SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

GP E BP-38 H Platinum Lustre CH6431

Version	Revision Date:	Date of last issue: 02.08.2016
3.0	17.05.2017	Date of first issue: 26.11.2015

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

1.1 Product identifier

Trade name : GP E BP-38 H

Product code : 88004520

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

Use of the Substance/Mixture : Industrial use, Paint

1.3 Details of the supplier of the safety data sheet

Company : Cromartie Hobbycraft Ltd
Park Hall Road, Longton
Stoke-on-Trent, Staffordshire ST3 5AY

Telephone : 01782 319435

E-mail address of person responsible for the SDS : enquiries@cromartie.co.uk

1.4 Emergency telephone number

Emergency telephone number : 01782 319435

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Acute aquatic toxicity, Category 1	H400: Very toxic to aquatic life.
Chronic aquatic toxicity, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements :
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label:

Camphor oil
dipentene
Resin acids and Rosin acids, maleated, esters with glycerol
Oils, spike
Rosemary oil
Oil, lavender
Balsams, copaiba, sulfurized, platinum salts
Eucalyptus globulus, ext.
Oils, spruce
Lemon oils
abietic acid
Turpentine, oil
Larch, Larix decidua, ext.
tin bis(2-ethylhexanoate)
formaldehyde

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumula-tive and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Paint

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
cyclohexanol	108-93-0 203-630-6 603-009-00-3	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	>= 10 - < 20
Camphor oil	8008-51-3	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 5 - < 10
dipentene	138-86-3 205-341-0 601-029-00-7	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 5 - < 10
Resin acids and Rosin acids, maleated, esters with glycerol	94581-16-5 305-515-7	Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 4; H413	>= 5 - < 10
Oils, spike	8016-78-2	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 5 - < 10
Rosemary oil	8000-25-7	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1B; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2.5 - < 5
Oil, lavender	8000-28-0	Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 2.5 - < 5

		Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	
Balsams, copaiba, sulfurized, platinum salts	68916-35-8 272-832-4	Skin Sens. 1; H317	>= 1 - < 5
Solvent naphtha (petroleum), light arom.	64742-95-6 265-199-0 649-356-00-4	Flam. Liq. 3; H226 STOT SE 3; H336 STOT SE 3; H335 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2.5
benzyl acetate	140-11-4 205-399-7	Aquatic Chronic 3; H412	>= 1 - < 2.5
cyclohexanone	108-94-1 203-631-1 606-010-00-7	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 1 - < 3
Eucalyptus globulus, ext.	84625-32-1 283-406-2	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2.5
Oils, spruce	8008-80-8	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
Lemon oils	8008-56-8	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
abietic acid	514-10-3 208-178-3	Skin Sens. 1; H317	>= 1 - < 5
toluene	108-88-3 203-625-9 601-021-00-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 1 - < 2.5

bismuth tris(2-ethylhexanoate)	67874-71-9 267-499-7	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 2; H361d	>= 1 - < 3
decahydronaphthalene	91-17-8 202-046-9	Flam. Liq. 3; H226 Acute Tox. 3; H331 Skin Corr. 1C; H314 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 0.25 - < 1
dichloromethane	75-09-2 200-838-9 602-004-00-3	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Carc. 2; H351 STOT SE 3; H336	>= 0.1 - < 1
1,2,3,4-tetrahydronaphthalene	119-64-2 204-340-2 601-045-00-4	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Carc. 2; H351 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 0.25 - < 1
Turpentine, oil	8006-64-2 232-350-7 650-002-00-6	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 0.25 - < 1
Larch, Larix decidua, ext.	90046-19-8 289-987-9	Skin Irrit. 2; H315 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 0.1 - < 0.25
4-tert-butylphenol	98-54-4 202-679-0 604-090-00-8	Skin Irrit. 2; H315 Eye Dam. 1; H318 Repr. 2; H361f Aquatic Chronic 1; H410	>= 0.1 - < 0.25
tin bis(2-ethylhexanoate)	301-10-0 206-108-6	Eye Dam. 1; H318 Skin Sens. 1; H317 Repr. 2; H361d Aquatic Chronic 2; H411	>= 0.1 - < 0.25
formaldehyde	50-00-0 200-001-8 605-001-00-5	Flam. Gas 1; H220 Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Muta. 2; H341 Carc. 1B; H350	< 0.1

			STOT SE 3; H335	
Substances with a workplace exposure limit :				
Gilsonite		12002-43-6		>= 5 - < 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : First aider needs to protect himself.
Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Get medical attention.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off with:
Polyethylene glycol 400.
Obtain medical attention.

In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Keep eye wide open while rinsing.
Protect unharmed eye.
Call a physician immediately.

If swallowed : Immediately give large quantities of water to drink.
Do NOT induce vomiting.
Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Exposure to decomposition products may be a hazard to health.
Hazardous combustion prod-ucts	:	Carbon oxides Metal oxides Sulphur oxides Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Further information	:	Use a water spray to cool fully closed containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Follow safe handling advice and personal protective equipment recommendations. Ensure adequate ventilation. Evacuate personnel to safe areas. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions	:	Do not allow contact with soil, surface or ground water. Do not let product enter drains. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Sweep up or vacuum up spillage and collect in suitable con-tainer for disposal.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Take precautionary measures against static discharges.

Provide sufficient air exchange and/or exhaust in work rooms.
Wear personal protective equipment.
Keep away from heat and sources of ignition.
Avoid inhalation, ingestion and contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the application area.

Hygiene measures : Keep away from food and drink. Wash hands before breaks and at the end of workday. Keep working clothes separately. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep tightly closed in a dry, cool and well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
cyclohexanol	108-93-0	TWA	50 ppm 208 mg/m3	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
Gilsonite	12002-43-6	TWA (Fumes)	0.6 mg/m3	GB EH40
Further information	Rubber fume is fume evolved in the mixing, milling and blending of natural rubber or synthetic elastomers, or of natural rubber and synthetic polymers combined with chemicals, and in the processes which convert the resultant blends into finished process dust products or parts thereof, and including any inspection procedures where fume continues to be evolved., The limit relates to cyclohexane soluble material determined by the method described in MDHS47/2., Where the airborne material contains a mixture of substances, one or more of which is assigned a WEL, that limit will apply to the individual substance and at the same time the rubber process dust limit will apply to the mix dust as a whole. Where the airborne material is effectively a single substance with a WEL, that limit alone will apply., Methods for personal sampling and measurement of inhalable dusts are available in MDHS14/3 and MDHS47/2. As with the fume, the dust is determined gravimetrically but, unlike the fume, the dust determination does not involve solvent extraction., The word 'fume' is often used to include gases and vapours. This is not the case for exposure limits where 'fume' should normally be applied to solid particles generated by chemical reactions or condensed from the gaseous state, usually after volatilisation from melted substances. The generation of fume is often			

	accompanied by a chemical reaction such as oxidation or thermal break-down., Capable of causing cancer and/or heritable genetic damage. The iden-tified substances include those which: - are assigned the risk phrases 'R45: May cause cancer'; 'R46: may cause heritable genetic damage'; 'R49: May cause cancer by inhalation' or - a substance or process listed in Schedule 1 of COSHH., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used, Limit relates to cyclohex-ane soluble			
		TWA (Process dust, inhalable)	6 mg/m3	GB EH40
Further information	Rubber fume is fume evolved in the mixing, milling and blending of natural rubber or synthetic elastomers, or of natural rubber and synthetic polymers combined with chemicals, and in the processes which convert the resultant blends into finished process dust products or parts thereof, and including any inspection procedures where fume continues to be evolved., The limit relates to cyclohexane soluble material determined by the method described in MDHS47/2., Where the airborne material contains a mixture of substances, one or more of which is assigned a WEL, that limit will apply to the individual substance and at the same time the rubber process dust limit will apply to the mix dust as a whole. Where the airborne material is effectively a single sub-stance with a WEL, that limit alone will apply., Methods for personal sampling and measurement of inhalable dusts are available in MDHS14/3 and MDHS47/2. As with the fume, the dust is determined gravimetrically but, un-like the fume, the dust determination does not involve solvent extraction., The word 'fume' is often used to include gases and vapours. This is not the case for exposure limits where 'fume' should normally be applied to solid particles generated by chemical reactions or condensed from the gaseous state, usual-ly after volatilisation from melted substances. The generation of fume is often accompanied by a chemical reaction such as oxidation or thermal break-down., Capable of causing cancer and/or heritable genetic damage. The iden-tified substances include those which: - are assigned the risk phrases 'R45: May cause cancer'; 'R46: may cause heritable genetic damage'; 'R49: May cause cancer by inhalation' or - a substance or process listed in Schedule 1 of COSHH., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
cyclohexanone	108-94-1	TWA	10 ppm 40.8 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	20 ppm 81.6 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	10 ppm	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	20 ppm	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
toluene	108-88-3	TWA	50 ppm 192 mg/m3	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		STEL	100 ppm 384 mg/m3	2006/15/EC

Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		TWA	50 ppm 191 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 384 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
dichloromethane	75-09-2	TWA	100 ppm 350 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	300 ppm 1,060 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
Turpentine, oil	8006-64-2	STEL	150 ppm 850 mg/m3	GB EH40
		TWA	100 ppm 566 mg/m3	GB EH40
tin bis(2-ethylhexanoate)	301-10-0	TWA	0.1 mg/m3 (Tin)	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	0.2 mg/m3 (Tin)	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
formaldehyde	50-00-0	TWA	2 ppm 2.5 mg/m3	GB EH40
		STEL	2 ppm 2.5 mg/m3	GB EH40

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Cyclohexanone	108-94-1	cyclohexanol: 2 mmol/mol creatinine (Urine)	After shift	GB EH40 BAT
Dichloromethane	75-09-2	Carbon monoxide: 30 ppm (End-tidal breath)	After shift	GB EH40 BAT

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Cyclohexanol	Workers	Inhalation	Long-term systemic effects	130 mg/m3
	Workers	Skin contact	Long-term systemic effects	3.58 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic	32.5 mg/m3

			effects	
	Consumers	Skin contact	Long-term systemic effects	1.79 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1.79 mg/kg bw/day
Benzyl acetate	Workers	Inhalation	Long-term systemic effects	21.9 mg/m3
	Workers	Inhalation	Acute systemic effects	43.8 mg/m3
	Workers	Skin contact	Long-term systemic effects	6.25 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	12.5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	5.5 mg/m3
	Consumers	Inhalation	Acute systemic effects	11 mg/m3
	Consumers	Skin contact	Long-term systemic effects	3.125 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	6.25 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	3.125 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	6.25 mg/kg bw/day
Cyclohexanone	Workers	Inhalation	Long-term systemic effects	40 mg/m3
	Workers	Inhalation	Acute systemic effects	80 mg/m3
	Workers	Inhalation	Long-term local effects	40 mg/m3
	Workers	Inhalation	Acute local effects	80 mg/m3
	Workers	Skin contact	Long-term systemic effects	4 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	4 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	10 mg/m3
	Consumers	Inhalation	Acute systemic effects	20 mg/m3
	Consumers	Inhalation	Long-term local effects	20 mg/m3
	Consumers	Inhalation	Acute local effects	40 mg/m3
	Consumers	Skin contact	Long-term systemic effects	1 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	1 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1.5 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	1.5 mg/kg bw/day
Toluene	Workers	Inhalation	Acute systemic ef-	384 mg/m3

			fects	
	Workers	Inhalation	Acute local effects	384 mg/m3
	Workers	Skin contact	Long-term systemic effects	384 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	192 mg/m3
	Workers	Inhalation	Long-term local effects	192 mg/m3
	Consumers	Inhalation	Acute systemic effects	226 mg/m3
	Consumers	Inhalation	Acute local effects	226 mg/m3
	Consumers	Skin contact	Long-term systemic effects	226 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	56.5 mg/m3
	Consumers	Ingestion	Long-term systemic effects	8.13 mg/kg bw/day
	Consumers	Inhalation	Long-term local effects	56.5 mg/m3
Decahydronaphthalene	Workers	Inhalation	Long-term systemic effects	24 mg/m3
	Workers	Skin contact	Long-term systemic effects	5.56 mg/kg bw/day
Dichloromethane	Consumers	Ingestion	Long-term systemic effects	0.06 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	88.3 mg/m3
	Consumers	Skin contact	Long-term systemic effects	2395 mg/kg bw/day
	Consumers	Inhalation	Acute systemic effects	353 mg/m3
	Workers	Inhalation	Long-term systemic effects	353 mg/m3
	Workers	Skin contact	Long-term systemic effects	4750 mg/kg bw/day
	Workers	Inhalation	Acute systemic effects	706 mg/m3
1,2,3,4-Tetrahydronaphthalene	Workers	Inhalation	Long-term systemic effects	2.1 mg/m3
	Workers	Inhalation	Long-term local effects	2.1 mg/m3
	Workers	Skin contact	Long-term systemic effects	0.167 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.083 mg/kg bw/day
Turpentine	Workers	Inhalation	Long-term systemic effects	11.2 mg/m3
	Workers	Skin contact	Long-term systemic effects	1.6 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.57 mg/kg bw/day

Butylphenol, 4-tert-	Workers	Inhalation	Long-term systemic effects	0.5 mg/m3
	Workers	Skin contact	Long-term systemic effects	0.071 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.09 mg/m3
	Consumers	Skin contact	Long-term systemic effects	0.026 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.026 mg/kg bw/day
Tin bis(2-ethylhexanoate)	Workers	Inhalation	Long-term systemic effects	19.7 mg/m3
	Consumers	Inhalation	Long-term systemic effects	11.8 mg/m3
	Consumers	Skin contact	Long-term systemic effects	2.3 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	2.3 mg/kg bw/day
Formaldehyde	Workers	Inhalation	Long-term systemic effects	9 mg/m3
	Workers	Inhalation	Long-term local effects	0.375 mg/m3
	Workers	Skin contact	Long-term systemic effects	240 mg/kg bw/day
	Workers	Inhalation	Acute local effects	0.75 mg/m3
	Consumers	Inhalation	Long-term systemic effects	3.2 mg/m3
	Consumers	Skin contact	Long-term systemic effects	102 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	4.1 mg/kg bw/day
	Workers	Skin contact	Long-term local effects	0.037 mg/cm2
	Consumers	Inhalation	Long-term local effects	0.1 mg/m3
	Consumers	Skin contact	Long-term local effects	0.012 mg/cm2

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Cyclohexanol	Fresh water	0.017 mg/l
	Marine water	0.0017 mg/l
	Intermittent use/release	0.17 mg/l
	Sewage treatment plant	199.5 mg/l
	Fresh water sediment	0.042 mg/kg
	Marine sediment	0.0042 mg/kg
	Soil	0.005 mg/kg
Benzyl acetate	Fresh water	0.004 mg/l
	Marine water	0.0004 mg/l
	Intermittent use/release	0.04 mg/l
	Sewage treatment plant	8.55 mg/l
	Fresh water sediment	0.114 mg/kg

	Marine sediment	0.0114 mg/kg
	Soil	0.0205 mg/kg
Cyclohexanone	Fresh water	0.0329 mg/l
	Marine water	0.00329 mg/l
	Intermittent use/release	0.329 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.168 mg/kg
	Marine sediment	0.0168 mg/kg
	Soil	0.0143 mg/kg
Toluene	Fresh water	0.68 mg/l
	Marine water	0.68 mg/l
	Intermittent use/release	0.68 mg/l
	Sewage treatment plant	13.61 mg/l
	Fresh water sediment	16.39 mg/kg
	Marine sediment	16.39 mg/kg
	Soil	2.89 mg/kg
Decahydronaphthalene	Fresh water	0.00184 mg/l
	Marine water	0.000184 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.373 mg/kg
	Marine sediment	0.0373 mg/kg
	Soil	0.075 mg/kg
Dichloromethane	Fresh water	0.54 mg/l
	Marine water	0.194 mg/l
	Intermittent use/release	0.27 mg/l
	Sewage treatment plant	26 mg/l
	Marine sediment	1.61 mg/kg
	Fresh water sediment	4.47 mg/kg
	Soil	0.583 mg/kg
1,2,3,4-Tetrahydronaphthalene	Fresh water	0.0024 mg/l
	Marine water	0.00024 mg/l
	Intermittent use/release	0.024 mg/l
	Sewage treatment plant	16 mg/l
	Fresh water sediment	0.129 mg/kg
	Marine sediment	0.0129 mg/kg
	Soil	0.024 mg/kg
Butylphenol, 4-tert-	Fresh water	0.01 mg/l
	Marine water	0.001 mg/l
	Intermittent use/release	0.048 mg/l
	Sewage treatment plant	1.5 mg/l
	Fresh water sediment	0.27 mg/kg
	Marine sediment	0.027 mg/kg
	Soil	0.25 mg/kg
	Oral (Secondary Poisoning)	46.67 mg/kg food
Tin bis(2-ethylhexanoate)	Fresh water	0.0069 mg/l
	Marine water	0.00069 mg/l
	Intermittent use/release	0.069 mg/l
	Sewage treatment plant	6.5 mg/l
	Fresh water sediment	0.053 mg/kg
	Marine sediment	0.005 mg/kg
	Soil	0.006 mg/kg

Formaldehyde	Fresh water	0.44 mg/l
	Marine water	0.44 mg/l
	Intermittent use/release	4.44 mg/l
	Sewage treatment plant	0.19 mg/l
	Fresh water sediment	2.3 mg/kg
	Marine sediment	2.3 mg/kg
	Soil	0.2 mg/kg

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection

Remarks : Before removing gloves clean them with soap and water. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions un-der which the product is used, such as the danger of cuts, abrasion, and the contact time. As the product is a mixture of several substances, the durability of the glove materials can-not be calculated in advance and has to be tested before use.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Recommended Filter type:

Filter type ABEK-P

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : dark brown

Odour : unpleasant

Odour Threshold : No data available

pH	:	Not applicable
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	24 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	<= 1,100 hPa
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	> 1 g/cm3 (23 °C)
Solubility(ies)		
Water solubility	:	practically insoluble (20 °C)
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	Not applicable
Viscosity		
Viscosity, dynamic	:	130 mPa.s (23 °C)
Viscosity, kinematic	:	> 40 mm2/s (23 °C)
		> 20.5 mm2/s (40 °C)
Explosive properties	:	Not applicable
Oxidizing properties	:	Not applicable

9.2 Other information

Self-ignition	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No data available

10.5 Incompatible materials

Materials to avoid : No data available

10.6 Hazardous decomposition products

No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

cyclohexanol:

Acute oral toxicity : LD50 (Rat): 1,400 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 3.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Camphor oil:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

dipentene:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Mouse): > 1.11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

Resin acids and Rosin acids, maleated, esters with glycerol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Oils, spike:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Rosemary oil:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 10,000 mg/kg

Solvent naphtha (petroleum), light arom.:

Acute oral toxicity : LD50 (Rat, female): 3,492 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6.193 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

benzyl acetate:

Acute oral toxicity : LD50 (Rat): 2,490 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 0.766 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

cyclohexanone:

Acute oral toxicity : LD50 (Rat): 1,890 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Expert judgement

Acute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg
Method: Expert judgement

Eucalyptus globulus, ext.:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Oils, spruce:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Remarks: Based on data from similar materials

Lemon oils:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

abietic acid:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Based on data from similar materials

toluene:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity	:	LC50 (Rat): 28.1 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

bismuth tris(2-ethylhexanoate):

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Remarks: Based on data from similar materials

decahydronaphthalene:

Acute oral toxicity	:	LD50 (Rat, male): 4,170 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 4.08 mg/l Exposure time: 4 h Test atmosphere: vapour Assessment: Corrosive to the respiratory tract.
Acute dermal toxicity	:	LD50 (Rabbit): 5,200 mg/kg

dichloromethane:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 401 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Mouse): 49 mg/l Exposure time: 7 h Test atmosphere: vapour
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

1,2,3,4-tetrahydronaphthalene:

Acute oral toxicity	:	LD50 (Rat): 2,860 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 1.8 mg/l Exposure time: 8 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): 16,800 mg/kg

Turpentine, oil:

Acute oral toxicity	:	Acute toxicity estimate: 500 mg/kg Method: Expert judgement Remarks: Based on harmonised classification in EU regulation

1272/2008, Annex VI

Acute inhalation toxicity : LC50 (Rat): 13.7 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg
Method: Expert judgement
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Larch, Larix decidua, ext.:

Acute oral toxicity : LD50 (Rat): 2,200 - 2,500 mg/kg

4-tert-butylphenol:

Acute oral toxicity : LD50 (Rat): 4,000 mg/kg
Method: OECD Test Guideline 401

tin bis(2-ethylhexanoate):

Acute oral toxicity : LD50 (Rat): 3,400 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

formaldehyde:

Acute oral toxicity : Acute toxicity estimate: 100 mg/kg
Method: Expert judgement

Acute inhalation toxicity : Acute toxicity estimate: 100 ppm
Exposure time: 4 h
Test atmosphere: gas
Method: Expert judgement

Acute dermal toxicity : LD50 (Rabbit): 270 mg/kg

Gilsonite:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Remarks: Based on data from similar materials

Skin corrosion/irritation

Causes skin irritation.

Components:

cyclohexanol:
Species: Rabbit
Result: Skin irritation

Camphor oil:
Species: Rabbit
Result: Skin irritation

dipentene:
Result: Skin irritation
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Resin acids and Rosin acids, maleated, esters with glycerol:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

Oils, spike:
Result: Skin irritation
Remarks: Based on data from similar materials

Rosemary oil:
Species: Rabbit
Result: Skin irritation

Solvent naphtha (petroleum), light arom.:
Assessment: Repeated exposure may cause skin dryness or cracking.

benzyl acetate:
Species: Rabbit
Method: Directive 67/548/EEC, Annex V, B.4.
Result: No skin irritation

cyclohexanone:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Eucalyptus globulus, ext.:
Result: Skin irritation
Remarks: Based on data from similar materials

Oils, spruce:

Result: Skin irritation
Remarks: Based on data from similar materials

Lemon oils:

Species: Rabbit
Result: Skin irritation

abietic acid:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

toluene:

Species: Rabbit
Method: Directive 67/548/EEC, Annex V, B.4.
Result: Skin irritation

bismuth tris(2-ethylhexanoate):

Result: Skin irritation

decahydronaphthalene:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive after 1 to 4 hours of exposure

dichloromethane:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

1,2,3,4-tetrahydronaphthalene:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Turpentine, oil:

Species: reconstructed human epidermis (RhE)
Result: Skin irritation

Larch, Larix decidua, ext.:

Result: Skin irritation
Remarks: Based on data from similar materials

4-tert-butylphenol:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

tin bis(2-ethylhexanoate):

Species: Rabbit
Result: No skin irritation

formaldehyde:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive after 3 minutes to 1 hour of exposure

Gilsonite:

Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

cyclohexanol:

Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritation to eyes, reversing within 21 days

dipentene:

Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Resin acids and Rosin acids, maleated, esters with glycerol:

Species: Rabbit
Result: Irritation to eyes, reversing within 21 days
Remarks: Based on data from similar materials

Oils, spike:

Result: Irritation to eyes, reversing within 21 days
Remarks: Based on data from similar materials

Rosemary oil:

Result: Irritation to eyes, reversing within 21 days

Solvent naphtha (petroleum), light arom.:

Species: Rabbit

Result: No eye irritation

benzyl acetate:

Species: Rabbit
Method: Directive 67/548/EEC, Annex V, B.5.
Result: No eye irritation

cyclohexanone:

Species: Rabbit
Result: Irreversible effects on the eye

Eucalyptus globulus, ext.:

Result: Irritation to eyes, reversing within 21 days
Remarks: Based on data from similar materials

Lemon oils:

Species: Rabbit
Result: No eye irritation

abietic acid:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: Based on data from similar materials

toluene:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

bismuth tris(2-ethylhexanoate):

Result: Irritation to eyes, reversing within 21 days

decahydronaphthalene:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

dichloromethane:

Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

1,2,3,4-tetrahydronaphthalene:

Result: Irritation to eyes, reversing within 7 days
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Turpentine, oil:

Result: Irritation to eyes, reversing within 21 days
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

4-tert-butylphenol:

Species: Rabbit
Result: Irreversible effects on the eye

tin bis(2-ethylhexanoate):

Species: Rabbit
Result: Irreversible effects on the eye

formaldehyde:

Species: Rabbit
Result: Irreversible effects on the eye

Gilsonite:

Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

cyclohexanol:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Camphor oil:

Assessment: Probability or evidence of skin sensitisation in humans
Remarks: Based on data from similar materials

dipentene:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: positive

Remarks: Based on data from similar materials

Assessment: Probability or evidence of skin sensitisation in humans

Resin acids and Rosin acids, maleated, esters with glycerol:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: positive
Remarks: Based on data from similar materials

Assessment: Probability or evidence of skin sensitisation in humans

Oils, spike:

Exposure routes: Skin contact
Result: positive
Remarks: Based on data from similar materials

Assessment: Probability or evidence of skin sensitisation in humans

Rosemary oil:

Result: Probability or evidence of low to moderate skin sensitisation rate in humans
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), light arom.:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

benzyl acetate:

Test Type: Magnusson-Kligman-Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

cyclohexanone:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Eucalyptus globulus, ext.:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse

Method: OECD Test Guideline 429
Result: positive
Remarks: Based on data from similar materials

Assessment: Probability or evidence of skin sensitisation in humans

Oils, spruce:

Assessment: Probability or evidence of skin sensitisation in humans
Remarks: Based on data from similar materials

Lemon oils:

Test Type: Human repeat insult patch test (HRIPT)
Exposure routes: Skin contact
Result: positive

Assessment: Probability or evidence of skin sensitisation in humans

abietic acid:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: Probability or evidence of skin sensitisation in humans

toluene:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

decahydronaphthalene:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

dichloromethane:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: negative

1,2,3,4-tetrahydronaphthalene:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig

Method: OECD Test Guideline 406
Result: negative

Turpentine, oil:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: positive

Assessment: Probability or evidence of skin sensitisation in humans

Larch, Larix decidua, ext.:

Exposure routes: Skin contact
Result: positive
Remarks: Based on data from similar materials

Assessment: Probability or evidence of skin sensitisation in humans

4-tert-butylphenol:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

tin bis(2-ethylhexanoate):

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: positive

Assessment: Probability or evidence of skin sensitisation in humans

formaldehyde:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: positive

Assessment: Probability or evidence of high skin sensitisation rate in humans

Germ cell mutagenicity

Not classified based on available information.

Components:

cyclohexanol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

dipentene:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: In vivo mammalian alkaline comet assay
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Resin acids and Rosin acids, maleated, esters with glycerol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Rosemary oil:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Solvent naphtha (petroleum), light arom.:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

benzyl acetate:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay
Species: Rat
Application Route: Ingestion
Result: negative

cyclohexanone:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Eucalyptus globulus, ext.:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

: Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

: Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Lemon oils:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

abietic acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

toluene:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse

Application Route: Ingestion
Result: negative

decahydronaphthalene:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: inhalation (vapour)
Method: OECD Test Guideline 474
Result: negative

dichloromethane:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: positive

: Test Type: Bacterial reverse mutation assay (AMES)
Result: positive

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

1,2,3,4-tetrahydronaphthalene:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

: Test Type: In vitro mammalian cell gene mutation test
Result: equivocal

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Turpentine, oil:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476

Result: negative

4-tert-butylphenol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

tin bis(2-ethylhexanoate):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

formaldehyde:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: positive

: Test Type: Chromosome aberration test in vitro
Result: positive

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Inhalation
Result: positive

Germ cell mutagenicity- Assessment : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

Gilsonite:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

dipentene:

Species: Mouse
Application Route: Ingestion
Exposure time: 103 weeks
Result: negative
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), light arom.:

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

benzyl acetate:

Species: Mouse
Application Route: Ingestion
Exposure time: 103 weeks
Remarks: negative

cyclohexanone:

Species: Mouse
Application Route: Ingestion
Exposure time: 104 weeks
Method: OECD Test Guideline 453
Result: negative

toluene:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 24 Months
Result: negative

dichloromethane:

Species: Mouse
Application Route: inhalation (vapour)
Exposure time: 102 weeks
Result: positive

Carcinogenicity - Assess- : Limited evidence of carcinogenicity in animal studies ment

1,2,3,4-tetrahydronaphthalene:

Species: Rat
Application Route: Inhalation
Exposure time: 105 weeks
Result: positive

Carcinogenicity - Assess- : Limited evidence of carcinogenicity in animal studies

ment

tin bis(2-ethylhexanoate):

Species: Rat
Application Route: Ingestion
Exposure time: 105 weeks
Result: negative
Remarks: Based on data from similar materials

formaldehyde:

Species: Rat
Application Route: inhalation (gas)
Exposure time: 28 Months
Result: positive

Carcinogenicity - Assess- : Sufficient evidence of carcinogenicity in animal experiments ment

Reproductive toxicity

Not classified based on available information.

Components:

cyclohexanol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), light arom.:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: inhalation (vapour)
Result: negative

benzyl acetate:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat

Application Route: Ingestion
Result: negative

cyclohexanone:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

Eucalyptus globulus, ext.:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

toluene:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: positive

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

bismuth tris(2-ethylhexanoate):

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: positive
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

decahydronaphthalene:

Effects on foetal development : Test Type: Reproduction/Developmental toxicity screening test
Species: Mouse
Application Route: Ingestion
Result: negative

dichloromethane:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: inhalation (vapour)
Result: negative

1,2,3,4-tetrahydronaphthalene:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

Turpentine, oil:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Fertility/early embryonic development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

4-tert-butylphenol:

Effects on fertility : Test Type: Two-generation study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: positive

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment	:	Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

tin bis(2-ethylhexanoate):

Effects on fertility	:	Test Type: Fertility/early embryonic development Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: positive Remarks: Based on data from similar materials
Reproductive toxicity - Assessment	:	Some evidence of adverse effects on development, based on animal experiments.

formaldehyde:

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (gas) Result: negative

STOT - single exposure

Not classified based on available information.

Components:

cyclohexanol:

Assessment: May cause respiratory irritation.

Solvent naphtha (petroleum), light arom.:

Assessment: May cause drowsiness or dizziness.

Assessment: May cause respiratory irritation.

toluene:

Assessment: May cause drowsiness or dizziness.

dichloromethane:

Assessment: May cause drowsiness or dizziness.

formaldehyde:

Assessment: May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

toluene:

Target Organs: Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

dichloromethane:

Exposure routes: Ingestion
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

formaldehyde:

Exposure routes: inhalation (gas)
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeat-ed exposure.

Repeated dose toxicity

Components:

cyclohexanol:

Species: Rat
NOAEL: 143 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408
Remarks: Based on data from similar materials

dipentene:

Species: Rat
NOAEL: 150 mg/kg
Application Route: Ingestion
Exposure time: 13 Weeks
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), light arom.:

Species: Rat, female
NOAEL: 900 mg/m3
Application Route: inhalation (vapour)
Exposure time: 12 Months
Remarks: Based on data from similar materials

benzyl acetate:

Species: Rat
NOAEL: 500 mg/kg
Application Route: Ingestion

Exposure time: 14 Days

cyclohexanone:

Species: Rat
NOAEL: 143 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408

Eucalyptus globulus, ext.:

Species: Rat
NOAEL: 300 mg/kg
LOAEL: 1,000 mg/kg
Application Route: Ingestion
Exposure time: 5 Weeks
Method: OECD Test Guideline 422

toluene:

Species: Rat
LOAEL: 1.875 mg/l
Application Route: inhalation (vapour)
Exposure time: 6 Months

decahydronaphthalene:

Species: Rat, male
NOAEL: > 10 mg/kg
Application Route: Ingestion
Exposure time: 28 Days

Species: Rat, female
NOAEL: > 1,000 mg/kg
Application Route: Ingestion
Exposure time: 28 Days

Species: Rat
NOAEL: 1.42 mg/l
Application Route: inhalation (vapour)
Exposure time: 14 Weeks

dichloromethane:

Species: Rat
NOAEL: 6 mg/kg
Application Route: Ingestion
Exposure time: 104 Weeks

Species: Rat
NOAEL: 0.694 mg/l
LOAEL: 1.736 mg/l
Application Route: inhalation (vapour)

Exposure time: 2 yr

1,2,3,4-tetrahydronaphthalene:

Species: Rat
NOAEL: 50 mg/kg
LOAEL: 150 mg/kg
Application Route: Ingestion
Exposure time: 28 Days
Method: Directive 67/548/EEC, Annex V, B.7.

4-tert-butylphenol:

Species: Rat
LOAEL: 150 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Remarks: Based on data from similar materials

tin bis(2-ethylhexanoate):

Species: Rat, male
LOAEL: 706 mg/kg
Application Route: Ingestion
Exposure time: 28 Days

formaldehyde:

Species: Rat
NOAEL: 6 ppm
LOAEL: 10 ppm
Application Route: inhalation (gas)
Exposure time: 28 Days

Aspiration toxicity

Not classified based on available information.

Components:

Camphor oil:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

dipentene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Oils, spike:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Rosemary oil:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Solvent naphtha (petroleum), light arom.:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Eucalyptus globulus, ext.:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Oils, spruce:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Lemon oils:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

toluene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

decahydronaphthalene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

1,2,3,4-tetrahydronaphthalene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Turpentine, oil:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Larch, Larix decidua, ext.:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

toluene:

Inhalation : Target Organs: Central nervous system
Symptoms: Neurological disorders, Fatigue, Vertigo

SECTION 12: Ecological information

12.1 Toxicity

Components:

cyclohexanol:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 704 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 17 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 500 mg/l Exposure time: 72 h EC10 (Desmodesmus subspicatus (green algae)): 1.55 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 : 9,000 mg/l Exposure time: 30 min

Camphor oil:

Toxicity to fish	:	LL50 : > 0.1 - 1 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): > 0.1 - 1 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae	:	EL50 : > 0.1 - 1 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
M-Factor (Acute aquatic toxicity)	:	1

dipentene:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 0.702 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.36 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): 8 mg/l

Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): 2.62 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 : 209 mg/l
Exposure time: 3 h

Resin acids and Rosin acids, maleated, esters with glycerol:

Toxicity to fish : LL50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae : EL50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Desmodesmus subspicatus (green algae)): 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Oils, spike:

Toxicity to fish : LC50 : > 0.1 - 1 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 : > 0.1 - 1 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

M-Factor (Acute aquatic tox- : 1

icity)

Rosemary oil:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 0.1 - 1 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 1

Solvent naphtha (petroleum), light arom.:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): 7.9 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 0.22 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : > 99 mg/l
Exposure time: 10 min

benzyl acetate:

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): 4 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 17 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 110 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 52 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms	:	EC50 : 855 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.92 mg/l Exposure time: 28 d Species: Oryzias latipes (Orange-red killifish)

cyclohexanone:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 : > 1,000 mg/l Exposure time: 0.5 h Method: OECD Test Guideline 209

Eucalyptus globulus, ext.:

Toxicity to fish	:	LC50 : > 1 - 10 mg/l Exposure time: 96 h

Oils, spruce:

Toxicity to fish	:	LL50 : > 0.1 - 1 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): > 0.1 - 1 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae	:	EL50 : > 0.1 - 1 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
M-Factor (Acute aquatic toxicity)	:	1

Lemon oils:

Toxicity to fish	:	LC50 : > 0.1 - 1 mg/l Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.1 - 1 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1 - 10 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 1

abietic acid:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.38 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10 - 100 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

toluene:

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3.78 mg/l
Exposure time: 48 h

Toxicity to algae : NOEC (Skeletonema costatum (marine diatom)): 10 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 84 mg/l
Exposure time: 24 h

Toxicity to fish (Chronic toxicity) : NOEC: 1.39 mg/l
Exposure time: 40 d
Species: Oncorhynchus kisutch (coho salmon)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

NOEC: 0.74 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)

bismuth tris(2-ethylhexanoate):

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Remarks: Based on data from similar materials

decahydronaphthalene:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): 1.84 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia pulex (Water flea)): 2.49 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Scenedesmus subspicatus): > 2.2 mg/l Exposure time: 72 h NOEC (Scenedesmus subspicatus): > 2.2 mg/l Exposure time: 72 h

dichloromethane:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 193 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 27 mg/l Exposure time: 48 h
Toxicity to microorganisms	:	EC50 : 2,590 mg/l Exposure time: 40 min Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity)	:	NOEC: 142 mg/l Exposure time: 28 d Species: Pimephales promelas (fathead minnow)

1,2,3,4-tetrahydronaphthalene:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 3.2 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 9.5 mg/l Exposure time: 48 h Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): 11 mg/l
Exposure time: 72 h
Method: Directive 67/548/EEC, Annex V, C.3.

EC10 (Desmodesmus subspicatus (green algae)): 5.3 mg/l
Exposure time: 72 h
Method: Directive 67/548/EEC, Annex V, C.3.

Toxicity to microorganisms : EC10 (Pseudomonas putida): 16 mg/l
Exposure time: 5 h

Turpentine, oil:

Toxicity to fish : LL50 (Danio rerio (zebra fish)): 29 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 8.8 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae : EL50 (Desmodesmus subspicatus (green algae)): 16.4 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Larch, Larix decidua, ext.:

Toxicity to fish : LC50 : > 1 - 10 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 : > 1 - 10 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae : ErC50 : > 1 - 10 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

4-tert-butylphenol:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 5.1 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4.8 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 14 mg/l

Exposure time: 72 h
Method: OECD Test Guideline 201

EC10 (Raphidocelis subcapitata (freshwater green alga)): 2.9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : > 10 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 10 µg/l
Exposure time: 128 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.73 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

tin bis(2-ethylhexanoate):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 116 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 20 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 6.9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.54 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

formaldehyde:

Toxicity to fish : LC50 : 6.7 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 5.8 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 4.89 mg/l
Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : 34.1 mg/l
Exposure time: 120 h

Toxicity to fish (Chronic toxicity) : NOEC: >= 48 mg/l
Exposure time: 28 d
Species: Oryzias latipes (Orange-red killifish)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: >= 6.4 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

12.2 Persistence and degradability

Components:

cyclohexanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 94 - 99 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

Camphor oil:

Biodegradability : Result: Readily biodegradable.
Remarks: Based on data from similar materials

dipentene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 28 d

Resin acids and Rosin acids, maleated, esters with glycerol:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: < 60 %
Exposure time: 28 d
Remarks: Based on data from similar materials

Rosemary oil:

Biodegradability : Result: Readily biodegradable.
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), light arom.:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 78 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

benzyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d

cyclohexanone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 90 - 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Eucalyptus globulus, ext.:

Biodegradability : Result: Readily biodegradable.
Remarks: Based on data from similar materials

Oils, spruce:

Biodegradability : Result: Readily biodegradable.
Remarks: Based on data from similar materials

Lemon oils:

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 60 %
Exposure time: 28 d
Remarks: Based on data from similar materials

abietic acid:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 71 %
Exposure time: 28 d
Remarks: Based on data from similar materials

toluene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 86 %
Exposure time: 20 d

decahydronaphthalene:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 1 - 3 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

dichloromethane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 68 %
Exposure time: 28 d

1,2,3,4-tetrahydronaphthalene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 28 d

Turpentine, oil:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 71.7 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

4-tert-butylphenol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.A.

formaldehyde:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 91 %
Exposure time: 14 d
Method: OECD Test Guideline 301C
Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Components:

cyclohexanol:

Partition coefficient: n-octanol/water : log Pow: 1.25

Camphor oil:

Partition coefficient: n-octanol/water : log Pow: > 4
Remarks: Based on data from similar materials

dipentene:

Partition coefficient: n-octanol/water : log Pow: 4.59

Resin acids and Rosin acids, maleated, esters with glycerol:

Partition coefficient: n-octanol/water : log Pow: > 4

Rosemary oil:

Partition coefficient: n-octanol/water : log Pow: > 4

Solvent naphtha (petroleum), light arom.:

Partition coefficient: n-octanol/water : log Pow: 3.7 - 4.5

benzyl acetate:

Partition coefficient: n-octanol/water : log Pow: 1.96

cyclohexanone:

Partition coefficient: n-octanol/water : log Pow: 0.86
Remarks: Based on data from similar materials

Eucalyptus globulus, ext.:

Partition coefficient: n-octanol/water : log Pow: > 4

Oils, spruce:

Partition coefficient: n-octanol/water : log Pow: > 4
Remarks: Based on data from similar materials

Lemon oils:

Partition coefficient: n-octanol/water : log Pow: > 4

toluene:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 90

Partition coefficient: n-octanol/water : log Pow: 2.73

decahydronaphthalene:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 839 - 3,050
Method: OECD Test Guideline 305C

Partition coefficient: n-octanol/water : log Pow: 4.7
Remarks: Calculation

dichloromethane:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 2 - 5.4
Method: OECD Test Guideline 305

Partition coefficient: n- : log Pow: 1.25

octanol/water

1,2,3,4-tetrahydronaphthalene:

Partition coefficient: n-octanol/water : log Pow: 4

Turpentine, oil:

Partition coefficient: n-octanol/water : log Pow: > 4
Method: OECD Test Guideline 117
Remarks: Based on data from similar materials

4-tert-butylphenol:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 20 - 48
Method: OECD Test Guideline 305C

Partition coefficient: n-octanol/water : log Pow: 3

formaldehyde:

Partition coefficient: n-octanol/water : log Pow: 0.35

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Global warming potential (GWP)

The Fourth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC)

Components:

dichloromethane:

20-year global warming potential: 31
100-year global warming potential: 8.7
500-year global warming potential: 2.7
Atmospheric lifetime: 0.38 yr
Radiative efficiency: 0.03 Wm2ppb
Further information: Hydrocarbons and other compounds - Direct Effects

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1263

ADR : UN 1263

RID : UN 1263

IMDG : UN 1263

IATA : UN 1263

14.2 UN proper shipping name

ADN : PAINT

ADR : PAINT

RID : PAINT

IMDG : PAINT

IATA : Paint

14.3 Transport hazard class(es)

ADN : 3

ADR : 3

RID : 3

IMDG : 3

IATA : 3

14.4 Packing group

ADN

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3
Remarks : Special Provision 640E

ADR

Packing group : III
Classification Code : F1

Hazard Identification Number : 30
Labels : 3
Tunnel restriction code : (D/E)
Remarks : Special Provision 640E

RID
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3
Remarks : Special Provision 640E

IMDG
Packing group : III
Labels : 3
EmS Code : F-E, S-E

IATA (Cargo)
Packing instruction (cargo aircraft) : 366
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

IATA (Passenger)
Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mix-ture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pol-lutants	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL HAZARDS	100 t	200 t
P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2,500 t	25,000 t

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of H-Statements

H220	:	Extremely flammable gas.
H225	:	Highly flammable liquid and vapour.
H226	:	Flammable liquid and vapour.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H311	:	Toxic in contact with skin.
H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H341	:	Suspected of causing genetic defects.
H350	:	May cause cancer.
H351	:	Suspected of causing cancer.
H361d	:	Suspected of damaging the unborn child.
H361f	:	Suspected of damaging fertility.
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.
H412	:	Harmful to aquatic life with long lasting effects.
H413	:	May cause long lasting harmful effects to aquatic life.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Gas	:	Flammable gases
Flam. Liq.	:	Flammable liquids
Muta.	:	Germ cell mutagenicity
Repr.	:	Reproductive toxicity
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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