SAFETY DATA SHEET

Armor All® Air Freshener Card New Car

According to Regulation (EC) No 1907/2006, Annex II, as amended.

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

1.1. Product identifier

Product name Armor All® Air Freshener Card New Car

Product number 78522ML

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

Identified uses Hanging air freshener.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier

Armored Auto UK Ltd
Unit 16, Rassau Industrial Estate
Ebbw Vale
Gwent NP23 5SD
UK
Tel: +44 1495 350234
Fax: + 44 1495 350431
euregulatory@eu.spectrumbrands.com

1.4. Emergency telephone number

Emergency telephone +44 1495 350234
Monday - Thursday: 0830 - 1700
Friday: 0830 - 1530

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Aquatic Chronic 2 - H411

Environmental The product contains a substance which is very toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Pictogram

Armor All® Air Freshener Card New Car

Hazard statements	H411 Toxic to aquatic life with long lasting effects. EUH208 Contains tetramethyl acetyloctahydronaphthalenes, cedryl methyl ketone, limonene, citral, pin-2(10)-ene, 7-hydroxycitronellal, 3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one, eugenol, coumarin, [1S-(1α,3aβ,4α,8aβ)]-decahydro-4,8,8-trimethyl-9-methylene-1,4-methanoazulene, (ethoxymethoxy)cyclododecane, carvacrol, 1,2,3,5,6,7-hexahydro-1,1,2,3,3-pentamethyl-4H-inden-4-one. May produce an allergic reaction.
Exemptions from CLP Article 17 [Article 29(2)]	The following are not required for labelling: H411 Toxic to aquatic life with long lasting effects. - 1.5.2.1. Labelling of packages where the contents do not exceed 125 ml]
Precautionary statements	P102 Keep out of reach of children.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

tetramethyl acetyloctahydronaphthalenes **0.5 - <1%**

CAS number: 54464-57-2 EC number: 259-174-3

Classification
Skin Irrit. 2 - H315
Skin Sens. 1 - H317
Aquatic Chronic 2 - H411

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran **0.5 - <1%**

CAS number: 1222-05-5 EC number: 214-946-9

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

cedryl methyl ketone **0.5 - <1%**

CAS number: 32388-55-9 EC number: 251-020-3

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Skin Sens. 1 - H317
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

Armor All® Air Freshener Card New Car

limonene **0.5 - <1%**

CAS number: 138-86-3 EC number: 205-341-0

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Skin Sens. 1 - H317
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthyl)ethan-1-one **0.5 - <1%**

CAS number: 21145-77-7 EC number: 244-240-6

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Acute Tox. 4 - H302
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

citral **0.25 - <0.5%**

CAS number: 5392-40-5 EC number: 226-394-6

Classification
Skin Irrit. 2 - H315
Skin Sens. 1 - H317

pin-2(10)-ene **0.025 - <0.25%**

CAS number: 127-91-3 EC number: 204-872-5

Classification
Flam. Liq. 3 - H226
Skin Irrit. 2 - H315
Skin Sens. 1 - H317
Asp. Tox. 1 - H304

7-hydroxycitronellal **0.025 - <0.25%**

CAS number: 107-75-5 EC number: 203-518-7

Classification
Eye Irrit. 2 - H319
Skin Sens. 1 - H317

Armor All® Air Freshener Card New Car

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one **0.025 - <0.25%**

CAS number: 127-51-5 EC number: 204-846-3

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317
Aquatic Chronic 2 - H411

eugenol **0.025 - <0.25%**

CAS number: 97-53-0 EC number: 202-589-1

Classification
Eye Irrit. 2 - H319
Skin Sens. 1 - H317

coumarin **0.025 - <0.25%**

CAS number: 91-64-5 EC number: 202-086-7

Classification
Acute Tox. 4 - H302
Skin Sens. 1 - H317
STOT RE 2 - H373

[1S-(1α,3aβ,4α,8aβ)]-decahydro-4,8,8-trimethyl-9-methylene-1,4-methanoazulene **0.025 - <0.25%**

CAS number: 475-20-7 EC number: 207-491-2

M factor (Acute) = 10 M factor (Chronic) = 10

Classification
Skin Sens. 1 - H317
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

(ethoxymethoxy)cyclododecane **0.025 - <0.25%**

CAS number: 58567-11-6 EC number: 261-332-1 REACH registration number: 01-2119971571-34-XXXX

Classification
Skin Irrit. 2 - H315
Skin Sens. 1B - H317
Aquatic Chronic 2 - H411

Armor All® Air Freshener Card New Car

carvacrol	**0.025 - <0.25%**
CAS number: 499-75-2	EC number: 207-889-6

Classification
Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317

1,2,3,5,6,7-hexahydro-1,1,2,3,3-pentamethyl-4H-inden-4-one	**0.025 - <0.25%**
CAS number: 33704-61-9	EC number: 251-649-3

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317
Aquatic Chronic 2 - H411

[3R-(3α,3aβ,7β,8aα)]-2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene	**0.025 - <0.25%**
CAS number: 469-61-4	EC number: 207-418-4
M factor (Acute) = 10	M factor (Chronic) = 10

Classification
Asp. Tox. 1 - H304
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.

Ingestion Rinse mouth thoroughly with water. Give plenty of water to drink. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.

Skin contact Wash skin thoroughly with soap and water.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse.

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

Inhalation Vapours may cause drowsiness and dizziness.

Ingestion May cause discomfort if swallowed.

Skin contact Prolonged skin contact may cause redness and irritation.

Eye contact May cause temporary eye irritation.

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

Notes for the doctor The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Armor All® Air Freshener Card New Car

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb in vermiculite, dry sand or earth and place into containers. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Reference to other sections See Section 11 for additional information on health hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations.

Advice on general occupational hygiene Avoid contact with eyes and prolonged skin contact.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in a cool and well-ventilated place.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Ingredient comments No exposure limits known for ingredient(s).

8.2. Exposure controls

Armor All® Air Freshener Card New Car

Eye/face protection	No specific eye protection required during normal use.
Hand protection	The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.
Hygiene measures	No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Solid.
Colour	Various colours.
Odour	Characteristic.
Odour threshold	Not determined.
pH	Not determined.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	Not determined.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	Not determined.
Bulk density	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not considered to be explosive.
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information

Other information	No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.

Armor All® Air Freshener Card New Car

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products None at ambient temperatures.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50}) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD_{50}) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50}) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Genotoxicity - in vivo Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

Armor All® Air Freshener Card New Car

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

tetramethyl acetyloctahydronaphthalenes

Skin corrosion/irritation

Animal data Skin Irrit. 2 - H315 Causes skin irritation.

Skin sensitisation

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

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg) 4,640.0

Species Rat

Notes (oral LD_{50}) REACH dossier information.

ATE oral (mg/kg) 4,640.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg) 10,000.0

Species Rat

Notes (dermal LD_{50}) REACH dossier information.

ATE dermal (mg/kg) 10,000.0

Skin corrosion/irritation

Animal data Dose: 0.5 ml, 1 hour, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Very slight oedema - barely perceptible (1). REACH dossier information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.1 ml, 7 days, Rabbit REACH dossier information. Not irritating.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Negative. REACH dossier information.

Reproductive toxicity

Reproductive toxicity - development Developmental toxicity: - NOAEL: 150 mg/kg/day, Oral, Rat Developmental toxicity: - LOAEL: 500 mg/kg/day, Oral, Rat REACH dossier information.

cedryl methyl ketone

Acute toxicity - oral

Armor All® Air Freshener Card New Car

Acute toxicity oral (LD_{50} mg/kg)	4,500.0
Species	Rat
Notes (oral LD_{50})	REACH dossier information.
ATE oral (mg/kg)	4,500.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,001.0
Species	Rabbit
Notes (dermal LD_{50})	REACH dossier information.
ATE dermal (mg/kg)	5,001.0

Skin corrosion/irritation

Human skin model test	Dose: 10 µl, 15 ± 0.5 minutes, Cell Viability (76.2 ± 4.6%) REACH dossier information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation	Dose: 0.1 ml, 24 hours, Rabbit REACH dossier information. Not irritating.

Skin sensitisation

Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.

Reproductive toxicity

Reproductive toxicity - development	Developmental toxicity: - NOAEL: 100 mg/kg/day, Oral, Rat REACH dossier information.

limonene

Skin corrosion/irritation

Animal data	Skin Irrit. 2 - H315 Causes skin irritation.

Skin sensitisation

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

1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthyl)ethan-1-one

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	920.0
Species	Rat
Notes (oral LD_{50})	REACH dossier information.
ATE oral (mg/kg)	920.0

Skin corrosion/irritation

Armor All® Air Freshener Card New Car

Animal data	Dose: 0.5 g, 4 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). REACH dossier information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation	Dose: 0.1 g, 24 hours, Rabbit REACH dossier information. Slightly irritating. Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	- Guinea pig: Not sensitising. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.

citral

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	6,800.0
Species	Rat
ATE oral (mg/kg)	6,800.0

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg, Rat REACH dossier information.

Skin corrosion/irritation

Animal data	Skin Irrit. 2 - H315 Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation	REACH dossier information. Not irritating.

Skin sensitisation

Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information.

Carcinogenicity

Carcinogenicity	NOAEL 60 mg/kg/day, Oral, Mouse REACH dossier information.

Reproductive toxicity

Reproductive toxicity - fertility	Screening - NOAEL 200 mg/kg/day, Oral, Rat P REACH dossier information.

pin-2(10)-ene

Skin corrosion/irritation

Human skin model test	Dose: 10 µl, 15 ± 0.5 minutes, Human Cell Viability (38.5 ± 3.5%) 15 minutes REACH dossier information. Irritating.

Serious eye damage/irritation

Armor All® Air Freshener Card New Car

Serious eye damage/irritation	REACH dossier information. Not irritating.

Skin sensitisation

Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.

Aspiration hazard

Aspiration hazard	1.4 mPa s @ 40°C REACH dossier information. Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways.

7-hydroxycitronellal

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	6,400.0
Species	Rat
Notes (oral LD_{50})	REACH dossier information.
ATE oral (mg/kg)	6,400.0

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50}, : > 2000 mg/kg, Rabbit, REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data	Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). REACH dossier information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation	Dose: 50 µl, Rabbit, REACH dossier information. Eye Irrit. 2 - H319 Causes serious eye irritation.

Skin sensitisation

Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information.

Reproductive toxicity

Reproductive toxicity - fertility	Screening - NOAEL 200 mg/kg/day, Oral, Rat P REACH dossier information.

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one

Skin corrosion/irritation

Animal data	Skin Irrit. 2 - H315 Causes skin irritation.

Skin sensitisation

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

eugenol

Armor All® Air Freshener Card New Car

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} > 2000 mg/kg, Rat REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Very slight oedema - barely perceptible (1). REACH dossier information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.1 ml, Rabbit, REACH dossier information. Eye Irrit. 2 - H319 Causes serious eye irritation.

Skin sensitisation

Skin sensitisation Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information. Skin Sens. 1 - H317 May cause an allergic skin reaction.

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

coumarin

Acute toxicity - oral

Notes (oral LD_{50}) REACH dossier information. Converted acute toxicity point estimate (cATpE)

ATE oral (mg/kg) 500.0

Skin corrosion/irritation

Animal data Primary dermal irritation index: 1.15 REACH dossier information. Read across data. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation REACH dossier information. Read across data. Not irritating.

Skin sensitisation

Skin sensitisation Sensitising. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Negative. REACH dossier information.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information.

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOEC > 0.25 %, Oral, Mouse P, F1 REACH dossier information.

[1S-(1α,3aβ,4α,8aβ)]-decahydro-4,8,8-trimethyl-9-methylene-1,4-methanoazulene

Skin sensitisation

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

Aspiration hazard

Armor All® Air Freshener Card New Car

Aspiration hazard Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways.

(ethoxymethoxy)cyclododecane

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50}, : > 5000 mg/kg, Rat, REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50}, : > 5000 mg/kg, Rabbit, REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: Moderate to severe erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Fully reversible within 8 days. REACH dossier information. Skin Irrit. 2 - H315 Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation REACH dossier information. Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information. Skin Sens. 1B - H317 May cause an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL 50 mg/kg/day, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.

carvacrol

Acute toxicity - oral

ATE oral (mg/kg) 500.0

[3R-(3α,3aβ,7β,8aα)]-2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene

Aspiration hazard

Aspiration hazard Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity Aquatic Chronic 2 - H411

tetramethyl acetyloctahydronaphthalenes

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

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran

Acute aquatic toxicity

Armor All® Air Freshener Card New Car

LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - fish	NOEC, 21 days: 0.093 mg/l, Lepomis macrochirus (Bluegill) LOEC, 21 days: 0.182 mg/l, Lepomis macrochirus (Bluegill) LC_{50}, 96 hours: 1.36 mg/l, Lepomis macrochirus (Bluegill) REACH dossier information.
Acute toxicity - aquatic invertebrates	LC_{50}, 48 hours: 0.47 mg/l, Acartia tonsa REACH dossier information.
Acute toxicity - aquatic plants	NOEC, 72 hours: 0.201 mg/l, Pseudokirchneriella subcapitata LOEC, 72 hours: 0.466 mg/l, Pseudokirchneriella subcapitata EC_{50}, 72 hours: 0.723 mg/l, Pseudokirchneriella subcapitata REACH dossier information.
Acute toxicity - terrestrial	NOEC, 56 days: 45 mg/kg, Eisenia Fetida (Earthworm) LOEC, 28 days: 105 mg/kg, Eisenia Fetida (Earthworm) NOEC, 28 days: 105 mg/kg, Eisenia Fetida (Earthworm) REACH dossier information.

Chronic aquatic toxicity

NOEC	0.01 < NOEC ≤ 0.1
Degradability	Non-rapidly degradable
M factor (Chronic)	1
Chronic toxicity - fish early life stage	NOEC, 21 days: 0.093 mg/l, Lepomis macrochirus (Bluegill) LOEC, 21 days: 0.182 mg/l, Lepomis macrochirus (Bluegill) LC_{50}, 21 days: 0.452 mg/l, Lepomis macrochirus (Bluegill) REACH dossier information.
Chronic toxicity - aquatic invertebrates	NOEC, 5.5 days: 0.0375 mg/l, Acartia tonsa LOEC, 5.5 days: 0.075 mg/l, Acartia tonsa EC_{50}, 5.5 days: 0.131 mg/l, Acartia tonsa REACH dossier information.

cedryl methyl ketone

Acute aquatic toxicity

LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC_{50}, 96 hours: 2.3 mg/l, Pimephales promelas (Fat-head Minnow) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 0.86 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC_{10}, 96 hours: 0.49 mg/l, Selenastrum capricornutum EC_{50}, 96 hours: 2.8 mg/l, Selenastrum capricornutum NOEC, 96 hours: 1.07 mg/l, Selenastrum capricornutum REACH dossier information.

Chronic aquatic toxicity

Armor All® Air Freshener Card New Car

M factor (Chronic)	1
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.087 mg/l, Daphnia magna EC_{50}, 21 days: 0.29 - 0.32 mg/l, Daphnia magna REACH dossier information.

limonene

Toxicity	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

$LE(C)_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1

Chronic aquatic toxicity

M factor (Chronic)	1

1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthyl)ethan-1-one

Acute aquatic toxicity

$LE(C)_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 0.612 mg/l, Pseudokirchneriella subcapitata LOEC, 72 hours: 0.605 mg/l, Pseudokirchneriella subcapitata NOEC, 72 hours: 0.278 mg/l, Pseudokirchneriella subcapitata REACH dossier information.

Chronic aquatic toxicity

M factor (Chronic)	1
Chronic toxicity - aquatic invertebrates	EC_{50}, 21 days: 0.244 mg/l, Daphnia magna NOEC, 21 days: 0.196 mg/l, Daphnia magna LOEC, 21 days: 0.401 mg/l, Daphnia magna IC_{50}, 21 days: 0.3413 mg/l, Daphnia magna REACH dossier information.

citral

Acute toxicity - fish	NOEC, 96 hours: 4.6 mg/l, Leuciscus idus (Golden orfe) LC_0, 96 hours: 4.6 mg/l, Leuciscus idus (Golden orfe) LC_{50}, 96 hours: 6.78 mg/l, Leuciscus idus (Golden orfe) LC_{100}, 96 hours: 10 mg/l, Leuciscus idus (Golden orfe) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_0, 48 hours: 3.13 mg/l, Daphnia magna EC_{50}, 48 hours: 6.8 mg/l, Daphnia magna EC_{100}, 48 hours: 25 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 103.8 mg/l, Desmodesmus subspicatus REACH dossier information.

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Acute toxicity - microorganisms	EC_{20}, 30 minutes: 68 mg/l, Activated sludge EC_{50}, 30 minutes: 160 mg/l, Activated sludge REACH dossier information.

7-hydroxycitronellal

Acute toxicity - fish	LC_{50}, 96 hours: 31.6 mg/l, Leuciscus idus (Golden orfe) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 410 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC_{10}, 72 hours: 42.36 mg/l, Scenedesmus subspicatus EC_{50}, 72 hours: 123.32 mg/l, Scenedesmus subspicatus REACH dossier information.
Acute toxicity - microorganisms	EC_{20}, 30 minutes: > 1000 mg/l, Activated sludge REACH dossier information.

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one

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

eugenol

Acute toxicity - fish	NOEC, 24+48+72+96 hours: 10 mg/l, Brachydanio rerio (Zebra Fish) LC_{50}, 24+48+72+96 hours: 13 mg/l, Brachydanio rerio (Zebra Fish) LC_{100}, 24+48+72+96 hours: 18 mg/l, Brachydanio rerio (Zebra Fish) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{0}, 48 hours: 0.36 mg/l, Daphnia magna EC_{50}, 48 hours: 1.05 mg/l, Daphnia magna EC_{100}, 48 hours: 3.08 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	NOEC, 72 hours: 23 mg/l, Scenedesmus subspicatus LOEC, 72 hours: 38 mg/l, Scenedesmus subspicatus EC_{10}, 72 hours: 23 mg/l, Scenedesmus subspicatus EC_{50}, 72 hours: 24 mg/l, Scenedesmus subspicatus EC_{100}, 72 hours: 38 mg/l, Scenedesmus subspicatus REACH dossier information.

coumarin

Acute toxicity - fish	LC_{50}, 96 hours: 1.324 mg/l, REACH dossier information. QSAR
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 8.012 mg/l, Daphnia sp. REACH dossier information. QSAR
Acute toxicity - aquatic plants	EC_{50}, 96 hours: 1.452 mg/l, NOEC, 96 hours: 0.408 mg/l, REACH dossier information. QSAR

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Acute toxicity - microorganisms	NOEC, 28 days: 100 mg/l, Activated sludge REACH dossier information.
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.448 mg/l, Daphnia sp. REACH dossier information. QSAR

[1S-(1α,3aβ,4α,8aβ)]-decahydro-4,8,8-trimethyl-9-methylene-1,4-methanoazulene

Toxicity	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
Acute aquatic toxicity	
LE(C)$_{50}$	0.01 < L(E)C50 ≤ 0.1
M factor (Acute)	10
Chronic aquatic toxicity	
M factor (Chronic)	10

(ethoxymethoxy)cyclododecane

Toxicity	Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.
Acute toxicity - fish	LC_{50}, 96 hours: 1.9 mg/l, Brachydanio rerio (Zebra Fish) LC_{0}, 96 hours: 1.3 mg/l, Brachydanio rerio (Zebra Fish) LC_{100}, 96 hours: 2.8 mg/l, Brachydanio rerio (Zebra Fish) NOEC, 96 hours: 1.3 mg/l, Brachydanio rerio (Zebra Fish) LOEC, 96 hours: 2.8 mg/l, Brachydanio rerio (Zebra Fish) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{0}, 48 hours: 0.68 mg/l, Daphnia magna EC_{10}, 48 hours: 1.3 mg/l, Daphnia magna EC_{50}, 48 hours: 1.6 mg/l, Daphnia magna EC_{100}, 48 hours: 3.7 mg/l, Daphnia magna NOEC, 48 hours: 0.68 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{10}, 72 hours: > 2 mg/l, Pseudokirchneriella subcapitata EC_{50}, 72 hours: > 2 mg/l, Pseudokirchneriella subcapitata NOEC, 72 hours: 0.89 mg/l, Pseudokirchneriella subcapitata LOEC, 72 hours: 2 mg/l, Pseudokirchneriella subcapitata REACH dossier information.
Acute toxicity - microorganisms	NOEC, 3 hours: ≥ 1000 mg/l, Activated sludge REACH dossier information.

[3R-(3α,3aβ,7β,8aα)]-2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene

Toxicity	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
Acute aquatic toxicity	
LE(C)$_{50}$	0.01 < L(E)C50 ≤ 0.1
M factor (Acute)	10
Chronic aquatic toxicity	

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M factor (Chronic) 10

12.2. Persistence and degradability

Persistence and degradability No data available.

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran

Phototransformation Water - DT_{50} : 3.7 - 4.9 hours
REACH dossier information.

Biodegradation Water - Half-life : < 120 days
Water - Degradation (60%): 28 days
Water - Half-life : 100 hours
Water - Degradation (~2%): 28 days
REACH dossier information.
No biodegradation observed under test conditions.

Biological oxygen demand ~ 3 g O_2/g substance REACH dossier information.

cedryl methyl ketone

Biodegradation Water - Degradation (36%): 28 days
The product is not readily biodegradable.

1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthyl)ethan-1-one

Biodegradation Water - ThOD (21%): 21 days
REACH dossier information.

citral

Phototransformation Water - Degradation (50%): 37.35 minutes
REACH dossier information.
Calculation method.

Biodegradation Water - Degradation (> 90%): 28 days
REACH dossier information.
The substance is readily biodegradable.

pin-2(10)-ene

Biodegradation Water - Degradation (76%): 28 days
REACH dossier information.
The substance is readily biodegradable.

7-hydroxycitronellal

Biodegradation Water - Degradation (80 - 90%): 21 days
REACH dossier information.
The substance is readily biodegradable.

eugenol

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Biodegradation Water - Degradation (50%): 7 days
Water - Degradation (66%): 14 days
Water - Degradation (77%): 21 days
Water - Degradation (82%): 28 days
REACH dossier information.
The substance is readily biodegradable.

coumarin

Biodegradation Water - Degradation (100%): 28 days
REACH dossier information.
The substance is readily biodegradable.

(ethoxymethoxy)cyclododecane

Stability (hydrolysis) pH4, pH7, pH9 - Degradation (>10%): 120 hours @ 50°C
REACH dossier information.

Biodegradation Water - Degradation (< 5%): 28 days
REACH dossier information.
No biodegradation observed under test conditions.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran

Bioaccumulative potential BCF: 1584, Lepomis macrochirus (Bluegill) REACH dossier information.

Partition coefficient log Pow: 5.3 REACH dossier information.

cedryl methyl ketone

Bioaccumulative potential BCF: 3920, Onchorhynchus mykiss (Rainbow trout) REACH dossier information.

Partition coefficient log Pow: 5.6 - 5.9 REACH dossier information.

1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthyl)ethan-1-one

Partition coefficient log Pow: 5.7 REACH dossier information.

citral

Bioaccumulative potential BCF: 89.72, Algae REACH dossier information. Calculation method.

Partition coefficient log Pow: 2.76 REACH dossier information.

7-hydroxycitronellal

Partition coefficient log Pow: 1.68 REACH dossier information.

eugenol

Partition coefficient log Pow: 1.83 REACH dossier information.

Armor All® Air Freshener Card New Car

coumarin

Partition coefficient log Pow: 1.39 REACH dossier information.

(ethoxymethoxy)cyclododecane

Bioaccumulative potential BCF: 530, Cyprinus carpio (Common carp) REACH dossier information.

Partition coefficient log Pow: 5.4 REACH dossier information.

12.4. Mobility in soil

Mobility The product is soluble in water.

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran

Adsorption/desorption coefficient Activated sludge - log Koc: 4.87 REACH dossier information.

cedryl methyl ketone

Adsorption/desorption coefficient Water - log Koc: 3.5 - 5.1 @ 25°C REACH dossier information.

citral

Henry's law constant 0.000376 atm m³/mol @ 25°C REACH dossier information. Calculation method.

7-hydroxycitronellal

Adsorption/desorption coefficient Water - log Koc: 1 @ 24°C REACH dossier information. Calculation method.

Henry's law constant 0.00242 Pa m³/mol @ 24°C REACH dossier information. Calculation method.

(ethoxymethoxy)cyclododecane

Adsorption/desorption coefficient Water - Log Koc: 4.165 @ 20°C Calculation method. REACH dossier information.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Dispose of waste product or used containers in accordance with local regulations

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID). Refer to the Dangerous Goods List for information on any Special Provisions 335 / A158.

Armor All® Air Freshener Card New Car

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

National regulations	EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008	Aquatic Chronic 2 - H411, EUH208: Calculation method.
Revision comments	Section 2: Hazards identification // 2.2. Label elements
Revision date	05/10/2016
Revision	3
Supersedes date	01/06/2016
SDS number	609

Armor All® Air Freshener Card New Car

Hazard statements in full

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.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
EUH208 Contains tetramethyl acetyloctahydronaphthalenes, cedryl methyl ketone, limonene, citral, pin-2(10)-ene, 7-hydroxycitronellal, 3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one, eugenol, coumarin, [1S-(1α,3aβ,4α,8aβ)]-decahydro-4,8,8-trimethyl-9-methylene-1,4-methanoazulene, (ethoxymethoxy)cyclododecane, carvacrol, 1,2,3,5,6,7-hexahydro-1,1,2,3,3-pentamethyl-4H-inden-4-one. May produce an allergic reaction.