 mg/L (based on body length)

NOEC in a 28-d test is available for three different invertebrate species of sediment organisms, representing different living and feeding conditions: the lowest NOEC, based on measured concentrations, is 17.1 mg/kg dw (tests carried out according to or in line with the OECD 218 guideline).

· 12.2 Persistence and degradability

Although the substance did not readily biodegrade under the conditions of the screening tests, it was shown to be rapidly biodegradable in a river water die-away study with a half-life time for primary degradation of ca 1 day. The half-

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life time in river sediment and in agricultural and sludge amended soils was found to be 10 days, 4.2 days and 6 days respectively. These results show that the substance will be rapidly biodegraded under natural conditions.

12.3 Bioaccumulative potential

Bioconcentration and metabolism of the substance was studied with the Bluegill sunfish (*Lepomis macrochirus*) according to the OECD 305 guideline (flow-through system).

High concentration treatment

BCF: 593 (steady state - time of plateau: 3.6 d - average over day 14 and 21 - lipid content 7.7%).

Low concentration treatment

BCF: 603 (steady state approach - time of plateau: 3.6 d - average over day 14 and 21 - lipid content 7.7%).

12.4 Mobility in soil No measured data available.

Other information:

Partitioning between effluent and sludge (coefficient Kd) was derived directly from concentrations of the substance in these matrices in 18 sewage treatment plants: 2.98 - 4.18.

12.5 Results of PBT and vPvB assessment

PBT: The substance is not considered to be Persistent, Bioaccumulative and Toxic (PBT).

vPvB: The substance is not considered to be very Persistent and very Bioaccumulative (vPvB).

12.6 Other adverse effects No data available.

13 Disposal considerations

13.1 Waste treatment methods National and regional regulations have to be adhered to.

Recommendation: The product has to be disposed of in an authorised incinerator, according to regulation.

Uncleaned packaging

Recommendation: Packaging has to be sent to an authorised waste treatment facility, for recycling or disposal.

14 Transport information

14.1 UN Number

ADR, IMDG, IATA 3082

14.2 UN proper shipping name

ADR 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

IMDG, IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one)

14.3 Transport hazard class(es)

ADR, IMDG, IATA



Class 9 Miscellaneous dangerous substances and articles.
Label 9

14.4 Packing group

ADR, IMDG, IATA III

14.5 Environmental hazards:

Marine pollutant: Symbol (fish and tree)

Special marking (ADR): Symbol (fish and tree)

Special marking (IATA): Symbol (fish and tree)

14.6 Special precautions for user:

Warning: Miscellaneous dangerous substances and articles.

Danger code: 90

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· EMS Number:	F-A,S-F
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Tunnel restriction code	E
· Item:	M6
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one), 9, III

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
Regulation (EC) No 1907/2006 (REACH):
The product does not contain any of the substances included in the following lists
 - Annex XIV (authorisation) / substances of very high concern (SVHC)
 - Annex XVII (restrictions)Directive 96/82/EC:
Product fulfilling the criteria of category 9. ii) DANGEROUS FOR THE ENVIRONMENT (R51/53).
- **15.2 Chemical safety assessment** A Chemical Safety Assessment has been carried out.

16 Other information

Information provided in this safety data sheet is based on our experience and present knowledge. It is a description of safety requirements and data given on the product and cannot be considered as specifications. They shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Version:** 1.0
- **Emergency telephone numbers (other countries):**
CHEMTREC In-Country Numbers (24/24 - 7/7)
 - Argentina (Buenos Aires): +54 (0)11 5983 9431
 - Australia (Sydney): +61 (0)2 9037 2994
 - Bahrain (Bahrain): +973 1619 9372
 - Belgium (Brussels) : +32 (0)2 808 32 37
 - Brazil (Rio de Janeiro): +55 21 3958 1449
 - Canada*: 1 800 424 9300
 - Chile (Santiago): +56 (0)22 581 4934
 - China*: 4001 204 937
 - Czech Republic (Prague): +420 228 880 039
 - Colombia*: 01 800 710 2151
 - France : +33 (0)975 18 14 07
 - Germany*: 0 800 181 7059
 - Hong Kong* (Hong Kong): 800 968 793
 - Hungary (Budapest): +36 (06)1 808 8425
 - India*: 000 800 100 7141
 - Indonesia*: 001 803 017 9114
 - Israel (Tel Aviv): +972 (0)3 763 0639
 - Italy*: 800 789 767
 - Italy (Milan): +39 02 4555 7031
 - Japan (Tokyo): +81 (0)3 4520 9637
 - Malaysia*: 1 800 815 308
 - Mexico*: 01 800 681 9531
 - Netherlands: +31 (0)858 880 596
 - Peru (Lima): +51 1 707 1295

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Philippines*: 1 800 1 116 1020
Poland (Warsaw): +48 22 398 80 29
Singapore*: 800 101 2201
Singapore: +65 3158 1349
South Africa*: 0 800 983 611
South Korea*: 00 308 13 2549
Spain*: 900 86 85 38
Sweden (Stockholm): +46 (0)8 5250 3403
Switzerland: +41 (0)43 508 20 11
Taiwan*: 00801 14 8954
Thailand*: 001 800 13 203 9987
United Kingdom (London): +44 (0)870 820 0418
USA*: 1 800 424 9300

(*) Phone numbers for countries marked with an asterisk must be dialed within the country.

Abbreviations and acronyms:

bw: body weight

dw: dry weight

CLP: Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging

EC₅₀: Concentration which leads to a 50% reduction in treated organism responses compared to untreated organism responses (algae) or concentration which causes effects to 50 % of the tested organisms (daphnids)LC₅₀: Lethal concentration for 50 % of exposed animalsLD₅₀: Lethal dose for 50 % of animals exposed by oral or dermal route

LOEC: Lowest Observed Effect Concentration

NOAEC: No Observed Adverse Effect Concentration

NOAEL: No Observed Adverse Effect Level

NOEC: No observed effect concentration

OECD: Guidelines from the Organisation for Economic Co-operation and Development

PBT: Persistent, Bioaccumulative and Toxic substance.

vPvB: very Persistent and very Bioaccumulative substance.

Sources: Literature and company data