





## RADIATEUR

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** RADIATEUR (Product Code: 114650)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
Relevant uses: Enamel for heating metallic surfaces (<100°C) - Radiators  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**  
Berling S.A.  
Thesi Agia Paraskevi  
32011 Inofyta Viotias - Greece  
Phone.: +302262031663 - Fax: +302262031293  
info@berling.gr  
www.berling.gr
- 1.4 Emergency telephone number:** +30 210 7793 777 (Greek Poison Info Center)

### SECTION 2: HAZARDS IDENTIFICATION \*\*

- 2.1 Classification of the substance or mixture:**  
**CLP Regulation (EC) No 1272/2008:**  
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.  
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard, Category 2, H411  
Flam. Liq. 3: Flammable liquids, Category 3, H226  
STOT RE 1: Specific target organ toxicity, repeated exposure, Category 1, H372  
STOT SE 3: Specific toxicity causing drowsiness and dizziness, single exposure, Category 3, H336
- 2.2 Label elements:**  
**CLP Regulation (EC) No 1272/2008:**  
**Danger**
- 



- Hazard statements:**  
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects  
Flam. Liq. 3: H226 - Flammable liquid and vapour  
STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure  
STOT SE 3: H336 - May cause drowsiness or dizziness
- Precautionary statements:**  
P101: If medical advice is needed, have product container or label at hand  
P102: Keep out of reach of children  
P103: Read label before use  
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 or shower  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P370+P378: In case of fire: Use ABC powder extinguisher to extinguish  
P501: Dispose of the contents/containers in accordance with the current legislation on waste treatment
- Supplementary information:**  
EUH066: Repeated exposure may cause skin dryness or cracking  
EUH208: Contains Butanone oxime, Cobalt bis(2-ethylhexanoate). May produce an allergic reaction
- Substances that contribute to the classification**  
naphtha (petroleum), hydrodesulphurized heavy, < 0.1 % EC 200-753-7 (CAS: 64742-82-1); Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) (CAS: 64742-82-1)
- 2.3 Other hazards:**  
Product contains PBT/vPvB substances: Octamethylcyclotetrasiloxane

\*\* Changes with regards to the previous version

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS \*\*

#### 3.1 Substance:

Non-applicable

#### 3.2 Mixture:

**Chemical description:** Mixture composed of additives, fillers, pigments and resins in solvents

#### Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 64742-82-1 EC: 265-185-4 Index: 649-330-00-2 REACH: 01-2119490979-19-XXXX	<b>naphtha (petroleum), hydrodesulphurized heavy , &lt; 0.1 % EC 200-753-7<sup>(1)</sup></b> ATP ATP05 Regulation 1272/2008 Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Flam. Liq. 3: H226; STOT SE 3: H336; EUH066 - Danger	9,9 - <19 %
CAS: 64742-82-1 EC: 919-446-0 Index: Non-applicable REACH: 01-2119458049-33-XXXX	<b>Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)<sup>(1)</sup></b> Self-classified Regulation 1272/2008 Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Flam. Liq. 3: H226; STOT RE 1: H372; STOT SE 3: H336; EUH066 - Danger	9,9 - <19 %
CAS: 1330-20-7 EC: 215-535-7 Index: 601-022-00-9 REACH: 01-2119488216-32-XXXX	<b>Xylene<sup>(1)</sup></b> ATP CLP00 Regulation 1272/2008 Acute Tox. 4: H312+H332; Flam. Liq. 3: H226; Skin Irrit. 2: H315 - Warning	4,9 - <9,9 %
CAS: 136-51-6 EC: 205-249-0 Index: Non-applicable REACH: 01-2119978297-19-XXXX	<b>calcium bis(2-ethylhexanoate)<sup>(1)</sup></b> Self-classified Regulation 1272/2008 Eye Dam. 1: H318; Repr. 2: H361d - Danger	0,24 - <0,9 %
CAS: 96-29-7 EC: 202-496-6 Index: 616-014-00-0 REACH: 01-2119539477-28-XXXX	<b>Butanone oxime<sup>(1)</sup></b> ATP CLP00 Regulation 1272/2008 Acute Tox. 4: H312; Carc. 2: H351; Eye Dam. 1: H318; Skin Sens. 1: H317 - Danger	0,24 - <0,9 %
CAS: 22464-99-9 EC: 245-018-1 Index: Non-applicable REACH: 01-2119979088-21-XXXX	<b>2-ethylhexanoic acid, zirconium salt<sup>(1)</sup></b> Self-classified Regulation 1272/2008 Repr. 2: H361d - Warning	0,09 - <0,24 %
CAS: 136-52-7 EC: 205-250-6 Index: Non-applicable REACH: 01-2119524678-29-XXXX	<b>Cobalt bis(2-ethylhexanoate)<sup>(1)</sup></b> Self-classified Regulation 1272/2008 Acute Tox. 4: H302; Aquatic Chronic 1: H410; Repr. 2: H361f; Skin Sens. 1: H317 - Warning	0,09 - <0,24 %
CAS: 85203-81-2 EC: 286-272-3 Index: Non-applicable REACH: 01-2119979093-30-XXXX	<b>Hexanoic acid, 2-ethyl-, zinc salt, basic<sup>(1)</sup></b> Self-classified Regulation 1272/2008 Eye Irrit. 2: H319; Repr. 2: H361; Skin Irrit. 2: H315 - Warning	0,09 - <0,24 %
CAS: 108-65-6 EC: 203-603-9 Index: 607-195-00-7 REACH: 01-2119475791-29-XXXX	<b>2-methoxy-1-methylethyl acetate<sup>(2)</sup></b> ATP ATP01 Regulation 1272/2008 Flam. Liq. 3: H226 - Warning	<0,09 %
CAS: 107-98-2 EC: 203-539-1 Index: 603-064-00-3 REACH: 01-2119457435-35-XXXX	<b>1-methoxy-2-propanol<sup>(2)</sup></b> ATP ATP01 Regulation 1272/2008 Flam. Liq. 3: H226; STOT SE 3: H336 - Warning	<0,09 %
CAS: 112-07-2 EC: 202-933-3 Index: 607-038-00-2 REACH: 01-2119475112-47-XXXX	<b>2-butoxyethyl acetate<sup>(2)</sup></b> Self-classified Regulation 1272/2008 Acute Tox. 4: H302+H312+H332 - Warning	<0,09 %
CAS: 1330-20-7 EC: 215-535-7 Index: 601-022-00-9 REACH: 01-2119488216-32-XXXX	<b>Xylene<sup>(2)</sup></b> Self-classified Regulation 1272/2008 Acute Tox. 4: H312+H332; Asp. Tox. 1: H304; Eye Irrit. 2: H319; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT RE 2: H373; STOT SE 3: H335 - Danger	<0,09 %
CAS: 100-41-4 EC: 202-849-4 Index: 601-023-00-4 REACH: 01-2119489370-35-XXXX	<b>Ethylbenzene<sup>(2)</sup></b> ATP ATP06 Regulation 1272/2008 Acute Tox. 4: H332; Asp. Tox. 1: H304; Flam. Liq. 2: H225; STOT RE 2: H373 - Danger	<0,09 %
CAS: 112-34-5 EC: 203-961-6 Index: 603-096-00-8 REACH: 01-2119475104-44-XXXX	<b>2-(2-butoxyethoxy)ethanol<sup>(2)</sup></b> ATP CLP00 Regulation 1272/2008 Eye Irrit. 2: H319 - Warning	<0,09 %

<sup>(1)</sup> Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2015/830

<sup>(2)</sup> Substance with a Union workplace exposure limit

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS \*\* (continued)

Identification	Chemical name/Classification		Concentration
CAS: 108-88-3 EC: 203-625-9 Index: 601-021-00-3 REACH: 01-2119471310-51-XXXX	<b>Toluene<sup>(2)</sup></b>	ATP CLP00	<0,09 %
	Regulation 1272/2008	Asp. Tox. 1: H304; Flam. Liq. 2: H225; Repr. 2: H361d; Skin Irrit. 2: H315; STOT RE 2: H373; STOT SE 3: H336 - Danger	

<sup>(1)</sup> Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2015/830

<sup>(2)</sup> Substance with a Union workplace exposure limit

To obtain more information on the hazards of the substances consult sections 8, 11, 12, 15 and 16.

\*\* Changes with regards to the previous version

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

##### By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

##### By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

##### By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

##### By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Non-applicable

### SECTION 5: FIREFIGHTING MEASURES

#### 5.1 Extinguishing media:

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO<sub>2</sub>). IT IS RECOMMENDED NOT to use tap water as an extinguishing agent.

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

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

#### 5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

##### Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

#### 6.2 Environmental precautions:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

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

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

#### 6.4 Reference to other sections:

See sections 8 and 13.

### SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in Directive 94/9/EC (ATEX 100) and with the minimum requirements for protecting the security and health of workers under the selection criteria of Directive 1999/92/EC (ATEX 137). Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

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

A.- Technical measures for storage

Minimum Temp.: 5 °C

Maximum Temp.: 35 °C

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

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

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification		Environmental limits		
Xylene CAS: 1330-20-7 EC: 215-535-7		IOELV (8h)	50 ppm	221 mg/m <sup>3</sup>
		IOELV (STEL)	100 ppm	442 mg/m <sup>3</sup>
Ethylbenzene CAS: 100-41-4 EC: 202-849-4		IOELV (8h)	100 ppm	442 mg/m <sup>3</sup>
		IOELV (STEL)	200 ppm	884 mg/m <sup>3</sup>
Toluene CAS: 108-88-3 EC: 203-625-9		IOELV (8h)	50 ppm	192 mg/m <sup>3</sup>
		IOELV (STEL)	100 ppm	384 mg/m <sup>3</sup>
Xylene CAS: 1330-20-7 EC: 215-535-7		IOELV (8h)	50 ppm	221 mg/m <sup>3</sup>
		IOELV (STEL)	100 ppm	442 mg/m <sup>3</sup>
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1		IOELV (8h)	100 ppm	375 mg/m <sup>3</sup>
		IOELV (STEL)	150 ppm	563 mg/m <sup>3</sup>
2-(2-butoxyethoxy)ethanol CAS: 112-34-5 EC: 203-961-6		IOELV (8h)	10 ppm	67.5 mg/m <sup>3</sup>
		IOELV (STEL)	15 ppm	101.2 mg/m <sup>3</sup>
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9		IOELV (8h)	50 ppm	275 mg/m <sup>3</sup>
		IOELV (STEL)	100 ppm	550 mg/m <sup>3</sup>
2-butoxyethyl acetate CAS: 112-07-2 EC: 203-933-3		IOELV (8h)	20 ppm	133 mg/m <sup>3</sup>
		IOELV (STEL)	50 ppm	333 mg/m <sup>3</sup>

#### DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) CAS: 64742-82-1 EC: 919-446-0	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	44 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	330 mg/m <sup>3</sup>	Non-applicable
Xylene CAS: 1330-20-7 EC: 215-535-7	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	180 mg/kg	Non-applicable
	Inhalation	289 mg/m <sup>3</sup>	289 mg/m <sup>3</sup>	77 mg/m <sup>3</sup>	Non-applicable
calcium bis(2-ethylhexanoate) CAS: 136-51-6 EC: 205-249-0	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	5,67 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	39,98 mg/m <sup>3</sup>	Non-applicable
Butanone oxime CAS: 96-29-7 EC: 202-496-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	2,5 mg/kg	Non-applicable	1,3 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	9 mg/m <sup>3</sup>	3,33 mg/m <sup>3</sup>
2-ethylhexanoic acid, zirconium salt CAS: 22464-99-9 EC: 245-018-1	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	15,75 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	5 mg/m <sup>3</sup>	Non-applicable
Cobalt bis(2-ethylhexanoate) CAS: 136-52-7 EC: 205-250-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	Non-applicable	Non-applicable	0,2351 mg/m <sup>3</sup>
Hexanoic acid, 2-ethyl-, zinc salt, basic CAS: 85203-81-2 EC: 286-272-3	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	6,41 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	20,83 mg/m <sup>3</sup>	Non-applicable
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	153,5 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	275 mg/m <sup>3</sup>	Non-applicable
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	50,6 mg/kg	Non-applicable
	Inhalation	Non-applicable	553,5 mg/m <sup>3</sup>	369 mg/m <sup>3</sup>	Non-applicable
2-butoxyethyl acetate CAS: 112-07-2 EC: 203-933-3	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	102 mg/kg	Non-applicable	102 mg/kg	Non-applicable
	Inhalation	775 mg/m <sup>3</sup>	333 mg/m <sup>3</sup>	133 mg/m <sup>3</sup>	Non-applicable
Xylene CAS: 1330-20-7 EC: 215-535-7	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	180 mg/kg	Non-applicable
	Inhalation	289 mg/m <sup>3</sup>	289 mg/m <sup>3</sup>	77 mg/m <sup>3</sup>	Non-applicable
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	180 mg/kg	Non-applicable
	Inhalation	Non-applicable	293 mg/m <sup>3</sup>	77 mg/m <sup>3</sup>	Non-applicable

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## RADIATEUR

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
2-(2-butoxyethoxy)ethanol CAS: 112-34-5 EC: 203-961-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	20 mg/kg	Non-applicable
	Inhalation	Non-applicable	101,2 mg/m <sup>3</sup>	67,5 mg/m <sup>3</sup>	67,5 mg/m <sup>3</sup>
Toluene CAS: 108-88-3 EC: 203-625-9	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	384 mg/kg	Non-applicable
	Inhalation	384 mg/m <sup>3</sup>	384 mg/m <sup>3</sup>	192 mg/m <sup>3</sup>	192 mg/m <sup>3</sup>

#### DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) CAS: 64742-82-1 EC: 919-446-0	Oral	Non-applicable	Non-applicable	26 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	26 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	71 mg/m <sup>3</sup>	Non-applicable
Xylene CAS: 1330-20-7 EC: 215-535-7	Oral	Non-applicable	Non-applicable	1,6 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	108 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	14,8 mg/m <sup>3</sup>	Non-applicable
calcium bis(2-ethylhexanoate) CAS: 136-51-6 EC: 205-249-0	Oral	Non-applicable	Non-applicable	2,83 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	2,83 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	9,86 mg/m <sup>3</sup>	Non-applicable
Butanone oxime CAS: 96-29-7 EC: 202-496-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	1,5 mg/kg	Non-applicable	0,78 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	2,7 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
2-ethylhexanoic acid, zirconium salt CAS: 22464-99-9 EC: 245-018-1	Oral	Non-applicable	Non-applicable	7,9 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	7,9 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	2,5 mg/m <sup>3</sup>	Non-applicable
Cobalt bis(2-ethylhexanoate) CAS: 136-52-7 EC: 205-250-6	Oral	Non-applicable	Non-applicable	0,0558 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	Non-applicable	Non-applicable	0,037 mg/m <sup>3</sup>
Hexanoic acid, 2-ethyl-, zinc salt, basic CAS: 85203-81-2 EC: 286-272-3	Oral	Non-applicable	Non-applicable	3,21 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	3,21 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	10,42 mg/m <sup>3</sup>	Non-applicable
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	Oral	Non-applicable	Non-applicable	1,67 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	54,8 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	33 mg/m <sup>3</sup>	Non-applicable
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	Oral	Non-applicable	Non-applicable	3,3 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	18,1 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	43,9 mg/m <sup>3</sup>	Non-applicable
2-butoxyethyl acetate CAS: 112-07-2 EC: 203-933-3	Oral	18 mg/kg	Non-applicable	4,3 mg/kg	Non-applicable
	Dermal	27 mg/kg	Non-applicable	36 mg/kg	Non-applicable
	Inhalation	499 mg/m <sup>3</sup>	166 mg/m <sup>3</sup>	67 mg/m <sup>3</sup>	Non-applicable
Xylene CAS: 1330-20-7 EC: 215-535-7	Oral	Non-applicable	Non-applicable	1,6 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	108 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	14,8 mg/m <sup>3</sup>	Non-applicable
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	Oral	Non-applicable	Non-applicable	1,6 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	Non-applicable	15 mg/m <sup>3</sup>	Non-applicable
2-(2-butoxyethoxy)ethanol CAS: 112-34-5 EC: 203-961-6	Oral	Non-applicable	Non-applicable	1,25 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	10 mg/kg	Non-applicable
	Inhalation	Non-applicable	50,6 mg/m <sup>3</sup>	34 mg/m <sup>3</sup>	34 mg/m <sup>3</sup>
Toluene CAS: 108-88-3 EC: 203-625-9	Oral	Non-applicable	Non-applicable	8,13 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	226 mg/kg	Non-applicable
	Inhalation	226 mg/m <sup>3</sup>	226 mg/m <sup>3</sup>	56,5 mg/m <sup>3</sup>	56,5 mg/m <sup>3</sup>

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## RADIATEUR

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

#### PNEC:

Identification				
Xylene CAS: 1330-20-7 EC: 215-535-7	STP	6,58 mg/L	Fresh water	0,327 mg/L
	Soil	2,31 mg/kg	Marine water	0,327 mg/L
	Intermittent	0,327 mg/L	Sediment (Fresh water)	12,46 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	12,46 mg/kg
calcium bis(2-ethylhexanoate) CAS: 136-51-6 EC: 205-249-0	STP	71,7 mg/L	Fresh water	0,36 mg/L
	Soil	1,06 mg/kg	Marine water	0,036 mg/L
	Intermittent	0,493 mg/L	Sediment (Fresh water)	6,37 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	0,637 mg/kg
Butanone oxime CAS: 96-29-7 EC: 202-496-6	STP	177 mg/L	Fresh water	0,256 mg/L
	Soil	Non-applicable	Marine water	Non-applicable
	Intermittent	0,118 mg/L	Sediment (Fresh water)	Non-applicable
	Oral	Non-applicable	Sediment (Marine water)	Non-applicable
2-ethylhexanoic acid, zirconium salt CAS: 22464-99-9 EC: 245-018-1	STP	71,7 mg/L	Fresh water	0,36 mg/L
	Soil	1,06 mg/kg	Marine water	0,036 mg/L
	Intermittent	0,493 mg/L	Sediment (Fresh water)	6,37 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	0,637 mg/kg
Cobalt bis(2-ethylhexanoate) CAS: 136-52-7 EC: 205-250-6	STP	0,37 mg/L	Fresh water	0,00051 mg/L
	Soil	7,9 mg/kg	Marine water	0,00236 mg/L
	Intermittent	Non-applicable	Sediment (Fresh water)	9,5 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	9,5 mg/kg
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	STP	100 mg/L	Fresh water	0,635 mg/L
	Soil	0,29 mg/kg	Marine water	0,0635 mg/L
	Intermittent	6,35 mg/L	Sediment (Fresh water)	3,29 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	0,329 mg/kg
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	STP	100 mg/L	Fresh water	10 mg/L
	Soil	5,49 mg/kg	Marine water	1 mg/L
	Intermittent	100 mg/L	Sediment (Fresh water)	52,3 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	5,2 mg/kg
2-butoxyethyl acetate CAS: 112-07-2 EC: 203-933-3	STP	90 mg/L	Fresh water	0,304 mg/L
	Soil	0,68 mg/kg	Marine water	0,0304 mg/L
	Intermittent	0,56 mg/L	Sediment (Fresh water)	2,03 mg/kg
	Oral	60 g/kg	Sediment (Marine water)	0,203 mg/kg
Xylene CAS: 1330-20-7 EC: 215-535-7	STP	6,58 mg/L	Fresh water	0,327 mg/L
	Soil	2,31 mg/kg	Marine water	0,327 mg/L
	Intermittent	0,327 mg/L	Sediment (Fresh water)	12,46 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	12,46 mg/kg
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	STP	9,6 mg/L	Fresh water	0,1 mg/L
	Soil	2,68 mg/kg	Marine water	0,01 mg/L
	Intermittent	0,1 mg/L	Sediment (Fresh water)	13,7 mg/kg
	Oral	20 g/kg	Sediment (Marine water)	1,37 mg/kg
2-(2-butoxyethoxy)ethanol CAS: 112-34-5 EC: 203-961-6	STP	200 mg/L	Fresh water	1 mg/L
	Soil	0,4 mg/kg	Marine water	0,1 mg/L
	Intermittent	3,9 mg/L	Sediment (Fresh water)	4 mg/kg
	Oral	56 g/kg	Sediment (Marine water)	0,4 mg/kg
Toluene CAS: 108-88-3 EC: 203-625-9	STP	13,61 mg/L	Fresh water	0,68 mg/L
	Soil	2,89 mg/kg	Marine water	0,68 mg/L
	Intermittent	0,68 mg/L	Sediment (Fresh water)	16,39 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	16,39 mg/kg

#### 8.2 Exposure controls:

A.- General security and hygiene measures in the work place

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## RADIATEUR

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)



In accordance with the order of importance to control professional exposure (Directive 98/24/EC) it is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding the occupational exposure limits. In case of using personal protective equipment it should have CE marking in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For additional information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

#### B.- Respiratory protection



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	 CAT III	EN 405:2001+A1:2009	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

#### C.- Specific protection for the hands





Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves	 CAT III	EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.

"As the product is a mixture of several substances, the resistance of the glove material can not be predicted in advance with total reliability and has therefore to be checked prior to the application"



#### D.- Ocular and facial protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Face shield	 CAT II	EN 166:2001 EN 167:2001 EN 168:2001 EN ISO 4007:2012	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

#### E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties	 CAT III	EN 1149-1,2,3 EN 13034:2005+A1:2009 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2001 EN ISO 6530:2005 EN ISO 13688:2013 EN 464:1994	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk, with antistatic and heat resistant properties	 CAT III	EN 13287:2008 EN ISO 20345:2011 EN 13832-1:2006	Replace boots at any sign of deterioration.

#### F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

#### Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

#### Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply): Not available

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## RADIATEUR

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

V.O.C. density at 25 °C: Not available  
Average carbon number: Not available  
Average molecular weight: Not available  
With regard to Directive 2004/42/EC, this product which is ready to use has the following characteristics:  
V.O.C. density at 25 °C: 500 kg/m<sup>3</sup> (500 g/L)  
EU limit for the product (Cat. A.I): 500 g/L (2010)  
Components: WHITE SPIRIT - 15 % v/v

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

For complete information see the product datasheet.

##### Appearance:

Physical state at 20 °C: Liquid  
Appearance: Viscous  
Colour: ☐ White  
Odour: Not available  
Odour threshold: Non-applicable \*

##### Volatility:

Boiling point at atmospheric pressure: 148 °C  
Vapour pressure at 25 °C: 430 Pa  
Vapour pressure at 50 °C: 15,31 (2,04 kPa)  
Evaporation rate at 25 °C: Non-applicable \*

##### Product description:

Density at 25 °C: 1190 - 1250 kg/m<sup>3</sup>  
Relative density at 25 °C: Non-applicable \*  
Dynamic viscosity at 25 °C: 1458,62 - 1352,79 cP  
Kinematic viscosity at 25 °C: Non-applicable \*  
Kinematic viscosity at 40 °C: >20,5 cSt  
Concentration: Non-applicable \*  
pH: Non-applicable \*  
Vapour density at 25 °C: Non-applicable \*  
Partition coefficient n-octanol/water 25 °C: Non-applicable \*  
Solubility in water at 25 °C: Non-applicable \*  
Solubility properties: Non-applicable \*  
Decomposition temperature: Non-applicable \*  
Melting point/freezing point: Non-applicable \*  
Explosive properties: Non-applicable \*  
Oxidising properties: Non-applicable \*

##### Flammability:

Flash Point: 38 °C  
Flammability (solid, gas): Non-applicable \*  
Autoignition temperature: 204 °C  
Lower flammability limit: Not available  
Upper flammability limit: Not available

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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## RADIATEUR

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

#### Explosive:

Lower explosive limit: Non-applicable \*

Upper explosive limit: Non-applicable \*

#### 9.2 Other information:

Surface tension at 25 °C: Non-applicable \*

Refraction index: Non-applicable \*

\*Not relevant due to the nature of the product, not providing information property of its hazards.

### SECTION 10: STABILITY AND REACTIVITY

#### 10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

#### 10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

#### 10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

#### 10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

#### 10.5 Incompatible materials:

Acids	Water	Combustive materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

#### 10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Contains glycols. It is recommended not to breathe the vapours for prolonged periods of time due to the possibility of effects that are hazardous to the health.

#### Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

##### A- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

##### B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous for inhalation. For more information see section 3.

##### C- Contact with the skin and the eyes (acute effect):

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## RADIATEUR

### SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous for skin contact. For more information see section 3.
- Contact with the eyes: Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous with carcinogenic effects. For more information see section 3.  
IARC: Xylene (3); Quartz (RCS < 1 %) (1); Titanium dioxide (2B); Ethylbenzene (2B); Toluene (3); Xylene (3)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous with sensitising effects. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Serious health effects in the case of prolonged consumption, including death, serious functional disorders or morphological changes of toxicological importance.
- Skin: Repeated exposure may cause skin dryness or cracking

H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

**Other information:**

Non-applicable

**Specific toxicology information on the substances:**

Identification	Acute toxicity		Genus
Xylene	LD50 oral	2100 mg/kg	Rat
CAS: 1330-20-7	LD50 dermal	1100 mg/kg (ATEi)	Rat
EC: 215-535-7	LC50 inhalation	11 mg/L (4 h) (ATEi)	
naphtha (petroleum), hydrodesulphurized heavy , < 0.1 % EC 200-753-7	LD50 oral	5100 mg/kg	Rat
CAS: 64742-82-1	LD50 dermal	3160 mg/kg	Rabbit
EC: 265-185-4	LC50 inhalation	12 mg/L (4 h)	Rat
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	LD50 oral	>2000 mg/kg	
CAS: 64742-82-1	LD50 dermal	>2000 mg/kg	
EC: 919-446-0	LC50 inhalation	>20 mg/L (4 h)	
calcium bis(2-ethylhexanoate)	LD50 oral	2043 mg/kg	Rat
CAS: 136-51-6	LD50 dermal	>2000 mg/kg	
EC: 205-249-0	LC50 inhalation	>5 mg/L	
Butanone oxime	LD50 oral	2100 mg/kg	Rat
CAS: 96-29-7	LD50 dermal	1100 mg/kg	Rat
EC: 202-496-6	LC50 inhalation	>20 mg/L	
2-ethylhexanoic acid, zirconium salt	LD50 oral	2043 mg/kg	Rat
CAS: 22464-99-9	LD50 dermal	>2000 mg/kg	
EC: 245-018-1	LC50 inhalation	>5 mg/L	
Cobalt bis(2-ethylhexanoate)	LD50 oral	>2000 mg/kg	
CAS: 136-52-7	LD50 dermal	>2000 mg/kg	
EC: 205-250-6	LC50 inhalation	>5 mg/L	

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## RADIATEUR

### SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
Hexanoic acid, 2-ethyl-, zinc salt, basic CAS: 85203-81-2 EC: 286-272-3	LD50 oral	2043 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	>20 mg/L	
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	LD50 oral	8532 mg/kg	Rat
	LD50 dermal	5100 mg/kg	Rat
	LC50 inhalation	30 mg/L (4 h)	Rat
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	LD50 oral	>2000 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	>20 mg/L	
2-butoxyethyl acetate CAS: 112-07-2 EC: 203-933-3	LD50 oral	1880 mg/kg	Rat
	LD50 dermal	1500 mg/kg	Rabbit
	LC50 inhalation	>20 mg/L	
Xylene CAS: 1330-20-7 EC: 215-535-7	LD50 oral	2100 mg/kg	Rat
	LD50 dermal	1100 mg/kg	Rat
	LC50 inhalation	>20 mg/L	
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	LD50 oral	3500 mg/kg	Rat
	LD50 dermal	15354 mg/kg	Rabbit
	LC50 inhalation	17,2 mg/L (4 h)	Rat
2-(2-butoxyethoxy)ethanol CAS: 112-34-5 EC: 203-961-6	LD50 oral	>2000 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	>20 mg/L	
Toluene CAS: 108-88-3 EC: 203-625-9	LD50 oral	5580 mg/kg	Rat
	LD50 dermal	12124 mg/kg	Rat
	LC50 inhalation	28,1 mg/L (4 h)	Rat

### SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

#### 12.1 Toxicity:

Identification	Acute toxicity		Species	Genus
naphtha (petroleum), hydrosulphurized heavy , < 0.1 % EC 200-753-7 CAS: 64742-82-1 EC: 265-185-4	LC50	Non-applicable		
	EC50	4.3 mg/L (96 h)	Crangon crangon	Crustacean
	EC50	Non-applicable		
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) CAS: 64742-82-1 EC: 919-446-0	LC50	1 - 10 mg/L (96 h)		Fish
	EC50	1 - 10 mg/L		Crustacean
	EC50	1 - 10 mg/L		Algae
Xylene CAS: 1330-20-7 EC: 215-535-7	LC50	13.5 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50	3.4 mg/L (48 h)	Ceriodaphnia dubia	Crustacean
	EC50	10 mg/L (72 h)	Skeletonema costatum	Algae
calcium bis(2-ethylhexanoate) CAS: 136-51-6 EC: 205-249-0	LC50	270 mg/L (96 h)	N/A	Fish
	EC50	Non-applicable		
	EC50	Non-applicable		
Butanone oxime CAS: 96-29-7 EC: 202-496-6	LC50	843 mg/L (96 h)	Pimephales promelas	Fish
	EC50	750 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	83 mg/L (72 h)	Scenedesmus subspicatus	Algae
Cobalt bis(2-ethylhexanoate) CAS: 136-52-7 EC: 205-250-6	LC50	0.1 - 1 mg/L (96 h)		Fish
	EC50	0.1 - 1 mg/L		Crustacean
	EC50	0.1 - 1 mg/L		Algae
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	LC50	161 mg/L (96 h)	Pimephales promelas	Fish
	EC50	481 mg/L (48 h)	Daphnia sp.	Crustacean
	EC50	Non-applicable		

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## RADIATEUR

### SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Species	Genus
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	LC50	20800 mg/L (96 h)	Pimephales promelas	Fish
	EC50	23300 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	1000 mg/L (168 h)	Selenastrum capricornutum	Algae
Xylene CAS: 1330-20-7 EC: 215-535-7	LC50	13.5 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50	3.4 mg/L (48 h)	Ceriodaphnia dubia	Crustacean
	EC50	10 mg/L (72 h)	Skeletonema costatum	Algae
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	LC50	42.3 mg/L (96 h)	Pimephales promelas	Fish
	EC50	75 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	63 mg/L (3 h)	Chlorella vulgaris	Algae
2-(2-butoxyethoxy)ethanol CAS: 112-34-5 EC: 203-961-6	LC50	1300 mg/L (96 h)	Lepomis macrochirus	Fish
	EC50	2850 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	53 mg/L (192 h)	Microcystis aeruginosa	Algae
Toluene CAS: 108-88-3 EC: 203-625-9	LC50	13 mg/L (96 h)	Carassius auratus	Fish
	EC50	11.5 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	125 mg/L (48 h)	Scenedesmus subspicatus	Algae

#### 12.2 Persistence and degradability:

Identification	Degradability		Biodegradability	
Xylene CAS: 1330-20-7 EC: 215-535-7	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	88 %
calcium bis(2-ethylhexanoate) CAS: 136-51-6 EC: 205-249-0	BOD5	Non-applicable	Concentration	20 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	99 %
Butanone oxime CAS: 96-29-7 EC: 202-496-6	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	24 %
2-ethylhexanoic acid, zirconium salt CAS: 22464-99-9 EC: 245-018-1	BOD5	Non-applicable	Concentration	20 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	99 %
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	BOD5	Non-applicable	Concentration	785 mg/L
	COD	Non-applicable	Period	8 days
	BOD5/COD	Non-applicable	% Biodegradable	100 %
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	90 %
2-butoxyethyl acetate CAS: 112-07-2 EC: 203-933-3	BOD5	Non-applicable	Concentration	30 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	0.51	% Biodegradable	77,3 %
Xylene CAS: 1330-20-7 EC: 215-535-7	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	88 %
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	90 %
2-(2-butoxyethoxy)ethanol CAS: 112-34-5 EC: 203-961-6	BOD5	0.25 g O2/g	Concentration	100 mg/L
	COD	2.08 g O2/g	Period	28 days
	BOD5/COD	0.12	% Biodegradable	92 %
Toluene CAS: 108-88-3 EC: 203-625-9	BOD5	2.5 g O2/g	Concentration	100 mg/L
	COD	Non-applicable	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	100 %

#### 12.3 Bioaccumulative potential:

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## RADIATEUR

### SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Bioaccumulation potential	
naphtha (petroleum), hydrodesulphurized heavy , < 0.1 % EC 200-753-7	BCF	645
CAS: 64742-82-1	Pow Log	4
EC: 265-185-4	Potential	High
Xylene	BCF	9
CAS: 1330-20-7	Pow Log	2.77
EC: 215-535-7	Potential	Low
calcium bis(2-ethylhexanoate)	BCF	
CAS: 136-51-6	Pow Log	2.96
EC: 205-249-0	Potential	
Butanone oxime	BCF	5
CAS: 96-29-7	Pow Log	0.59
EC: 202-496-6	Potential	Low
2-ethylhexanoic acid, zirconium salt	BCF	
CAS: 22464-99-9	Pow Log	2.96
EC: 245-018-1	Potential	
2-methoxy-1-methylethyl acetate	BCF	1
CAS: 108-65-6	Pow Log	0.43
EC: 203-603-9	Potential	Low
1-methoxy-2-propanol	BCF	3
CAS: 107-98-2	Pow Log	-0.44
EC: 203-539-1	Potential	Low
2-butoxyethyl acetate	BCF	3
CAS: 112-07-2	Pow Log	1.51
EC: 203-933-3	Potential	Low
Xylene	BCF	9
CAS: 1330-20-7	Pow Log	2.77
EC: 215-535-7	Potential	Low
Ethylbenzene	BCF	1
CAS: 100-41-4	Pow Log	3.15
EC: 202-849-4	Potential	Low
2-(2-butoxyethoxy)ethanol	BCF	0.46
CAS: 112-34-5	Pow Log	0.56
EC: 203-961-6	Potential	Low
Toluene	BCF	13
CAS: 108-88-3	Pow Log	2.73
EC: 203-625-9	Potential	Low

#### 12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
Xylene	Koc	202	Henry	524,86 Pa·m <sup>3</sup> /mol
CAS: 1330-20-7	Conclusion	Moderate	Dry soil	Yes
EC: 215-535-7	Surface tension	Non-applicable	Moist soil	Yes
calcium bis(2-ethylhexanoate)	Koc	Non-applicable	Henry	2,94E-1 Pa·m <sup>3</sup> /mol
CAS: 136-51-6	Conclusion	Non-applicable	Dry soil	Yes
EC: 205-249-0	Surface tension	Non-applicable	Moist soil	Yes
Butanone oxime	Koc	3	Henry	Non-applicable
CAS: 96-29-7	Conclusion	Very High	Dry soil	Non-applicable
EC: 202-496-6	Surface tension	2,57E-2 N/m (25 °C)	Moist soil	Non-applicable
2-ethylhexanoic acid, zirconium salt	Koc	Non-applicable	Henry	2,94E-1 Pa·m <sup>3</sup> /mol
CAS: 22464-99-9	Conclusion	Non-applicable	Dry soil	Yes
EC: 245-018-1	Surface tension	Non-applicable	Moist soil	Yes
2-butoxyethyl acetate	Koc	Non-applicable	Henry	5,532E-1 Pa·m <sup>3</sup> /mol
CAS: 112-07-2	Conclusion	Non-applicable	Dry soil	No
EC: 203-933-3	Surface tension	Non-applicable	Moist soil	Yes

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### SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Absorption/desorption		Volatility	
Xylene CAS: 1330-20-7 EC: 215-535-7	Koc	202	Henry	524,86 Pa·m <sup>3</sup> /mol
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	Non-applicable	Moist soil	Yes
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	Koc	520	Henry	798,44 Pa·m <sup>3</sup> /mol
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	2,859E-2 N/m (25 °C)	Moist soil	Yes
2-(2-butoxyethoxy)ethanol CAS: 112-34-5 EC: 203-961-6	Koc	48	Henry	7,2E-9 Pa·m <sup>3</sup> /mol
	Conclusion	Very High	Dry soil	No
	Surface tension	3,395E-2 N/m (25 °C)	Moist soil	No
Toluene CAS: 108-88-3 EC: 203-625-9	Koc	178	Henry	672,8 Pa·m <sup>3</sup> /mol
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	2,793E-2 N/m (25 °C)	Moist soil	Yes

#### 12.5 Results of PBT and vPvB assessment:

Product contains PBT/vPvB substances: Octamethylcyclotetrasiloxane

#### 12.6 Other adverse effects:

Not described

### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	Dangerous

#### Type of waste (Regulation (EU) No 1357/2014):

HP14 Ecotoxic, HP3 Flammable, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

#### Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommend disposal down the drain. See paragraph 6.2.

#### Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

### SECTION 14: TRANSPORT INFORMATION

#### Transport of dangerous goods by land:

With regard to ADR 2017 and RID 2017:



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### SECTION 14: TRANSPORT INFORMATION (continued)



- 14.1 UN number:** UN1263  
**14.2 UN proper shipping name:** PAINT  
**14.3 Transport hazard class(es):** 3  
**Labels:** 3  
**14.4 Packing group:** III  
**14.5 Environmental hazards:** Yes  
**14.6 Special precautions for user**  
Special regulations: 163, 367, 650  
Tunnel restriction code: D/E  
Physico-Chemical properties: see section 9  
Limited quantities: 5 L  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Non-applicable

#### Transport of dangerous goods by sea:

With regard to IMDG 38-16:



- 14.1 UN number:** UN1263  
**14.2 UN proper shipping name:** PAINT  
**14.3 Transport hazard class(es):** 3  
**Labels:** 3  
**14.4 Packing group:** III  
**14.5 Environmental hazards:** Yes  
**14.6 Special precautions for user**  
Special regulations: 223, 955, 163, 367  
EmS Codes: F-E, S-E  
Physico-Chemical properties: see section 9  
Limited quantities: 5 L  
Segregation group: Non-applicable  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Non-applicable

#### Transport of dangerous goods by air:

With regard to IATA/ICAO 2018:



- 14.1 UN number:** UN1263  
**14.2 UN proper shipping name:** PAINT  
**14.3 Transport hazard class(es):** 3  
**Labels:** 3  
**14.4 Packing group:** III  
**14.5 Environmental hazards:** Yes  
**14.6 Special precautions for user**  
Physico-Chemical properties: see section 9  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Non-applicable

### SECTION 15: REGULATORY INFORMATION

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

Regulation (EC) No 528/2012: contains a preservative to protect the initial properties of the treated article. Contains 2-phenoxylethanol.

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: Non-applicable

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### SECTION 15: REGULATORY INFORMATION (continued)

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

#### Seveso III:

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c		5000	50000
E2		200	500

**Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ....):**

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

Contains Octamethylcyclotetrasiloxane. 1. | Shall not be placed on the market in wash-off cosmetic products in a concentration equal to or greater than 0,1 % by weight of either substance, after 31 January 2020. | 2. | For the purposes of this entry, "wash-off cosmetic products" means cosmetic products as defined in Article 2(1)(a) of Regulation (EC) No 1223/2009 that, under normal conditions of use, are washed off with water after application.'

#### Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

#### Other legislation:

The product could be affected by sectorial legislation

#### 15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

### SECTION 16: OTHER INFORMATION \*\*

#### Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

#### Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

COMPOSITION/INFORMATION ON INGREDIENTS (SECTION 3):

- Removed substances

Solvent naphtha (petroleum), medium aliph. (64742-88-7)

CLP Regulation (EC) No 1272/2008 (SECTION 2, SECTION 16):

- Hazard statements

#### Texts of the legislative phrases mentioned in section 2:

H336: May cause drowsiness or dizziness

H411: Toxic to aquatic life with long lasting effects

H372: Causes damage to organs through prolonged or repeated exposure

H226: Flammable liquid and vapour

#### Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

#### CLP Regulation (EC) No 1272/2008:

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### SECTION 16: OTHER INFORMATION \*\* (continued)

Acute Tox. 4: H302 - Harmful if swallowed  
Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled  
Acute Tox. 4: H312 - Harmful in contact with skin  
Acute Tox. 4: H312+H332 - Harmful in contact with skin or if inhaled  
Acute Tox. 4: H332 - Harmful if inhaled  
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects  
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects  
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways  
Carc. 2: H351 - Suspected of causing cancer  
Eye Dam. 1: H318 - Causes serious eye damage  
Eye Irrit. 2: H319 - Causes serious eye irritation  
Flam. Liq. 2: H225 - Highly flammable liquid and vapour  
Flam. Liq. 3: H226 - Flammable liquid and vapour  
Repr. 2: H361 - Suspected of damaging fertility or the unborn child  
Repr. 2: H361d - Suspected of damaging the unborn child.  
Repr. 2: H361f - Suspected of damaging fertility.  
Skin Irrit. 2: H315 - Causes skin irritation  
Skin Sens. 1: H317 - May cause an allergic skin reaction  
STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure  
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure  
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure (Oral)  
STOT SE 3: H335 - May cause respiratory irritation  
STOT SE 3: H336 - May cause drowsiness or dizziness

#### Classification procedure:

STOT SE 3: Calculation method  
Aquatic Chronic 2: Calculation method  
STOT RE 1: Calculation method  
Flam. Liq. 3: Calculation method (2.6.4.3)

#### Advice related to training:

Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

#### Principal bibliographical sources:

<http://echa.europa.eu>  
<http://eur-lex.europa.eu>

#### Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road  
IMDG: International maritime dangerous goods code  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organisation  
COD: Chemical Oxygen Demand  
BOD5: 5-day biochemical oxygen demand  
BCF: Bioconcentration factor  
LD50: Lethal Dose 50  
LC50: Lethal Concentration 50  
EC50: Effective concentration 50  
Log-POW: Octanol-water partition coefficient  
Koc: Partition coefficient of organic carbon

*\*\* Changes with regards to the previous version*

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -