

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

### 1.1. Product identifier

Product form : Mixture  
 Product name : Organometallic dye for industrial use  
 Product code : GPP 1240 H

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

#### 1.2.1. Relevant identified uses

Main use category : Industrial use  
 Use of the substance/mixture : Dyestuff/pigment

#### 1.2.2. Uses advised against

No additional information available

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

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### 1.4. Emergency telephone number

Emergency number : +90 (232) 877 2410

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410
Full text of H statements : see section 16	

#### Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Very toxic to aquatic life with long lasting effects.

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS05

GHS07

GHS09

Signal word (CLP) :

Danger

Contains :

Eucalyptus oil; Lavandin Oil; Pine oil; Oils, spike; acetic acid 100%; Lemon oil; rosin; colophony; turpentine, oil; Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines; Rosemary oil; Balsams, copaiba, sulfurized, platinum salts

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Hazard statements (CLP)	: H225 - Highly flammable liquid and vapour. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 - Avoid breathing vapours, spray, mist, gas. P273 - Avoid release to the environment. P280 - Wear protective gloves, protective clothing, eye protection, face protection. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. P321 - Specific treatment (see supplemental first aid instruction on this label). P391 - Collect spillage. P501 - Dispose of contents and container to a hazardous or special waste collection point.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Oils, spike	CAS-No.: 8016-78-2 EC-No.: 616-988-7	≥ 25 – < 50	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
cyclohexanol	CAS-No.: 108-93-0 EC-No.: 203-630-6 EC Index-No.: 603-009-00-3	≥ 10 – < 25	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Oral), H302 STOT SE 3, H335 Skin Irrit. 2, H315
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	CAS-No.: 68410-23-1 EC-No.: 614-452-7	≥ 10 – < 25	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Chronic 2, H411
turpentine, oil	CAS-No.: 8006-64-2 EC-No.: 232-350-7 EC Index-No.: 650-002-00-6	≥ 5 – < 10	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411

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Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Rosemary oil	CAS-No.: 8000-25-7 EC-No.: 616-767-5	≥ 5 – < 10	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
cyclohexanone	CAS-No.: 108-94-1 EC-No.: 203-631-1 EC Index-No.: 606-010-00-7	≥ 5 – < 10	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332
Balsams, copaiba, sulfurized, platinum salts	CAS-No.: 68916-35-8 EC-No.: 272-832-4	≥ 3 – < 5	Flam. Sol. 1, H228 Skin Sens. 1, H317
acetic acid 100% (Note B)	CAS-No.: 64-19-7 EC-No.: 200-580-7 EC Index-No.: 607-002-00-6	≥ 1 – < 3	Flam. Liq. 3, H226 Skin Corr. 1A, H314
Abietic acid	CAS-No.: 514-10-3 EC-No.: 208-178-3	≥ 1 – < 3	Not classified
Lavandin Oil	CAS-No.: 8022-15-9 EC-No.: 617-009-6	≥ 0.1 – < 1	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Pine oil	CAS-No.: 8002-09-3 EC-No.: 692-006-0	≥ 0.1 – < 1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
sulfur	CAS-No.: 7704-34-9 EC-No.: 231-722-6 EC Index-No.: 016-094-00-1	≥ 0.1 – < 1	Skin Irrit. 2, H315
Copper(2+) neodecanoate	CAS-No.: 68084-48-0 EC-No.: 268-439-2	≥ 0.1 – < 1	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 2, H411
Lemon oil	CAS-No.: 8008-56-8 EC-No.: 616-925-3	≥ 0.1 – < 1	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
toluene	CAS-No.: 108-88-3 EC-No.: 203-625-9 EC Index-No.: 601-021-00-3	≥ 0.1 – < 1	Flam. Liq. 2, H225 Repr. 2, H361d Asp. Tox. 1, H304 STOT RE 2, H373 Skin Irrit. 2, H315 STOT SE 3, H336
Eucalyptus oil	CAS-No.: 8000-48-4 EC-No.: 296-357-7	≥ 0.1 – < 1	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Repr. 2, H361 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

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Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Bismuth tris(2-ethylhexanoate)	CAS-No.: 67874-71-9 EC-No.: 267-499-7	≥ 0.1 – < 1	Skin Irrit. 2, H315 Eye Dam. 1, H318 Repr. 2, H361d
Chromium tris((2-ethylhexanoate)	CAS-No.: 3444-17-5 EC-No.: 222-357-3	≥ 0.1 – < 1	Aquatic Chronic 3, H412
rosin; colophony	CAS-No.: 8050-09-7 EC-No.: 232-475-7 EC Index-No.: 650-015-00-7	≥ 0.1 – < 1	Skin Sens. 1, H317
2-ethylhexanoic acid	CAS-No.: 149-57-5 EC-No.: 205-743-6 EC Index-No.: 607-230-00-6	≥ 0.1 – < 1	Repr. 2, H361d

Specific concentration limits		
Name	Product identifier	Specific concentration limits
acetic acid 100%	CAS-No.: 64-19-7 EC-No.: 200-580-7 EC Index-No.: 607-002-00-6	( 10 ≤C < 25) Eye Irrit. 2, H319 ( 10 ≤C < 25) Skin Irrit. 2, H315 ( 25 ≤C < 90) Skin Corr. 1B, H314 ( 90 ≤C < 100) Skin Corr. 1A, H314

Note B : Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: "nitric acid ... %".

In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a ght/weight basis.

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. People with over sensibility problems are not allowed to work or be exposed to the product. In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).
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Unsuitable extinguishing media : Strong water jet.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour. Keep away from ignition sources (including static discharges). Contact with combustible material may cause fire.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity in case of fire : At high temperature may liberate dangerous gases.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Precautionary measures fire : Approach from upwind. Use water spray or fog for cooling exposed containers. Keep away from combustible materials.

Firefighting instructions : Use water spray or fog for cooling exposed containers. Cool adjacent tanks / containers / drums with water jet. Do not allow water to enter the vessels, a violent reaction may occur. Do not enter fire area without proper protective equipment, including respiratory protection. Exercise caution when fighting any chemical fire. Keep upwind. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : High temperature decomposition products are harmful by inhalation. Inhalation of vapour can cause breathing difficulties.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not touch or walk on the spilled product. Evacuate unnecessary personnel. Mark out the contaminated area with signs and prevent access to unauthorized personnel.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Only qualified personnel equipped with suitable protective equipment may intervene.

Emergency procedures : Avoid contact with skin and eyes. Do not touch spilled material. Evacuate unnecessary personnel. Keep public away from danger area. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Ventilate area. Stop leak if safe to do so.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. Comply with the safety instructions.

Methods for cleaning up : Notify authorities if product enters sewers or public waters. Clean up any spills as soon as possible, using an absorbent material to collect it. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Sweep or shovel spills into appropriate container for disposal. Minimise generation of dust.

Other information : Dispose of materials or solid residues at an authorized site. Dispose of contaminated materials in accordance with current regulations.

### 6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed	: Use adequate ventilation to keep vapour concentrations below applicable standard. Take all necessary technical measures to avoid or minimize the release of the product on the workplace.
Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid dust formation. Avoid prolonged and repeated contact with skin. Contaminated work clothing should not be allowed out of the workplace. Do not spray on an open flame or other ignition source.
Hygiene measures	: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Ground/bond container and receiving equipment. Ensure adequate ventilation, especially in confined areas. Comply with applicable regulations.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed.
Incompatible products	: Strong acids. Strong bases. Strong oxidizing agents. Peroxides.
Incompatible materials	: Extremely high or low temperatures.
Heat and ignition sources	: Do not smoke. KEEP SUBSTANCE AWAY FROM: ignition sources. heat sources.
Information on mixed storage	: Keep away from food, drink and animal feeding stuffs.
Storage area	: Avoid: Extremely high or low temperatures. Heat and ignition sources.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1. National occupational exposure and biological limit values

rosin; colophony (8050-09-7)	
Spain - Occupational Exposure Limits	
Local name	Resina núcleo de soldadura (Colofonia)
Notes	m (Los productos de descomposición térmica en el ambiente de la resina núcleo de soldadura, colo-fonia, tienen un marcado carácter sensibilizante, lo que aconseja reducir la exposición laboral a los mismos lo máximo posible), Sen (Sensibilizante).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
acetic acid 100% (64-19-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Acetic acid
IOEL TWA	25 mg/m <sup>3</sup>
IOEL TWA [ppm]	10 ppm
IOEL STEL	50 mg/m <sup>3</sup>
IOEL STEL [ppm]	20 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164

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<b>acetic acid 100% (64-19-7)</b>	
<b>France - Occupational Exposure Limits</b>	
Local name	Acide acétique
VME (OEL TWA)	25 mg/m <sup>3</sup>
VME (OEL TWA) [ppm]	10 ppm
VLE (OEL C/STEL)	25 mg/m <sup>3</sup>
VLE (OEL C/STEL) [ppm]	10 ppm
Note (FR)	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: Arrête du 27 septembre 2019)
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
Local name	Essigsäure
AGW (OEL TWA) [1]	25 mg/m <sup>3</sup>
AGW (OEL TWA) [2]	10 ppm
Peak exposure limitation factor	2(I)
Remark	DFG,EU,Y
Regulatory reference	TRGS900
<b>Spain - Occupational Exposure Limits</b>	
Local name	Ácido acético
VLA-ED (OEL TWA) [1]	25 mg/m <sup>3</sup>
VLA-ED (OEL TWA) [2]	10 ppm
VLA-EC (OEL STEL)	37 mg/m <sup>3</sup>
VLA-EC (OEL STEL) [ppm]	15 ppm
Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
<b>turpentine, oil (8006-64-2)</b>	
<b>France - Occupational Exposure Limits</b>	
Local name	Térébenthine
VME (OEL TWA)	560 mg/m <sup>3</sup>
VME (OEL TWA) [ppm]	100 ppm
Note (FR)	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
<b>Spain - Occupational Exposure Limits</b>	
Local name	Aguarrás, incluyendo los monoterpenos
VLA-ED (OEL TWA) [1]	113 mg/m <sup>3</sup>
VLA-ED (OEL TWA) [2]	20 ppm
Notes	Sen (Sensibilizante).

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<b>turpentine, oil (8006-64-2)</b>	
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
<b>cyclohexanone (108-94-1)</b>	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Cyclohexanone
IOEL TWA	40.8 mg/m <sup>3</sup>
IOEL TWA [ppm]	10 ppm
IOEL STEL	81.6 mg/m <sup>3</sup>
IOEL STEL [ppm]	20 ppm
Notes	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
<b>France - Occupational Exposure Limits</b>	
Local name	Cyclohexanone
VME (OEL TWA)	40.8 mg/m <sup>3</sup>
VME (OEL TWA) [ppm]	10 ppm
VLE (OEL C/STEL)	81.6 mg/m <sup>3</sup>
VLE (OEL C/STEL) [ppm]	20 ppm
Note (FR)	Valeurs réglementaires contraignantes
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 984, 2016; Décret n° 2019-1487)
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
Local name	Cyclohexanon
AGW (OEL TWA) [1]	80 mg/m <sup>3</sup>
AGW (OEL TWA) [2]	20 ppm
Peak exposure limitation factor	1(l)
Remark	AGS;EU;H;Y
Regulatory reference	TRGS900
<b>Italy - Occupational Exposure Limits</b>	
Local name	Cicloesanone
OEL TWA	40.8 mg/m <sup>3</sup>
OEL TWA [ppm]	10 ppm
OEL STEL	81.6 mg/m <sup>3</sup>
OEL STEL [ppm]	20 ppm
Notes	pelle
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
<b>Spain - Occupational Exposure Limits</b>	
Local name	Ciclohexanona
VLA-ED (OEL TWA) [1]	41 mg/m <sup>3</sup>
VLA-ED (OEL TWA) [2]	10 ppm
VLA-EC (OEL STEL)	82 mg/m <sup>3</sup>
VLA-EC (OEL STEL) [ppm]	20 ppm



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<b>cyclohexanone (108-94-1)</b>	
Notes	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo), VLB® (Agente químico que tiene Valor Límite Biológico).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
<b>Spain - Biological limit values</b>	
Local name	Ciclohexanona
BLV	80 mg/l Parámetro: 1,2-Ciclohexanodiol - Medio: Orina - Momento de muestreo: Final de la semana laboral - Notas: I (Significa que el indicador biológico es inespecífico puesto que puede encontrarse después de la exposición a otros agentes químicos), S (Significa que el indicador biológico es un indicador de exposición al agente químico en cuestión, pero la interpretación cuantitativa de su medida es ambigua (semicuantitativa). Estos indicadores biológicos deben utilizarse como una prueba de selección (screening) cuando no se pueda realizar una prueba cuantitativa o usarse como prueba de confirmación, si la prueba cuantitativa no es específica y el origen del determinante es dudoso), Con hidrólisis 8 mg/l Parámetro: Ciclohexanol - Medio: Orina - Momento de muestreo: Final de la jornada laboral - Notas: I (Significa que el indicador biológico es inespecífico puesto que puede encontrarse después de la exposición a otros agentes químicos), S (Significa que el indicador biológico es un indicador de exposición al agente químico en cuestión, pero la interpretación cuantitativa de su medida es ambigua (semicuantitativa). Estos indicadores biológicos deben utilizarse como una prueba de selección (screening) cuando no se pueda realizar una prueba cuantitativa o usarse como prueba de confirmación, si la prueba cuantitativa no es específica y el origen del determinante es dudoso), Con hidrólisis
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
<b>cyclohexanol (108-93-0)</b>	
<b>France - Occupational Exposure Limits</b>	
Local name	Cyclohexanol
VME (OEL TWA)	200 mg/m <sup>3</sup>
VME (OEL TWA) [ppm]	50 ppm
VLE (OEL C/STEL)	300 mg/m <sup>3</sup>
VLE (OEL C/STEL) [ppm]	75 ppm
Note (FR)	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
<b>Spain - Occupational Exposure Limits</b>	
Local name	Ciclohexanol
VLA-ED (OEL TWA) [1]	208 mg/m <sup>3</sup>
VLA-ED (OEL TWA) [2]	50 ppm
Notes	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT

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<b>toluene (108-88-3)</b>	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Toluene
IOEL TWA	192 mg/m <sup>3</sup>
IOEL TWA [ppm]	50 ppm
IOEL STEL	384 mg/m <sup>3</sup>
IOEL STEL [ppm]	100 ppm
Notes	skin
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
<b>France - Occupational Exposure Limits</b>	
Local name	Toluène
VME (OEL TWA)	76.8 mg/m <sup>3</sup>
VME (OEL TWA) [ppm]	20 ppm
VLE (OEL C/STEL)	384 mg/m <sup>3</sup>
VLE (OEL C/STEL) [ppm]	100 ppm
Note (FR)	Valeurs réglementaires contraignantes; substance classée toxique pour la reproduction de catégorie 2; risque de pénétration percutanée
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 984, 2016; Décret n° 2019-1487)
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
Local name	Toluol
AGW (OEL TWA) [1]	190 mg/m <sup>3</sup>
AGW (OEL TWA) [2]	50 ppm
Peak exposure limitation factor	4(II)
Remark	DFG,EU,H,Y
Regulatory reference	TRGS900
<b>Germany - Biological limit values (TRGS 903)</b>	
Local name	Toluol
BLV	600 µg/l Parameter: Toluol - Untersuchungsmaterial: B = Vollblut - Probenahmezeitpunkt: g) unmittelbar nach Exposition - Festlegung/Begründung: 11/2017 DFG 75 µg/l Parameter: Toluol - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende - Festlegung/Begründung: 11/2018 DFG 1.5 mg/l Parameter: o-Kresol (nach Hydrolyse) - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende, c) bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten - Festlegung/Begründung: 11/2018 DFG
Regulatory reference	TRGS 903
<b>Italy - Occupational Exposure Limits</b>	
Local name	Toluene
OEL TWA	192 mg/m <sup>3</sup>
OEL TWA [ppm]	50 ppm
Notes	pelle
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.

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<b>toluene (108-88-3)</b>	
<b>Spain - Occupational Exposure Limits</b>	
Local name	Tolueno
VLA-ED (OEL TWA) [1]	192 mg/m <sup>3</sup>
VLA-ED (OEL TWA) [2]	50 ppm
VLA-EC (OEL STEL)	384 mg/m <sup>3</sup>
VLA-EC (OEL STEL) [ppm]	100 ppm
Notes	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante. Para más información véase el Apartado 5 de este documento), VLB® (Agente químico que tiene Valor Límite Biológico específico en este documento), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país), r (Esta sustancia tiene establecidas restricciones a la fabricación, la comercialización o el uso en los términos especificados en el "Reglamento (CE) nº 1907/2006 sobre Registro, Evaluación, Autorización y Restricción de sustancias y preparados químicos" (REACH) de 18 de diciembre de 2006 (DOUE L 369 de 30 de diciembre de 2006). Las restricciones de una sustancia pueden aplicarse a todos los usos o sólo a usos concretos. El anexo XVII del Reglamento REACH contiene la lista de todas las sustancias restringidas y especifica los usos que se han restringido).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
<b>Spain - Biological limit values</b>	
Local name	Tolueno
BLV	0.6 mg/l Parámetro: o-Cresol - Medio: Orina - Momento de muestreo: Final de la jornada laboral - Notas: F (Fondo. El indicador está generalmente presente en cantidades detectables en personas no expuestas laboralmente. Estos niveles de fondo están considerados en el valor VLB) 0.05 mg/l Parámetro: Tolueno - Medio: Sangre - Momento de muestreo: Principio de la última jornada de la semana laboral 0.08 mg/l Parámetro: Tolueno - Medio: orina - Momento de muestreo: Final de la jornada laboral
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
<b>2-ethylhexanoic acid (149-57-5)</b>	
<b>Spain - Occupational Exposure Limits</b>	
Local name	Ácido 2-etilhexanoico
VLA-ED (OEL TWA) [1]	5 mg/m <sup>3</sup>

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2-ethylhexanoic acid (149-57-5)	
Notes	FIV (Fracción inhalable y vapor. La notación FIV señala a aquellos agentes químicos que se pueden presentar en el ambiente de trabajo, tanto en forma de materia particulada como vapor, por lo que las dos fases pueden coexistir, contribuyendo ambas a la exposición. Esta situación se puede dar, principalmente, en los siguientes casos: • Cuando el agente en cuestión tiene un valor "intermedio" de presión de vapor (en estos casos se tiene en cuenta la relación entre su concentración en el aire saturado de vapor y el valor del VLA-ED® y la nota se asigna, generalmente, cuando el cociente entre ambas cantidades se encuentra entre 0.1 y 10). • Por razón de la forma de uso del agente químico (por ejemplo, pulverización). • En los procesos que conlleven cambios importantes de temperatura que puedan afectar al estado físico del agente químico. • En los procesos en los que una fracción significativa del vapor puede disolverse o adsorberse en las partículas de otra sustancia, a semejanza de lo que ocurre con los agentes solubles en agua en ambientes con humedad elevada).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

Lavandin Oil (8022-15-9)	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	0.249 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.877 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	0.0889 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.132 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	0.0889 mg/kg bodyweight/day
<b>acetic acid 100% (64-19-7)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - local effects, inhalation	25 mg/m <sup>3</sup>
Long-term - local effects, inhalation	25 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - local effects, inhalation	25 mg/m <sup>3</sup>
Long-term - local effects, inhalation	25 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	3.058 mg/l
PNEC aqua (marine water)	0.3058 mg/l
PNEC aqua (intermittent, freshwater)	30.58 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	11.36 mg/kg dwt
PNEC sediment (marine water)	1.136 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.47 mg/kg dwt

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<b>acetic acid 100% (64-19-7)</b>	
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	85 mg/l
<b>Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines (68410-23-1)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	1.1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3.9 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects,oral	0.56 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.97 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	0.56 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.00411 mg/l
PNEC aqua (marine water)	0.000411 mg/l
PNEC aqua (intermittent, freshwater)	0.0411 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	411.01 mg/kg dwt
PNEC sediment (marine water)	41.1 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	82.18 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	3.14 mg/l
<b>turpentine, oil (8006-64-2)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - local effects, dermal	161 µg/cm <sup>2</sup>
Long-term - systemic effects, inhalation	5.98 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - local effects, dermal	81 µg/cm <sup>2</sup>
Long-term - systemic effects,oral	0.31 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.06 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	8.8 µg/l
PNEC aqua (marine water)	0.88 µg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	2.27 mg/kg dwt
PNEC sediment (marine water)	0.227 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.45 mg/kg dwt

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<b>turpentine, oil (8006-64-2)</b>	
<b>PNEC (Oral)</b>	
PNEC oral (secondary poisoning)	1.35 mg/kg food
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	6.6 mg/l
<b>cyclohexanone (108-94-1)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, dermal	4 mg/kg bodyweight/day
Acute - systemic effects, inhalation	80 mg/m <sup>3</sup>
Acute - local effects, inhalation	80 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	4 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	40 mg/m <sup>3</sup>
Long-term - local effects, inhalation	40 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	1 mg/kg bodyweight
Acute - systemic effects, inhalation	20 mg/kg bodyweight/day
Acute - systemic effects, oral	1.5 mg/kg bodyweight
Acute - local effects, inhalation	40 mg/m <sup>3</sup>
Long-term - systemic effects, oral	1.5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	10 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	1 mg/kg bodyweight/day
Long-term - local effects, inhalation	20 mg/m <sup>3</sup>
<b>cyclohexanol (108-93-0)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	3.58 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	130 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	1.79 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	32.5 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	1.79 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.017 mg/l
PNEC aqua (marine water)	0.0017 mg/l
PNEC aqua (intermittent, freshwater)	0.17 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	0.042 mg/kg dwt
PNEC sediment (marine water)	0.0042 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.005 mg/kg dwt

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<b>cyclohexanol (108-93-0)</b>	
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	199.5 mg/l
<b>toluene (108-88-3)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, inhalation	384 mg/m <sup>3</sup>
Acute - local effects, inhalation	384 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	384 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	192 mg/m <sup>3</sup>
Long-term - local effects, inhalation	192 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, inhalation	226 mg/m <sup>3</sup>
Acute - local effects, inhalation	226 mg/m <sup>3</sup>
Long-term - systemic effects, oral	8.13 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	56.5 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	226 mg/kg bodyweight/day
Long-term - local effects, inhalation	56.5 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.68 mg/l
PNEC aqua (marine water)	0.68 mg/l
PNEC aqua (intermittent, freshwater)	0.68 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	16.39 mg/kg dwt
PNEC sediment (marine water)	16.39 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	2.89 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	13.61 mg/l
<b>2-ethylhexanoic acid (149-57-5)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	2 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	14 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3.5 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	1 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.36 mg/l
PNEC aqua (marine water)	0.036 mg/l

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2-ethylhexanoic acid (149-57-5)	
PNEC aqua (intermittent, freshwater)	0.493 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	6.37 mg/kg dwt
PNEC sediment (marine water)	0.637 mg/kg dwt
PNEC (Soil)	
PNEC soil	1.06 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	71.7 mg/l

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station. Avoid contact with skin, eyes and clothing.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Gloves. Safety glasses. Protective clothing. Gas mask.

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety glasses. EN 166

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable protective clothing

##### Hand protection:

Protective gloves. EN 374. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

#### Consumer exposure controls:

Do not eat, drink or smoke during use. Always wash hands after handling the product. Avoid contact with skin and eyes. Avoid contact during pregnancy/while nursing.

#### Other information:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.



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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous liquid.
Colour	: According to product specification.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Vapour pressure at 50 °C	: ≤ 1100 hPa
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: practically insoluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Highly flammable liquid and vapour.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Peroxides. Explosives.

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

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Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

<b>Lemon oil (8008-56-8)</b>	
LD50 oral rat	2840 mg/kg
<b>acetic acid 100% (64-19-7)</b>	
LD50 oral rat	3310 mg/kg Delaware State Medical Journal. Vol. 31, Pg. 276, 1959.
LD50 oral	4960 mg/kg bodyweight Animal: mouse
LD50 dermal	1100 mg/kg bodyweight
<b>Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines (68410-23-1)</b>	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
<b>turpentine, oil (8006-64-2)</b>	
LC50 Inhalation - Rat	13.7 mg/l air Animal: rat, Animal sex: male, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), 95% CL: 11,1 - 14,8
<b>cyclohexanone (108-94-1)</b>	
LD50 oral	1890 mg/kg bodyweight
LD50 dermal	1100 mg/kg bodyweight
LC50 Inhalation - Rat	> 6.2 mg/l air Animal: rat
LC50 Inhalation - Rat (Vapours)	11 mg/l/4h
<b>cyclohexanol (108-93-0)</b>	
LD50 oral rat	1400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1260 - 1550
LD50 oral	1400 mg/kg bodyweight
LC50 Inhalation - Rat	> 3.6 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
LC50 Inhalation - Rat (Vapours)	11 mg/l/4h
<b>toluene (108-88-3)</b>	
LD50 oral rat	5580 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: EU Method B.1 (Acute Toxicity (Oral)), 95% CL: 5300 - 5910
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Animal sex: male, 95% CL: 9,63 - 20,77
<b>2-ethylhexanoic acid (149-57-5)</b>	
LD50 oral rat	2043 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1445 - 2890
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
<b>Eucalyptus oil (8000-48-4)</b>	
LD50 oral	2569 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.  
Serious eye damage/irritation : Causes serious eye damage.  
Respiratory or skin sensitisation : May cause an allergic skin reaction.  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified

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Reproductive toxicity : Not classified  
STOT-single exposure : Not classified

<b>cyclohexanol (108-93-0)</b>	
STOT-single exposure	May cause respiratory irritation.

<b>toluene (108-88-3)</b>	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

<b>acetic acid 100% (64-19-7)</b>	
NOAEL (oral, rat, 90 days)	290 mg/kg bodyweight Animal: rat, Animal sex: male

<b>Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines (68410-23-1)</b>	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

<b>cyclohexanone (108-94-1)</b>	
NOAEL (oral, rat, 90 days)	143 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

<b>cyclohexanol (108-93-0)</b>	
NOAEL (oral, rat, 90 days)	143 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

<b>toluene (108-88-3)</b>	
LOAEL (oral, rat, 90 days)	1250 mg/kg bodyweight Animal: rat, Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	625 mg/kg bodyweight Animal: rat, Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation, rat, vapour, 90 days)	2.355 mg/l air Animal: rat, Guideline: EU Method B.29 (Sub-Chronic Inhalation Toxicity:90-Day Study)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

<b>2-ethylhexanoic acid (149-57-5)</b>	
NOAEL (oral, rat, 90 days)	≈ 300 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.  
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.  
Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.  
Not rapidly degradable

<b>acetic acid 100% (64-19-7)</b>	
LC50 - Fish [1]	79 – 273 mg/l Mattson, V.R., J.W. Arthur, and C.T. Walbridge 1976. Acute Toxicity of Selected Organic Compounds to Fathead Minnows. EPA-600/3-76-097, U.S.EPA, Duluth, MN :12 p.

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<b>acetic acid 100% (64-19-7)</b>	
LC50 - Fish [2]	> 300.82 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	52.6 – 180 mg/l Espiritu, E.Q., C.R. Janssen, and G. Persoone 1995. Cyst-Based Toxicity Tests. VII. Evaluation of the 1-h Enzymatic Inhibition Test (Fluotox) with Artemia nauplii. Environ.Toxicol.Water Qual. 10:25-34
EC50 - Crustacea [2]	65 mg/l Janssen, C.R., E.Q. Espiritu, and G. Persoone 1993. Evaluation of the new ""Enzymatic Inhibition"" Criterion for Rapid Toxicity Testing with Daphnia magna. In: A.Soaes and P.Calow (Eds.), Progress in Standardization of Aquatic Toxicity Tests, Lewis Publ. :71-81
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Skeletonema costatum
EC50 72h - Algae [2]	> 300.82 mg/l Test organisms (species): Skeletonema costatum
<b>Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines (68410-23-1)</b>	
LC50 - Fish [1]	7.07 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	5.18 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	4.11 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
<b>cyclohexanone (108-94-1)</b>	
LC50 - Fish [1]	527 – 732 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
<b>cyclohexanol (108-93-0)</b>	
LC50 - Fish [1]	704 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	17 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
<b>toluene (108-88-3)</b>	
LC50 - Fish [1]	5.5 mg/l Test organisms (species): Oncorhynchus kisutch
LOEC (chronic)	2.76 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
NOEC (chronic)	0.74 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
NOEC chronic fish	1.39 mg/l Test organisms (species): Oncorhynchus kisutch Duration: '40 d'
<b>2-ethylhexanoic acid (149-57-5)</b>	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	910 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	49.3 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	63 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	25 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

## 12.2. Persistence and degradability

No additional information available

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### 12.3. Bioaccumulative potential

#### acetic acid 100% (64-19-7)

Partition coefficient n-octanol/water (Log Kow)	-0.17 LOG KOW Databank, compiled by Dr. James Sangster, Sangster Research Laboratories, Montreal, Canada, distributed by Technical Database Services (TDS), New York
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### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available






## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Completely empty the packaging prior to decontamination. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation. Comply with applicable regulations for solid waste disposal.
Additional information	: Flammable vapours may accumulate in the container. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.
Ecology - waste materials	: Avoid release to the environment. Do not allow into drains or water courses.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
UN 1263	UN 1263	UN 1263	UN 1263	UN 1263
<b>14.2. UN proper shipping name</b>				
PAINT / PAINT RELATED MATERIAL (Oils, spike)	PAINT (Oils, spike)	Paint (Oils, spike)	PAINT (Oils, spike)	PAINT (Oils, spike)
<b>Transport document description</b>				
UN 1263 PAINT / PAINT RELATED MATERIAL (Oils, spike), 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS	UN 1263 PAINT (Oils, spike), 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 1263 Paint (Oils, spike), 3, II, ENVIRONMENTALLY HAZARDOUS	UN 1263 PAINT (Oils, spike), 3, II, ENVIRONMENTALLY HAZARDOUS	UN 1263 PAINT (Oils, spike), 3, II, ENVIRONMENTALLY HAZARDOUS
<b>14.3. Transport hazard class(es)</b>				
3	3	3	3	3
				

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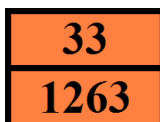
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

ADR	IMDG	IATA	ADN	RID
<b>14.4. Packing group</b>				
II	II	II	II	II
<b>14.5. Environmental hazards</b>				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 163, 367, 640C, 650
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001
Special packing provisions (ADR)	: PP1
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP8, TP28
Tank code (ADR)	: L1.5BN
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 33
Orange plates	:



Tunnel restriction code (ADR) : D/E

#### Transport by sea

Special provisions (IMDG)	: 163, 367
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1, TP8, TP28
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-E
Stowage category (IMDG)	: B
Properties and observations (IMDG)	: Miscibility with water depends upon the composition.

#### Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A3, A72, A192
ERG code (IATA)	: 3L

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### Inland waterway transport

Classification code (ADN)	: F1
Special provisions (ADN)	: 163, 367, 640C, 650
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E2
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

### Rail transport

Classification code (RID)	: F1
Special provisions (RID)	: 163, 367, 640C, 650
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001
Special packing provisions (RID)	: PP1
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1, TP8, TP28
Tank codes for RID tanks (RID)	: L1.5BN
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 33

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

#### 15.1.2. National regulations

France	
Occupational diseases	
Code	Description
RG 4 BIS	Gastrointestinal disorders caused by benzene, toluene, xylenes and all products containing them
RG 65	Eczematiform lesions of allergic mechanism
RG 66	Occupational rhinitis and asthma
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

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### Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)  
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Storage class (LGK, TRGS 510) : LGK 3 - Flammable liquids

Joint storage table :

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for : LGK 1, LGK 2A, LGK 4.1A, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.1B, LGK 6.2, LGK 7

Joint storage with restrictions permitted for : LGK 5.1B, LGK 6.1D, LGK 11, LGK 10-13

Joint storage permitted for : LGK 2B, LGK 3, LGK 6.1A, LGK 6.1C, LGK 8A, LGK 8B, LGK 10, LGK 12, LGK 13

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms	
COD	Chemical oxygen demand (COD)
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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
CAS-No.	Chemical Abstract Service number
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level



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Abbreviations and acronyms	
N.O.S.	Not Otherwise Specified
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
Pow (log)	n-octanol/water partition coefficient
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Data sources : Classification according to Regulation (EC) No. 1272/2008 [CLP]. ECHA (European Chemicals Agency). Supplier's safety documents.

Full text of H- and EUH-statements	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Flam. Sol. 1	Flammable solids, Category 1
Repr. 2	Reproductive toxicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A

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Full text of H- and EUH-statements	
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
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.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
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.

Safety Data Sheet (SDS), EU

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