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

1.1. Product identifier

Product code : Tintolav - Tintoflor
Trades code : A07-010
Product line: Tintolav

UFI: UG51-207A-W00X-TH8A

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

Scented essence for solvents and Perchloroethylene and Hydrocarbon
Sectors of use:
Industrial Manufacturing[SU3], Public domain (administration, education, entertainment, services, craftsmen)[SU22]

Uses advised against
Do not use for purposes other than those listed

1.3. Details of the supplier of the safety data sheet

Tintolav s.r.l. - Via M. D' Antona 7 - 10028 Trofarello (TO) Tel. 011/649.68.27 Fax 011/649.67.42

Email: info@tintolav.com - Sito internet: www.tintolav.com

Email tecnico competente: a.conedera@tintolav.com

National contact: Malta: Emergency Ambulance 112
Accident & Emergency Department 2545 4030

1.4. Emergency telephone number

The UK National Poisons Emergency number +44 (0)870 600 6266
London: Emergency 24 hour telephone +44 (0) 207188 0100

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

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

Pictograms:
GHS05, GHS07, GHS09

Hazard Class and Category Code(s):
Skin Irrit. 2, Skin Sens. 1B, Eye Dam. 1, Aquatic Chronic 2

Hazard statement Code(s):
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H411 - Toxic to aquatic life with long lasting effects.

If brought into contact with the skin, the product causes significant inflammation with erythema, scabs, or edema.
The product, if brought into contact with skin can cause skin sensitization.
If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.
The product is dangerous to the environment as it is toxic to aquatic life with long lasting effects

2.2. Label elements

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

Pictogram, Signal Word Code(s):
GHS05, GHS07, GHS09 - Danger

Hazard statement Code(s):
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H411 - Toxic to aquatic life with long lasting effects.

Supplemental Hazard statement Code(s):
not applicable

Precautionary statements:
Prevention
P261 - Avoid breathing vapours.
P264 - Wash your hand thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Response
P302+P352 - IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor/physician
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
Disposal
P501 - Dispose of contents / container in accordance with local and national regulations.

Contains:
parfum, Citronellol, Geraniol, 4-tert-butylcyclohexyl acetate, Linalool, linalyl acetate, Alpha isomethyl ionone, Allyl phenoxyacetate, 3-(p-cumenyl)-2-methylpropionaldehyde, Reaction Mass of Cis-4-(isopropyl) cyclohexanemethanol and Trans-4-(isopropyl) cyclohexanemethanol, Eucalyptus globulus extract, Eucalyptol, Limonene.

Contains (Reg.EC 648/2004):
> 30% perfumes,5% < 15% Citronellol, Geraniol,< 5% Linalool, Alpha isomethyl ionone, Limonene

For professional use only

UFI: UG51-207A-W00X-TH8A

2.3. Other hazards

The substance / mixture NOT contains substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

No information on other hazards

SECTION 3. Composition/information on ingredients

3.1 Substances

Irrilevant

3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
Terpineol - FEMA 0	>= 5 < 15%	Skin Irrit. 2, H315; Eye Irrit. 2, H319 ATE oral = 2.000,0 mg/kg ATE dermal = 2.000,0 mg/kg ATE inhal = 4,8mg/l/4 h	ND	8000-41-7	232-268-1	01-2119553062-49-xxxx
Citronellol	>= 5 < 15%	Skin Irrit. 2, H315; Skin Sens. 1B, H317; Eye Irrit. 2, H319; STOT SE 3, H335 ATE oral = 3.450,0 mg/kg ATE dermal = 2.650,0 mg/kg ATE inhal = 1,3mg/l/4 h	ND	106-22-9	203-375-0	01-2119453995-23-0000
Geraniol - FEMA 2507	>= 5 < 15%	Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Dam. 1, H318 ATE oral = 3.500,0 mg/kg ATE dermal = 5.000,0 mg/kg ATE inhal = 0,5mg/l/4 h	603-241-00-5	106-24-1	203-377-1	01-2119552430-49-0000
benzyl acetate - FEMA 2135	>= 1 < 5%	Aquatic Chronic 3, H412 1 1 ATE oral = 2.490,0 mg/kg ATE dermal = 5.000,0 mg/kg ATE inhal = 245,0mg/l/4 h	ND	140-11-4	205-399-7	01-2119638272-42
2,2,2-trichloro-1-phenylehtylacetate - FEMA 0	>= 1 < 5%	Skin Corr. 2, H315; Aquatic Chronic 3, H412 1 1 ATE oral = 6.800,0 mg/kg ATE dermal = 2.000,0 mg/kg	ND	90-17-5	201-972-0	01-2119929625-31-0000
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran	>= 1 < 5%	Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ATE oral = 3.250,0 mg/kg ATE dermal = 3.250,0 mg/kg	603-212-00-7	1222-05-5	214-946-9	01-2119488227-29-0000
diphenyl ether - FEMA 3667	>= 1 < 5%	Eye Irrit. 2, H319; Aquatic Chronic 2, H411 1 1	ND	101-84-8	202-981-2	01-2119472545-33-xxxx

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
		ATE oral = 2.450,0 mg/kg ATE dermal = 7.940,0 mg/kg ATE inhal = 2,7mg/l/4 h				
Tetrahydro-2-isobutyl-4-methyl-pyran-4-ol - FEMA 0	>= 1 < 5%	Eye Irrit. 2, H319 ATE oral = 2.000,0 mg/kg ATE dermal = 2.000,0 mg/kg	ND	63500-71-0	405-040-6	01-2119455547-30
4-tert-Butylcyclohexyl acetate - FEMA 0	>= 1 < 5%	Skin Sens. 1B, H317; Aquatic Chronic 2, H411 1 1 ATE oral = 5.000,0 mg/kg ATE dermal = 5.000,0 mg/kg	ND	32210-23-4	250-954-9	01-2119976286-24
citronellyl acetate - FEMA 2311	>= 1 < 5%	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Chronic 2, H411 1 1 ATE oral = 6.800,0 mg/kg ATE dermal = 2.000,0 mg/kg	ND	150-84-5	205-775-0	NR
Linalool	>= 1 < 5%	Skin Irrit. 2, H315; Skin Sens. 1B, H317; Eye Irrit. 2, H319 ATE oral = 2.790,0 mg/kg ATE dermal = 5.610,0 mg/kg ATE inhal = 307,0mg/l/4 h	603-235-00-2	78-70-6	201-134-4	01-2119474016-42-0000
Linalyl acetate - FEMA 2636	>= 0,1 < 1%	Skin Irrit. 2, H315; Skin Sens. 1B, H317; Eye Irrit. 2, H319; Aquatic Chronic 2, H411 1 1 ATE oral = 14.550,0 mg/kg ATE dermal = 13.360,0 mg/kg	ND	115-95-7	204-116-4	01-2119454789-19-0000
allyl phenoxyacetate - FEMA 2038	>= 0,1 < 1%	Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Skin Sens. 1, H317 ATE oral = 523,0 mg/kg ATE dermal = 903,0 mg/kg	ND	7493-74-5	231-335-2	NR
3-(4-isobutylphenyl)-2-methylpropanal - FEMA 0	>= 0,1 < 1%	Skin Irrit. 2, H315; Skin Sens. 1, H317; Repr. 2, H361 ATE oral = 5.000,0	ND	6658-48-6	229-695-0	NR

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
		mg/kg ATE dermal = 5.000,0 mg/kg				
Reaction Mass of Cis-4-(isopropyl) cyclohexanemethanol and Trans-4-(isopropyl) cyclohexanemethanol	>= 0,1 < 1%	Skin Irrit. 2, H315; Skin Sens. 1B, H317 ATE oral = 10.000,0 mg/kg ATE dermal = 2.000,0 mg/kg	ND	5502-75-0	939-719-8	01-2119983532-32-xxx
Eucalyptus globulus oil - FEMA 0	>= 0,1 < 1%	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Chronic 2, H411 1 1 ATE oral = 5.000,0 mg/kg	ND	84625-32-1	283-406-2	01-2119978250-37
cineole - FEMA 2465	>= 0,1 < 1%	Flam. Liq. 3, H226; Skin Sens. 1B, H317 ATE oral = 2.480,0 mg/kg ATE dermal = 5.000,0 mg/kg	ND	470-82-6	207-431-5	01-2119967772-24
2,6-di-tert-butyl-p-cresol - FEMA 2184	>= 0,1 < 1%	Aquatic Acute 1, H400; Aquatic Chronic 1, H410 1 1 ATE oral = 1.700,0 mg/kg ATE dermal = 8.000,0 mg/kg	ND	128-37-0	204-881-4	01-2119565113-46

SECTION 4. First aid measures

4.1. Description of first aid measures

Inhalation:
Air the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.

Direct contact with skin (of the pure product).:
Take contaminated clothing Immediately off.
Wash immediately with plenty of running water and possibly with soap, the areas of the body that have, or are only suspected to have, come in contact with the product.
In case of contact with skin, wash immediately with water and soap.

Direct contact with eyes (of the pure product).:
Wash immediately and thoroughly with running water, keeping eyelids open for at least 10 minutes, then protect your eyes with a dry sterile gauze. Seek medical advice immediately
Do not use eye drops or ointments of any kind before the examination or advice from an oculist.

Ingestion:
Not hazardous. It’s possible to give activated charcoal in water or liquid paraffin medicine

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

No data available.

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

If skin irritation occurs: Get medical advice/attention.
Immediately call a POISON CENTER/doctor/physician

SECTION 5. Firefighting measures

5.1. Extinguishing media

Advised extinguishing agents:
Water spray, CO2, foam, dry chemical, depending on the materials involved in the fire.

Extinguishing means to avoid:
Water jets. Use water jets only to cool the surfaces of the containers exposed to fire.

5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

Use protection for the breathing apparatus
Safety helmet and full protective suit.
The spray water can be used to protect the people involved in the extinction
You may also use selfrespirator, especially when working in confined and poorly ventilated area and if you use halogenated extinguishers (Halon 1211 fluobrene, Solkan 123, NAF, etc...)
Keep containers cool with water spray

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:
Leave the area surrounding the spill or release. Do not smoke
Wear mask, gloves and protective clothing.

6.1.2 For emergency responders:
Wear mask, gloves and protective clothing.
Eliminate all unguarded flames and possible sources of ignition. No smoking.
Provision of sufficient ventilation.
Evacuate the danger area and, in case, consult an expert.

6.2. Environmental precautions

Contain spill with earth or sand.
If the product has entered a watercourse in sewers or has contaminated soil or vegetation, notify it to the authorities.
Discharge the remains in compliance with the regulations

6.3. Methods and material for containment and cleaning up

6.3.1 For containment:
Rapidly recover the product, wear a mask and protective clothing
Recover the product for reuse, if possible, or for removal. Possibly absorb it with inert material.

Prevent it from entering the sewer system.

6.3.2 For cleaning up:
After wiping up, wash with water the area and materials involved

6.3.3 Other information:
None in particular.

6.4. Reference to other sections

Refer to paragraphs 8 and 13 for more information

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Avoid contact and inhalation of vapors
Wear protective gloves/protective clothing/eye protection/face protection.
In residential areas do not use on large surfaces.
At work do not eat or drink.
Contaminated work clothing should not be allowed out of the workplace.
See also paragraph 8 below.

7.2. Conditions for safe storage, including any incompatibilities

Keep in original container closed tightly. Do not store in open or unlabeled containers.
Keep containers upright and safe by avoiding the possibility of falls or collisions.
Store in a cool place, away from sources of heat and `direct exposure of sunlight.

7.3. Specific end use(s)

Industrial Manufacturing:
Handle with extreme caution.
Store in a well ventilated place away from heat sources.

Public domain (administration, education, entertainment, services, craftsmen):
Handle with care. Store in a ventilated area and away from heat, keep the container tightly closed.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

- Substance: Terpineol
DNEL
Systemic effects Long term Workers inhalation = 5,8 (mg/m3)

- Substance: Citronellol
DNEL
Systemic effects Long term Workers inhalation = 161,6 (mg/m3)

- Substance: Geraniol
DNEL
Systemic effects Long term Workers inhalation = 161,6 (mg/m3)

- Substance: benzyl acetate
DNEL
Systemic effects Long term Workers inhalation = 21,9 (mg/m3)
Systemic effects Long term Workers dermal = 6,25 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 5,5 (mg/m3)
Systemic effects Long term Consumers dermal = 3,125 (mg/kg bw/day)

Systemic effects Long term Consumers oral = 3,125 (mg/kg bw/day)

- Substance: 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran
DNEL
Systemic effects Long term Workers inhalation = 22 (mg/m3)
Systemic effects Long term Workers dermal = 60 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 6,5 (mg/m3)
Systemic effects Long term Consumers dermal = 36 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 3,8 (mg/kg bw/day)
PNEC
Sweet water = 0,0044 (mg/l)
sediment Sweet water = 2 (mg/kg/sediment)
Sea water = 0,00044 (mg/l)
sediment Sea water = 0,394 (mg/kg/sediment)
ground = 0,31 (mg/kg ground)

- Substance: Tetrahydro-2-isobutyl-4-methyl-pyran-4-ol
DNEL
Systemic effects Long term Workers inhalation = 12,2 (mg/m3)
Systemic effects Long term Workers dermal = 3,47 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 3,62 (mg/m3)
Systemic effects Long term Consumers dermal = 2,08 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 1,04 (mg/kg bw/day)

- Substance: Linalool
DNEL
Systemic effects Long term Workers inhalation = 2,8 (mg/m3)
Systemic effects Long term Workers dermal = 2,5 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 0,7 (mg/m3)
Systemic effects Long term Consumers dermal = 1,25 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 0,2 (mg/kg bw/day)

- Substance: Linalyl acetate
DNEL
Systemic effects Long term Workers inhalation = 2,75 (mg/m3)
Systemic effects Long term Workers dermal = 2,5 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 0,68 (mg/m3)
Systemic effects Long term Consumers dermal = 1,25 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 0,2 (mg/kg bw/day)

- Substance: 2,6-di-tert-butyl-p-cresol
DNEL
Systemic effects Long term Workers inhalation = 3,5 (mg/m3)
Systemic effects Long term Workers dermal = 8,3 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 1,74 (mg/m3)
Systemic effects Long term Consumers dermal = 5 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 0,25 (mg/kg bw/day)

8.2. Exposure controls

Appropriate engineering controls:
Industrial Manufacturing:
No specific monitoring foreseen

Public domain (administration, education, entertainment, services, craftsmen):

No specific monitoring foreseen

Individual protection measures:

(a) Eye / face protection
When handling the pure product use safety glasses (spectacles cage) (EN 166).

(b) Skin protection

(i) Hand protection
Handle with gloves. Gloves must be checked before use. Use a technique suitable for removing gloves (without touching the outer surface of the glove) to avoid the skin contact with this product Dispose of contaminated gloves after use in accordance with current legislation and good laboratory practices. Wash and dry your hands.
The selected protective gloves have to satisfy the requirements of EU directive 89/686 / EEC e the resulting EN 374 standards.
Full contact
Material: Nitrile rubber
minimum thickness: 0.11 mm
breakthrough time: 480 min
The choice of an appropriate glove depends not only on the material but also on other quality characteristics which vary from one manufacturer to another.
For the choice of the type of gloves to use consult the supplier / manufacturer of the gloves.
Observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(ii) Other
When handling the pure product wear full protective skin clothing.

(c) Respiratory protection
Not needed for normal use.

(d) Thermal hazards
No hazard to report

Environmental exposure controls:
Use according to good working practices to avoid pollution into the environment.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	Liquid	
Colour	colorless	
Odour	characteristic	
Odour threshold	not determined	
pH	6-7	
Melting point/freezing point	not determined	
Initial boiling point and boiling range	not determined	
Flash point	> 65 °C	ASTM D92
Evaporation rate	irrelevant	
Flammability (solid, gas)	nonflammable	
Upper/lower flammability or explosive limits	not determined	

Physical and chemical properties	Value	Determination method
Vapour pressure	not determined	
Vapour density	not determined	
Relative density	0.97 - 1.06 gr/cm3	
Solubility	irrelevant	
Water solubility	irrelevant	
Partition coefficient: n-octanol/water	not determined	
Auto-ignition temperature	not determined	
Decomposition temperature	not determined	
Viscosity	not determined	
Explosive properties	not explosive	
Oxidising properties	non-oxidizing	

9.2. Other information

Content of VOC ready to use condition: 100 %

SECTION 10. Stability and reactivity

10.1. Reactivity

No reactivity hazards

10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

There are no hazardous reactions

10.4. Conditions to avoid

Nothing to report

10.5. Incompatible materials

It can ignite in contact with oxidants mineral acids, strong oxidants agents.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11. Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

ATE(mix) oral = 104.600,0 mg/kg
ATE(mix) dermal = 180.600,0 mg/kg

ATE(mix) inhal = ∞

(a) acute toxicity: Citronellol: orl-rat LD50:3450 mg/kg
skn-rbt LD50:2650 mg/kg
ihl-rat LCLo:1.3 mg/m3/4H
Geraniol: LD50 Oral (rat) (mg / kg body weight) = 3500
LD50 Dermal (rabbit) (mg / kg body weight) => 5000
LC50 Inhalation (rat) of vapor / dust / aerosol / smoke (mg / l / 4h): 0.5
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran: Acute Oral Toxicity
(1) Wistar rats (10/sex) were administered commercial grade HHCB (65% HHCB in either diethyl phthalate or isopropyl myristate) via gavage at 5000 mg/kg-bw and observed for 14 days. The corrected dose of HHCB was 3250 mg/kg-bw. One death occurred at this dose.
LD50 > 3250 mg/kg-bw
(2) Rats (10 females/dose; strain not specified) were administered commercial sample (65% HHCB in either diethyl phthalate or isopropyl myristate) via gavage at 3000 mg/kg-bw and observed for 14 days. It is not clear whether the reported dose reflected dose of the mixture or of HHCB. Therefore, a conservative estimate of the LD50 is considered to be 65% of the test concentration. No mortality was observed during the study.
LD50 > 1950 mg/kg-bw
diphenyl ether: LD50 = 2450 mg/kg bw rat

LD50 > 7940 mg/kg bw rabbit

LC50 = 2.66 mg/L
4-tert-Butylcyclohexyl acetate: Rats (10 per dose, sex and strain not reported) were administered 4-tert-butylcyclohexyl acetate by gavage at 5000 mg/kg-bw. No information on mortality was reported
Rabbits (4, sex and strain not reported) were administered 4-tert-butylcyclohexyl acetate dermally at 5000 mg/kg-bw. One rabbit died.
2,6-di-tert-butyl-p-cresol: LD50 oral: 1700 mg/kg (rat)
LD50 oral: 800 - 1600 mg/kg (mouse)
LD50 dermal: >8000 mg/kg (guinea pig)
(b) skincorrosion/irritation: If brought into contact with the skin, the product causes significant inflammation with erythema, scabs, or edema.
benzyl acetate: Skin - rabbit - Irritating to skin - 24 h
Terpineol: Skin-rabbit-skin irritant-Draize Test
Citronellol: skn-rbt 100 mg/24H SEV
Skin - Human - Skin irritation - 48 h
Geraniol: skn-rbt 100 mg/24H SEV
skn-gpg 100 mg/24H SEV
skn-man 16 mg/24H SEV
benzyl acetate: Skin-rabbit-skin irritant-24 h
diphenyl ether: Severely irritating (24-h exposure) Slightly irritating (4-h exposure)
Tetrahydro-2-isobutyl-4-methyl-pyran-4-ol: Component: 63500-71-0
human
Result: No skin irritation
Method: repeated insult patch test
rabbit
Result: No skin irritation
4-tert-Butylcyclohexyl acetate: Rabbits (species, sex and number not specified) were administered 4-tert-butylcyclohexyl acetate dermally to the ears and backs. Observations of the backs included slight erythema after 1 and 5 min, severe erythema and slight edema at 15 min, and severe erythema and edema at 20 hours. On day 8, slight redness and severe scaling were observed. Observations of the ears included severe erythema and edema with blistering after 20 hours. Severe necrosis was recorded on day 8. (Bhatia, S.P., et al., Food and Chemical Toxicology 46 (2008) S36-S41) 4-tert-Butylcyclohexyl acetate was irritating to rabbit skin
Linalyl acetate: Linalyl acetate (100%) appeared to be severely irritating to rabbit skin and moderately irritating to the skin of the guinea pig. In a test with miniature swines application of 0.05 g linalyl acetate under a patch for 48 hours, no irritation was observed.
Linalyl acetate in Application of acetone (33%) to the back of male volunteers without known allergies during 48 hours under occlusion did not induce signs of irritation up to 120 hours after removal of the patch.
(c) serious eye damage/irritation: If brought into contact with eyes, the product causes serious damages to eyes, such

as an opaque cornea or injury to iris.
Geraniol: Eyes-rabbit
Result: Risk of serious damage to eyes. -12:00 am
(Directive 67/548/EEC, Annex V, b. 5.)
Terpineol: Eyes-rabbit-Slight eye irritation Test Draize
diphenyl ether: Slightly irritating
Tetrahydro-2-isobutyl-4-methyl-pyran-4-ol: Component: 63500-71-0
rabbit
Result: Eye irritation
4-tert-Butylcyclohexyl acetate: Albino rabbits (3/sex dose not specified) were instilled 0.1 mL aliquot of 0.625% solution (vehicle not reported) into the right eye of each rabbit with no further treatment while the left eye served as control. Scores were recorded according to the Draize scale. Slight to moderate irritation with conjunctival chemosis and discharge were observed in all three rabbits (mean score for redness and 1.9 for 1 chemosis). All eyes cleared by day 4. (Bhatia, S.P., et al., Food and Chemical Toxicology 46 (2008) S36-S41) 4-tert-Butylcyclohexyl acetate was irritating to rabbit eyes.
(d) respiratoryorskinsensitisation: The product, if brought into contact with skin can cause skin sensitization.
Citronellol: mouse - May cause sensitization by skin contact.
Geraniol: Guinea pig
May cause sensitisation by skin contact.
Tetrahydro-2-isobutyl-4-methyl-pyran-4-ol: Component: 63500-71-0
human
Result: Did not cause sensitization on laboratory animals.
Test substance: 8.0% in petrolatum
mouse
Result: Did not cause sensitization on laboratory animals.
Test substance: 30.00%
(e) germ cell mutagenicity: benzyl acetate: Laboratory tests revealed mutagenic effects.
Genotoxicity in vitro lymphocyte-topo-
mutation in mammalian somatic cells
In vitro genotoxicity-Hamster-Lungs
Cytogenetic analysis
4-tert-Butylcyclohexyl acetate: Salmonella typhimurium strains TA98, TA100, TA1535, TA1537 and Ta 1538 were exposed to 4-tert-butylcyclohexyl acetate at 8 to 5000 g/plate in a bacterial reverse mutation assay in the presence and absence of metabolic activation. Positive and negative controls were used but their response was not provided. Cytotoxicity was observed at and above 200 g/plate.
4-tert-Butylcyclohexyl acetate was not mutagenic in this assay.
Linalyl acetate: 14550 Rat LD50 (mg/kg bw)
13360 Mouse LD50 (mg/kg bw)
(f) carcinogenicity: Geraniol: No component of this product present at levels greater than or equal to 0.1% is identified as
probable, possible or confirmed human carcinogen by IARC.
benzyl acetate: Cancerogenicit-rat-Oral
Oncogenia: second neoplastic RTECS gastrointestinal tumors
Cancerogenicit-rat-Oral
Oncogenia: Liver cancer second neoplastic RTECS:
This product or contains a component that cannot be classified according to its effect
carcinogen IARC classification, ACGIH, NTP or EPA.
IARC: Group 3-3: Not classifiable as to its carcinogenicity to humans (Benzyl acetate)
(g) eproductivetoxicity: 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran: Mated female Crl:CD(SD)Br rats (animals/sex/dose not specified) were administered HHCB via gavage at 0, 2, 6 or
20 mg/kg-bw/day beginning on gestation day 14. The F1 offspring were exposed in utero and throughout lactation. At the end of the pre-weaning period, 24 male and 24 female pups per dose were retained for further study. On day 22 post-partum, excess pups and parents were sacrificed and examined for abnormalities. When offspring were 84 days of age, males and females were mated and produced litters. After day 21 post-partum, all F2 pups and F1 dams were sacrificed and examined internally and externally for abnormalities. No adverse effects on behavior or reproduction were observed at any dose in parental animals or in F1 or F2 pups.
NOAEL (systemic and reproductive toxicity) = 20 mg/kg-bw/day (based on no effects at the highest dose tested)
diphenyl ether: In the repeated-dose dietary toxicity study described previously, reproductive organs of both genders were weighed and examined macroscopically and histopathologically. No adverse effects related to treatment were

observed.
Pregnant female Sprague-Dawley rats (24/dose) were administered a mixture of diphenyl oxide (73.5 percent) and biphenyl (26.5 percent) by gavage at 0, 50, 200 or 500 mg/kg-day in corn oil on gestational days 6 through 15. Dams were observed for mortality, weight gain, food consumption and clinical signs of toxicity. Fetal resorptions, viability post implantation loss, total implantations and mean litter weight were determined. One-half of fetuses were processed for soft-tissue evaluations and the other half for skeletal evaluations. Two dams at 500 mg/kgday died. Reduced maternal body weight gain and food consumption were seen at 200 and 500 mg/kg-day. No treatment-related effects on developmental outcomes was observed.
LOAEL (maternal toxicity) = 200 mg/kg-from
(h) specific target organ toxicity (STOT) single exposure: based on available data, the classification criteria are not met.
(i) specific target organ toxicity (STOT) repeated
exposure1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran: Sprague-Dawley rats (15/sex/dose) were administered HHCB via the diet at 0, 5, 15, 50 or 150 mg/kg-bw/day for 13
weeks. Test concentrations were determined from a range finding study in which a LOAEL of 300 mg/kg-bw/day (based on hepatic effects) was determined. Mean estimated test substance intakes were 5.4, 15.7, 51.8 or 155.8 mg/kg-bw/day for males and 5.1, 15.6, 51.9 or 154.6 mg/kg-bw/day for females. There were no mortalities, adverse clinical signs or treatment-related effects on body weight, hematology or ophthalmologic evaluation. Slightly lower mean plasma triglyceride levels were observed at week13 in males at 50 and 150 mg/kg-bw/day. Slightly lower plasma glucose concentrations were noted at week 7 in males and females given 15, 50 and 150 mg/kg-bw/day and at week 13 in males given 50 and 150 mg/kg-bw/day; these effects were not seen at the end of the 4-week recovery period. There were no treatment-related differences in absolute organ weights or organ weight
diphenyl ether: NOAEL (male) = 301 mg/kg-bw/day (the highest dose tested)
NOAEL (female) = 334.8 mg/kg-bw/day (the highest dose tested)
4-tert-Butylcyclohexyl acetate: In a modified developmental toxicity screening test (OCED TG 421), Crl: CD pregnant (SD) rats were administered 4-tert-butylcyclohexyl acetate (a mixture of 71% 28% trans and cis) in corn oil by gavage at 0, 40, 160 or 640 mg/kg-bw per day during gestation days 7 20. Rats were Caesarean-sectioned on day 21 of gestation and examined for number and distribution of corpora lutea, implantation sites and placenta. Live and dead fetuses and early and late resorptions were recorded. Fetuses were examined for sex ratio, gross external alterations and skeletal and soft tissue alterations. There were no effects on maternal body weights, weight gain, food consumption or organ weights. Pup viability, body weights, external observations and microscopic examination showed no significant alterations that could be related to the administration of the test substance.
NOAEL (maternal or developmental toxicity) = 640 mg/kg-bw/day (based on no effects at the highest dose tested)
(j) aspiration hazard: Linalyl acetate: Inhalation exposure of mice to Swiss linalyl acetate 2.74 mg/L air during 90 minutes led to reduced
motor activity compared to untreated controls. The effect was more severe in mice of aged 6-8
weeks (up to 100% reduction) than in mice of 6 months (up to 81% reduction). A relationship with
dose was suspected, based on the (not reported) results of a separate test with a double dose in old
mice (REF. 16).

Related to contained substances:
Terpineol:
LD50 oral, rat-5,420 mg/kg
Ld50 oral, rat-4,300 mg/kg
Dermal Ld50-rabbit-> 2,000 mg/kg
LD50 (rat) Oral (mg/kg body weight) = 2000
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000
CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 4,76

Citronellol:
LD50 (rat) Oral (mg/kg body weight) = 3450
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2650
CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 1,3

Geraniol:
LD50 (rat) Oral (mg/kg body weight) = 3500
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 5000
CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 0,5

benzyl acetate:
Oral LD50-rat-2,490 mg/kg
Observations: behavior: somnolence (General depressed activity)
LD50 Dermal-rabbit-> 5,000 mg/kg
Acute toxicity of the vapor (LC50): 245 8 hours
LD50 (rat) Oral (mg/kg body weight) = 2490
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 5000
CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 245

2,2,2-trichloro-1-phenylehtylacetate:
LD50 Oral - rat - 6.800 mg / kg
DL50 Dermal - on rabbit -> 2,000 mg / kg
LD50 (rat) Oral (mg/kg body weight) = 6800
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran:
LD50 (rat) Oral (mg/kg body weight) = 3250
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 3250

diphenyl ether:
LD50 (rat) Oral (mg/kg body weight) = 2450
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 7940
CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 2,66

Tetrahydro-2-isobutyl-4-methyl-pyran-4-ol:
LD50 (rat) Oral (mg/kg body weight) = 2000
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

4-tert-Butylcyclohexyl acetate:
LD50 (rat) Oral (mg/kg body weight) = 5000
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 5000

citronellyl acetate:
LD50 (rat) Oral (mg/kg body weight) = 6800
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

Linalool:
LD50 (rat) Oral (mg/kg body weight) = 2790
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 5610
CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 307

Linalyl acetate:
LD50 (rat) Oral (mg/kg body weight) = 14550
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 13360

allyl phenoxyacetate:
LD50 (rat) Oral (mg/kg body weight) = 523
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 903

3-(4-isobutylphenyl)-2-methylpropanal:
LD50 (rat) Oral (mg/kg body weight) > 5000
LD50 Dermal (rat or rabbit) (mg/kg body weight) > 5000

Reaction Mass of Cis-4-(isopropyl) cyclohexanemethanol and Trans-4-(isopropyl) cyclohexanemethanol:
LD50 (rat) Oral (mg/kg body weight) = 10000
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

Eucalyptus globulus oil:
LD50 (rat) Oral (mg/kg body weight) = 5000

cineole:
LD50 (rat) Oral (mg/kg body weight) = 2480
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 5000

2,6-di-tert-butyl-p-cresol:
LD50 (rat) Oral (mg/kg body weight) = 1700
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 8000

11.2. Information on other hazards

No data available.

SECTION 12. Ecological information

12.1. Toxicity

Related to contained substances:
Terpineol:
C(E)L50 (mg/l) = 68

Citronellol:
LC50 (96 h) 14,66 mg/l, Leuciscus idus
EC50 (48 h) 17 mg/l, Daphnia magna
EC50 (72 h) 2,4 mg/l, Scenedesmus subspicatus
C(E)L50 (mg/l) = 2,4

Geraniol:
static test LC50-zebrafish (zebra fish)-ca. 22 mg/l-96 h (OECD Test Guideline 203)
Broadcast application EC50-Daphnia magna (Water flea)-10.8 mg/l-48 h (OECD Test Guideline 202)
Growth inhibition EC50-Desmodesmus subspicatus (green algae)-13.1 mg/l-72 h
C(E)L50 (mg/l) = 10,8

benzyl acetate:
Toxicity to fish Lc50-Oryzias latipes-4 mg/l-96 h
C(E)L50 (mg/l) = 4

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran:
21 days Daphnia magna NOEC 111 g/L NOEC 21 days Bluegill sunfish (lepomismacrochirus) 68 g/L NOEC 35-day early life stage test Fathead minnows (Pimephales promelas) 68 g/L NOEC 72 h Algae (Pseudokirchneriella subcapitata) 201 g/L 8 weeks NOEC Earthworm (Eisenia fetida) 45 g/kg Soil DM 4 weeks Springtails NOEC (Folsomia candida) 45 g/kg Soil DM
C(E)L50 (mg/l) = 0,282

diphenyl ether:
Fish 96-h LC50 (mg/L) 4.2
Aquatic Invertebrates 48-h EC50 (mg/L) 1.7
Aquatic Plants 72-h EC50 (mg/L) 2.5
C(E)L50 (mg/l) = 1,7

Tetrahydro-2-isobutyl-4-methyl-pyran-4-ol:
Toxicity to daphnia and other aquatic

invertebrates.:
EC50
Species:
Dose: 803 mg/l
Exposure time: 48 h

Toxicity to fish:
LC50
Species:
Dose: 354 mg/l
C(E)L50 (mg/l) = 354

4-tert-Butylcyclohexyl acetate:
Golden ide (Leuciscus idus) were exposed to 4-tert-butylcyclohexyl acetate at nominal concentrations of 0, 10, 13, 16 and 20 mg/L under static conditions for 48 hours. EF Marlowet was used as a solubilizer. Mortality was 0, 10, 100 and 80% at 10, 13, 16 and 20 mg/L.
48-h LC50 = 14 mg/L
Water fleas (Daphnia magna) were exposed to 4-tert-butylcyclohexyl acetate at nominal concentrations of 2.8 to 28.4 mg/L (measured concentrations, 2.4 to 28.4 mg/L) under static conditions for 48 hours.
48-h EC50 = 23.4 mg/L
C(E)L50 (mg/l) = 14

citronellyl acetate:
Duration:48 h
Endpoint:
EC50
Effect conc.3.48 mg/L
Nominal/Measured
mobility
Duration:96 h
Endpoint
LC50
Effect conc.
6.1 mg/L
C(E)L50 (mg/l) = 3,48

Linalool:
Fish: 96h LC50:39 mg/L (Oryzias latipes)
Crustacea: 48h EC50:52 mg/L (Daphnia magna)
Algae: 72h EC50:28 mg/L (Selenastrum capricornutum)
C(E)L50 (mg/l) = 27,799999

Linalyl acetate:
Cyprinus carpio, 96-hour LC50 value of 2.86 mg/L
Daphnia magna, 48-hour EC50 value of 2.91 mg/L
Scenedesmus subspicatus, 72-hour exposure, EC50 value of 4.2 mg/L
C(E)L50 (mg/l) = 2,86

3-(4-isobutylphenyl)-2-methylpropanal:
C(E)L50 (mg/l) = 3,02

Reaction Mass of Cis-4-(isopropyl) cyclohexanemethanol and Trans-4-(isopropyl) cyclohexanemethanol:
The substance was toxic to Oncorhynchus mykiss when tested according to OECD 203. The 96 hr LC50 for was

reported to be 4.2 mg/L (based on nominal concentrations, measured concentrations were >80% to nominal).

The substance was harmful to Daphnia magna when tested according to OECD 202. The 48 hr EC50 for was reported to be 13 mg/L (based on nominal concentrations, measured concentrations were >80% to nominal).

The substance was toxic to aquatic algae when tested according to OECD 201. The 72 hr EC50 based on growth rate was reported to be 10 mg/L (based on nominal concentrations, measured concentrations were >80% to nominal).The 72h EC10 based on growth rate was reported to be 5.2 mg/L (based on nominal concentrations, measured concentrations were >80% to nominal).

The substance was not acutely toxic to microorganisms when tested according to OECD 209. The 3 hr EC50 for activated sludge respiration inhibition was reported to be 190 mg/L (nominal).
C(E)L50 (mg/l) = 4,2

cineole:
C(E)L50 (mg/l) = 102

2,6-di-tert-butyl-p-cresol:
Toxicity to fish LC50 - Oryzias latipes - 5.3 mg/l - 48 h
Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia pulex (Water flea) - 1.44 mg/l - 48 h
C(E)L50 (mg/l) = 1,44

The product is dangerous for the environment as it is toxic to aquatic organisms following acute exposure.

Use according to good working practices to avoid pollution into the environment.

12.2. Persistence and degradability

Related to contained substances:
Geraniol:
Aerobic chemical oxygen demand:
Exposure time 3 days
Result: 80 - 100% - Easily biodegradable.
(OECD Test Guideline 301A)

diphenyl ether:
51–94% after 7 days (inherently biodegradable);
76% after 20 days (readily biodegradable)
6.3% after 28 days OECD TG 301C (not readily biodegradable)
20% after 75 days (resistant to biological action)

Linalool:
90 % (by BOD), 99 % (by TOC), 100 % (by GC)

12.3. Bioaccumulative potential

Related to contained substances:
diphenyl ether:
BCF = 196 (measured in trout);
BCF = 112–583 (measured in carp);
BCF = 49–594 (measured in carp)

Linalool:
106

12.4. Mobility in soil

Related to contained substances:
Geraniol:
log Pow: 3.47

Linalool:
log Pow: 2.55
Soil adsorption (Koc): 75
Henry's Law constant(PaM3/mol): 2

12.5. Results of PBT and vPvB assessment

No PBT/vPvB ingredient is present

12.6. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

No adverse effects

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies.
Recover if possible. Send to authorized discharge plants or for incineration under controlled conditions. Operate according to local and National rules in force

SECTION 14. Transport information

14.1. UN number or ID number

ADR/RID/IMDG/ICAO-IATA: 0000

ADR exemption because compliance with the following characteristics:
Combination packagings: per inner packaging 5 L per package 30 Kg
Inner packagings placed in skrink-wrapped or stretch-wrapped trays: per inner packaging 5 L per package 20 Kg

14.2. UN proper shipping name

ADR/RID/IMDG: MATERIA PERICOLOSA PER L'AMBIENTE, LIQUIDA, N.A.S. (acetato di benzile, 1,3,4,6,7,8-esaidro-4,6,6,7,8,8-esametillinden[5,6-c]pirano, ossido di difenile, acetato di 4-terz-butilcicloesile, fenossiacetato di allile, Eucalyptus oil span. rect, 70%, organic, Cineolo, 2,6-di-terz-butil-p-cresolo)
ADR/RID/IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (benzyl acetate, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran, diphenyl ether, 4-tert-Butylcyclohexyl acetate, allyl phenoxyacetate, Eucalyptus globulus oil, cineole, 2,6-di-tert-butyl-p-cresol)
ICAO-IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (benzyl acetate, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran, diphenyl ether, 4-tert-Butylcyclohexyl acetate, allyl phenoxyacetate, Eucalyptus globulus oil, cineole, 2,6-di-tert-butyl-p-cresol)

14.3. Transport hazard class(es)

ADR/RID/IMDG/ICAO-IATA: Class : 9
ADR/RID/IMDG/ICAO-IATA: Label :
ADR: Tunnel restriction code : --
ADR/RID/IMDG/ICAO-IATA: Limited quantities : 5 L
IMDG - EmS : F-A, S-F

14.4. Packing group

ADR/RID/IMDG/ICAO-IATA: III

14.5. Environmental hazards

ADR/RID/ICAO-IATA: Product is environmentally hazardous
IMDG: Marine polluting agent : Yes

14.6. Special precautions for user

No data available.

14.7. Maritime transport in bulk according to IMO instruments

It is not intended to carry bulk

SECTION 15. Regulatory information

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

Seveso category:
E2 - ENVIRONMENTAL HAZARDS

REGULATION (EU) No 1357/2014 - waste:
HP4 - Irritant — skin irritation and eye damage
HP14 - Ecotoxic

15.2. Chemical safety assessment

The supplier has made an assessment of chemical safety

SECTION 16. Other information

16.1. Other information

Description of the hazard statements exposed to point 3
H315 = Causes skin irritation.
H319 = Causes serious eye irritation.
H317 = May cause an allergic skin reaction.
H335 = May cause respiratory irritation.
H318 = Causes serious eye damage.
H412 = Harmful to aquatic life with long lasting effects.
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.
H302 = Harmful if swallowed.
H312 = Harmful in contact with skin.
H361 = Suspected of damaging fertility or the unborn child .

H226 = Flammable liquid and vapour.
H304 = May be fatal if swallowed and enters airways.

Classification based on data of all mixture components

Main normative references:
Directive 1999/45/EC
Directive 2001/60/EC
Regulation 1272/2008/EC
Regulation 2010/453/EC

** The information contained herein is based on our knowledge at the date above.
Related solely to the product and do not constitute a guarantee of a particular quality.
It is the duty of the user to ensure that these are appropriate and complete information regarding the specific use intended.
This data sheet cancels and replaces any previous edition.