



Revision date: 30 May 2023 Version: 5 Print date: 5 Jun 2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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

* **1.1. Product identifier**

Trade name/designation:

RAVENOL Diesel Performance Optimizer Premium

Article No.:

1390241

UFI:

M9K9-7XS4-S0E0-VU15

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

Use of the substance/mixture:

Fuel additive

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

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Ravensberger Schmierstoffvertrieb GmbH

Produktsicherheit
Jöllenbecker Str. 2
33824 Werther
Germany

Telephone: +49 5203 9719 0

Telefax: +49 5203 9719 40

E-mail: kontakt@ravenol.de

Website: www.ravenol.de

E-mail (competent person): sdb@ravenol.de

* **1.4. Emergency telephone number**

24 hr. emergency phone number, 24h: +49 700 24 112 112 (Contract ID: RAV) / +1 872 5888271
(Contract ID: RAV)

SECTION 2: Hazards identification

* **2.1. Classification of the substance or mixture**

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
flammable liquids (<i>Flam. Liq. 3</i>)	H226: Flammable liquid and vapour.	On basis of test data.
Aspiration hazard (<i>Asp. Tox. 1</i>)	H304: May be fatal if swallowed and enters airways.	Calculation method.
Skin corrosion/irritation (<i>Skin Irrit. 2</i>)	H315: Causes skin irritation.	Calculation method.
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	Calculation method.
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	Calculation method.
STOT-single exposure (<i>STOT SE 3</i>)	H335: May cause respiratory irritation.	Calculation method.
STOT-repeated exposure (<i>STOT RE 2</i>)	H373: May cause damage to organs through prolonged or repeated exposure.	Calculation method.
Hazardous to the aquatic environment (<i>Aquatic Chronic 3</i>)	H412: Harmful to aquatic life with long lasting effects.	Calculation method.



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* **2.2. Label elements**

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

Hazard pictograms:



GHS08
Health hazard



GHS07
Exclamation mark



GHS02
Flame

Signal word: Danger

Hazard components for labelling:

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics; xylene; 2-ethylhexan-1-ol; ethylbenzene

Hazard statements for physical hazards

H226	Flammable liquid and vapour.
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Hazard statements for health hazards

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Hazard statements for environmental hazards

H412	Harmful to aquatic life with long lasting effects.
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Supplemental hazard information

EUH066	Repeated exposure may cause skin dryness or cracking.
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Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statements Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapours and spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.

Precautionary statements Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/Emergency telephone number.
P331	Do NOT induce vomiting.

Precautionary statements Storage

P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary statements Disposal

P501	Dispose of contents/container to an appropriate recycling or disposal facility.
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* **2.3. Other hazards**

Other adverse effects:

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.



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SECTION 3: Composition/information on ingredients

* 3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 64742-48-9 EC No.: 918-481-9 REACH No.: 01-2119457273-39	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics Asp. Tox. 1 (H304) Danger	40 - < 60 weight-%
CAS No.: 1330-20-7 EC No.: 215-535-7 Index No.: 601-022-00-9 REACH No.: 01-2119488216-32	xylene Acute Tox. 4 (H312, H332), Asp. Tox. 1 (H304), Eye Irrit. 2 (H319), Flam. Liq. 3 (H226), STOT RE 2 (H373), STOT SE 3 (H335), Skin Irrit. 2 (H315) Danger	10 - < 20 weight-%
CAS No.: 104-76-7 EC No.: 203-234-3 REACH No.: 01-0211948789-20	2-ethylhexan-1-ol Acute Tox. 4 (H332), Eye Irrit. 2 (H319), STOT SE 3 (H335), Skin Irrit. 2 (H315) Warning	10 - < 20 weight-%
CAS No.: 100-41-4 EC No.: 202-849-4 Index No.: 601-023-00-4	ethylbenzene Acute Tox. 4 (H332), Asp. Tox. 1 (H304), Flam. Liq. 2 (H225), STOT RE 2 (H373) Danger	1 - < 10 weight-%
CAS No.: 160901-19-9 EC No.: 931-954-4	Alkohole, C12-13-verzweigt und linear, ethoxyliert Acute Tox. 4 (H302), Aquatic Chronic 3 (H412), Eye Dam. 1 (H318) Danger	1 - < 10 weight-%
CAS No.: 64742-94-5 EC No.: 919-284-0 REACH No.: 01-2119463588-24	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene Aquatic Chronic 2 (H411), Asp. Tox. 1 (H304), STOT SE 3 (H336) Danger	1 - < 10 weight-%
CAS No.: 91-20-3 EC No.: 202-049-5 Index No.: 601-052-00-2	naphthalene Acute Tox. 4 (H302), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Carc. 2 (H351) Warning	0.1 - < 1 weight-%
CAS No.: 95-63-6 EC No.: 202-436-9 Index No.: 601-043-00-3	1,2,4-trimethylbenzene Acute Tox. 4 (H332), Aquatic Chronic 2 (H411), Eye Irrit. 2 (H319), Flam. Liq. 3 (H226), STOT SE 3 (H335), Skin Irrit. 2 (H315) Warning	0.1 - < 1 weight-%
CAS No.: 108-88-3 EC No.: 203-625-9 Index No.: 601-021-00-3	toluene Asp. Tox. 1 (H304), Flam. Liq. 2 (H225), Repr. 2 (H361d***), STOT RE 2 (H373**), STOT SE 3 (H336), Skin Irrit. 2 (H315) Danger	0 - < 0.1 weight-%
CAS No.: 121158-58-5 EC No.: 310-154-3 Index No.: 604-092-00-9 REACH No.: 01-2119513207-49	Phenol, dodecyl-, branched <i>Candidate List of Substances of Very High Concern for Authorisation!</i> Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Eye Dam. 1 (H318), Repr. 1B (H360F), Skin Corr. 1C (H314) Danger M-factor (acute): 10 M-factor (chronic): 10 Additional information: This substance has endocrine disrupting properties with respect to humans. This substance has endocrine disrupting properties with respect to non-target organisms.	0 - < 0.1 weight-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

* 4.1. Description of first aid measures

General information:

Never give anything by mouth to an unconscious person or a person with cramps. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Remove contaminated, saturated clothing. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.



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Following inhalation:

Remove person to fresh air and keep comfortable for breathing. Harmful if inhaled. May cause respiratory irritation. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Causes skin irritation. When in doubt or if symptoms are observed, get medical advice.

After eye contact:

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing. Causes eye irritation.

Following ingestion:

Rinse mouth thoroughly with water. Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

Self-protection of the first aider:

Use personal protection equipment. No direct artificial respiration to be given by first aider.

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

May be fatal if swallowed and enters airways.
If swallowed or vomiting, danger of entering the lungs. Aspiration hazard
Repeated exposure may cause skin dryness or cracking.
May cause skin and eye irritation.
Harmful if inhaled.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

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

Treat symptomatically. Call a POISON CENTER. Symptoms can occur only after several hours.

SECTION 5: Firefighting measures

* **5.1. Extinguishing media**

Suitable extinguishing media:

Co-ordinate fire-fighting measures to the fire surroundings.
Carbon dioxide (CO₂)
Extinguishing powder
Water mist
alcohol resistant foam
Use water spray jet to protect personnel and to cool endangered containers.

Unsuitable extinguishing media:

Full water jet

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

Flammable. Do not inhale explosion and combustion gases. Danger of suffocation in case of accumulation in lowlying or closed rooms.

Hazardous combustion products:

Nitrogen oxides (NO_x) Carbon monoxide Carbon dioxide (CO₂)
During heating or in case of fire, toxic gases is possible.

* **5.3. Advice for firefighters**

Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information

Use water spray jet to protect personnel and to cool endangered containers.
Suppress gases/vapours/mists with water spray jet.
Fire class: B
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

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

6.1.1. For non-emergency personnel

Personal precautions:

Use personal protection equipment.



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Do not breathe dust/fume/gas/mist/vapours/spray.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid contact with eyes and skin.

Protective equipment:

Personal protection equipment: see section 8

Emergency procedures:

Eliminate all ignition sources if safe to do so. Remove persons to safety. Provide adequate ventilation.

6.1.2. For emergency responders

Personal protection equipment:

Use appropriate respiratory protection. Personal protection equipment: see section 8

* **6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Danger of explosion. Prevent spread over a wide area (e.g. by containment or oil barriers). Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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

For containment:

Suitable material for taking up: Sand, Kieselguhr, Universal binder, Chemical binding agents, containing acids
Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up:

Remove from the water surface (e.g. skimming, sucking). Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information:

Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

SECTION 7: Handling and storage
SECTION 8: Exposure controls/personal protection
SECTION 13: Disposal considerations

* **6.5. Additional information**

Clear spills immediately. Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

* **7.1. Precautions for safe handling**

Protective measures

Advices on safe handling:

Use only in well-ventilated areas. Do not breathe gas/fumes/vapour/spray.
Wear personal protection equipment (refer to section 8).
When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Do not put any product-impregnated cleaning rags into your trouser pockets. Clear spills immediately. Use appropriate container to avoid environmental contamination.

Fire prevent measures:

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge.

Measures to prevent aerosol and dust generation:

See protective measures under point 7 and 8.

Environmental precautions:

Shafts and sewers must be protected from entry of the product.

Advices on general occupational hygiene

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

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

Technical measures and storage conditions:

Keep container tightly closed. Keep locked up and out of reach of children. Keep only in original container. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Packaging materials:

Keep/Store only in original container.



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Requirements for storage rooms and vessels:

Shafts and sewers must be protected from entry of the product. Floors should be impervious, resistant to liquids and easy to clean.

Keep only in the original container in a cool, well-ventilated place.

Do not store at temperatures above 50°C.

Take precautionary measures against static discharge.

Hints on storage assembly:

TRGS 510

Do not store together with: Oxidising agent, Pyrophoric or self-heating substances, Food and feedingstuffs

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

Further information on storage conditions:

Observe technical data sheet. Store in a cool dry place.

7.3. Specific end use(s)

Recommendation:

Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

* **8.1. Control parameters**

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
PL	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 300 mg/m ³ ② 900 mg/m ³
TRGS 900 (DE) from 30 Nov 2017	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 300 mg/m ³ ② 600 mg/m ³ ⑤ (C9-C14 Aliphaten)
VLA (FR)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 1,000 mg/m ³ ② 1,500 mg/m ³ ⑤ (hydrocarbures C9-C12)
DFG (DE) from 1 Jul 2019	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 50 ppm (300 mg/m ³) ② 100 ppm (600 mg/m ³)
NO	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 50 ppm (275 mg/m ³) ⑤ (White Spirit (aromatinnhold < 22 %))
CH from 1 Jan 2022	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 50 ppm (300 mg/m ³) ② 100 ppm (600 mg/m ³) ⑤ Tox: ZNS
MAK (AT)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 200 mL/m ³ ② 400 mL/m ³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/ Isohexanen von weniger als 25 %)
MAK (AT)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 170 mL/m ³ ② 340 mL/m ³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/ Isohexanen von 25 % oder mehr)



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Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
WEL (GB)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 1,200 mg/m ³ ⑤ (> or = C7, Normal and branched chain alkanes)
WEL (GB)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 800 mg/m ³ ⑤ (> or = C7, Cycloalkanes)
SI from 4 Dec 2018	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 700 mg/m ³
RO from 21 Aug 2018	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	① 700 mg/m ³ ② 1,000 mg/m ³
BE	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (peut être absorbé par la peau) D
CZ from 1 Mar 2020	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 45.4 ppm (200 mg/m ³) ② 90.8 ppm (400 mg/m ³) ⑤ (může pronikat pokožkou) B, D, I
NO	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 25 ppm (108 mg/m ³) ⑤ (kan absorberes gjennom huden) HE
IE	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (may be absorbed through the skin) Sk, IOELV
HTP (FI)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (220 mg/m ³) ② 100 ppm (440 mg/m ³) ⑤ (voivat imeytyä ihon läpi) iho
NPEL (SK) from 1 May 2018	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (rátajte so vstrebávaním cez pokožku) K
MAK (AT) from 25 Sept 2018	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	② 100 ppm (442 mg/m ³) ⑤ (max. 4x15 min./Schicht)
DK from 28 Jun 2022	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 25 ppm (109 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (kan optages gennem huden) EH
RO from 21 Aug 2018	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (e de așteptat asimilarea prin piele) P
ES	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (puede ser absorbido a través dérmica) vía dérmica, VLB®, VLI
EE from 17 Jan 2020	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (200 mg/m ³) ② 100 ppm (450 mg/m ³) ⑤ (naha kaudu kergesti absorbeeruvad ained) A
LV	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (var absorbet caur adu) Āda



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Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
Alberta (CA)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm (434 mg/m ³) ② 150 ppm (651 mg/m ³)
BC (CA)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm ② 150 ppm
IOELV (EU)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (may be absorbed through the skin)
VRC (FR) from 3 May 2021	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (peut être absorbé par la peau)
ACGIH (US) from 1 Jan 2022	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 20 ppm
OSHA (US)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm (435 mg/m ³)
SI	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (računati je treba z možnostjo prodiranja skozi kožo) K, BAT, EU1
WEL (GB)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (220 mg/m ³) ② 100 ppm (441 mg/m ³) ⑤ (may be absorbed through the skin)
TW	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm (434 mg/m ³)
KR	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm (435 mg/m ³) ② 150 ppm (655 mg/m ³)
IS	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 25 ppm (109 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð) H
CH from 1 Jan 2022	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm (435 mg/m ³) ② 200 ppm (870 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) H B; Tox: OAW ZNS Auge Schwindel; Messmeth: INRS NIOSH
CN from 1 Jan 2007	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 mg/m ³ ② 100 mg/m ³
MAK (AT) from 25 Sept 2018	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³)
RU	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 mg/m ³ ③ 150 mg/m ³
HU	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 221 mg/m ³ ② 442 mg/m ³ ⑤ (felvehető a bőrön keresztül) b, BEM, R



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GR from 1 Oct 2016	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm (435 mg/m ³) ② 150 ppm (650 mg/m ³) ⑤ (αναμένετε απορρόφηση από το δέρμα)
NL	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 210 mg/m ³ ② 442 mg/m ³ ⑤ (kan door de huid in het lichaam worden opgenomen) H
JP from 1 Jan 2017	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (217 mg/m ³)
TR	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (cilt yoluyla alınabilir) Deri
MY from 1 Jan 2000	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 199 ppm (434 mg/m ³)
SE from 1 Jul 2012	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (kan absorberas genom huden)
HR	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (mora se uzeti u obzir prodiranje kroz kožu) koža
BG	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (221 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (трябва да се очаква абсорбиране през кожата)
PL from 12 Jun 2018	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 mg/m ³ ② 200 mg/m ³ ⑤ (może przenikać przez skórę do organizmu) skóra
IDLH (US) from 1 Jan 1994	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 900 ppm
Québec (CA)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm (434 mg/m ³) ② 150 ppm (651 mg/m ³)
NIOSH (US)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 100 ppm (435 mg/m ³) ② 150 ppm (655 mg/m ³)
TRGS 900 (DE) from 2 Oct 2020	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	① 50 ppm (220 mg/m ³) ② 100 ppm (440 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) DFG, EU, H
TRGS 900 (DE) from 23 Jun 2022	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 10 ppm (54 mg/m ³) ② 10 ppm (54 mg/m ³) ⑤ (Aerosol und Dampf) DFG, Y, EU, 11
PL from 12 Jun 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 5.4 mg/m ³ ② 10.8 mg/m ³
MAK (AT) from 25 Sept 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
MAK (AT) from 2 Sept 2020	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	② 2 ppm (10.8 mg/m ³) ⑤ (max. 8x5 min./Schicht, Momentanwert)



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RU	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	③ 10 mg/m ³
JP from 1 May 2016	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.3 mg/m ³)
IOELV (EU) from 21 Feb 2017	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
ES from 1 Jan 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³) ⑤ VLI
SE from 21 Aug 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
NPEL (SK) from 10 Feb 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
LV from 12 Jul 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
WEL (GB) from 21 Aug 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
IE from 21 Aug 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³) ⑤ IOELV
NL from 1 Jan 2019	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 5.4 mg/m ³
NL from 1 Jan 2023	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
BG from 4 Sept 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
DK from 13 Feb 2021	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³) ② 2 ppm (10.8 mg/m ³) ⑤ E
IS from 27 Nov 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
SI from 4 Dec 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³) ② 1 ppm (5.4 mg/m ³) ⑤ Y, EU4
GR from 21 Aug 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
NO from 4 Jan 2019	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³) ② 10 ppm (54 mg/m ³) ⑤ ES
BE from 3 Oct 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
LT from 21 Aug 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)



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HR from 12 Oct 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
HU from 1 Jul 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 5.4 mg/m ³ ⑤ i, N
CZ from 1 Mar 2020	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 0.999 ppm (5.4 mg/m ³) ② 2.035 ppm (11 mg/m ³) ⑤ I
RO from 21 Aug 2018	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
EE from 17 Jan 2020	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
VRI (FR) from 1 Jul 2020	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
HTP (FI)	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³)
ACGIH (US) from 1 Jan 2023	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 5 ppm
CH from 1 Jan 2022	2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	① 1 ppm (5.4 mg/m ³) ⑤ (Dampf und Aerosol) SSC; Tox: OAW Auge; Messmeth: OSHA
CH from 1 Jan 2022	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 50 ppm (220 mg/m ³) ② 50 ppm (220 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) H OL B; Tox: Niere Leber; Messmeth: NIOSH
BE from 3 Oct 2018	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 20 ppm (87 mg/m ³) ② 125 ppm (551 mg/m ³) ⑤ (peut être absorbé par la peau) D
CZ from 1 Mar 2020	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 45.4 ppm (200 mg/m ³) ② 113.5 ppm (500 mg/m ³) ⑤ (může pronikat pokožkou) D, B
PL from 16 Jun 2009	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 200 mg/m ³ ② 400 mg/m ³ ⑤ (może przenikać przez skórę do organizmu) skóra
NO	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 5 ppm (20 mg/m ³) ⑤ (kan absorberes gjennom huden, Kreftframkallende) HKE
TRGS 900 (DE) from 1 Jul 2011	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 20 ppm (88 mg/m ³) ② 40 ppm (176 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) DFG, H, Y, EU
IE from 4 May 2010	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (may be absorbed through the skin) Sk, IOELV
MY from 1 Jan 2000	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (434 mg/m ³)



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HTP (FI)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 50 ppm (220 mg/m ³) ② 200 ppm (880 mg/m ³) ⑤ (voivat imeytyä ihon läpi) iho
SE from 1 Jun 2016	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 50 ppm (220 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (kan absorberas genom huden)
NPEL (SK) from 23 Nov 2011	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (rátajte so vstrebávaním cez pokožku) K
DK	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 50 ppm (217 mg/m ³) ② 100 ppm (434 mg/m ³) ⑤ (kan optages gennem huden) EHK
LT	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (tikétinas įsisavinimas per odą) O
BG	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 435 mg/m ³ ② 545 mg/m ³ ⑤ (трябва да се очаква абсорбиране през кожата)
MAK (AT)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (440 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) H
HR	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (mora se uzeti u obzir prodiranje kroz kožu) koža
MAK (AT)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	② 200 ppm (880 mg/m ³) ⑤ (max. 8x5 min./Schicht, Momentanwert, kann über die Haut aufgenommen werden) H
VRC (FR) from 1 Jun 2008	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 20 ppm (88.4 mg/m ³) ② 100 ppm (442 mg/m ³) ⑤ (peut être absorbé par la peau)
ES	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (441 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (puede ser absorbido a través dérmica) vía dérmica, VLB®, VLI
RO from 21 Aug 2018	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (e de așteptat asimilarea prin piele) P
EE from 17 Jan 2020	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (naha kaudu kergesti absorbeeruvad ained) A, S
LV	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (var absorbēt caur ādu) Āda; ietekme uz dzirdi
Alberta (CA)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (434 mg/m ³) ② 125 ppm (543 mg/m ³)
BC (CA) from 20 Apr 2012	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 20 ppm ⑤ 2B



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IOELV (EU)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (may be absorbed through the skin)
WEL (GB)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (441 mg/m ³) ② 125 ppm (552 mg/m ³) ⑤ (may be absorbed through the skin)
SI	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (računati je treba z možnostjo prodiranja skozi kožo) K, Y, BAT, EKA, EU1
TW	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (434 mg/m ³)
KR	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (435 mg/m ³) ② 125 ppm (545 mg/m ³)
IS	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 50 ppm (200 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð) H
CN from 1 Jan 2007	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 mg/m ³ ② 150 mg/m ³
HU	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 442 mg/m ³ ② 884 mg/m ³ ⑤ (felvehető a bőrön keresztül) b, i, BEM, T
RU	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 50 mg/m ³ ③ 150 mg/m ³
GR from 1 Oct 2016	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (435 mg/m ³) ② 125 ppm (545 mg/m ³)
NL from 1 Jan 2023	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 48.6 ppm (215 mg/m ³) ② 97.3 ppm (430 mg/m ³) ⑤ (kan door de huid in het lichaam worden opgenomen) H
TR	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (442 mg/m ³) ② 200 ppm (884 mg/m ³) ⑤ (cilt yoluyla alınabilir) Deri
JP from 25 May 2020	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 20 ppm (87 mg/m ³) ⑤ (#####)
IDLH (US) from 1 Jan 1994	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 800 ppm [10% LEL]
OSHA (US)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (435 mg/m ³)
NIOSH (US)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 100 ppm (435 mg/m ³) ② 125 ppm (545 mg/m ³)
ACGIH (US) from 1 Jan 2022	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 20 ppm (87 mg/m ³)



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Québec (CA) from 1 Apr 2022	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	① 20 ppm
TRGS 900 (DE) from 30 Nov 2017	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 50 mg/m ³ ② 100 mg/m ³ ⑤ (C9-C14 Aromaten)
VLA (FR)	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 150 mg/m ³ ⑤ (hydrocarbures, benzène C9-C12)
NO	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 25 ppm (120 mg/m ³) ⑤ (White Spirit (aromatinnhold > 22 %))
CH from 1 Jan 2022	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 100 ppm (525 mg/m ³) ⑤ Messmeth: OSHA
MAK (AT)	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 20 mL/m ³ ② 40 mL/m ³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von mehr als 25 %)
MAK (AT)	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 70 mL/m ³ ② 140 mL/m ³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von 1 % bis 25 % und an Hexanen von weniger als 1 %)
WEL (GB)	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 500 mg/m ³ ⑤ (Aromatics)
SI from 4 Dec 2018	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 50 mg/m ³
[LautLieferantK] (NL) from 25 Oct 2021	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 100 mg/m ³
[LautLieferantK] (FR) from 25 Oct 2021	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 100 mg/m ³
[LautLieferantK] (BE) from 25 Oct 2021	Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0	① 100 mg/m ³
CH from 1 Jan 2022	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ⑤ (Dampf und Aerosol; kann über die Haut aufgenommen werden) H C2; Tox: Blut OAW Auge; Messmeth: NIOSH OSHA
BE	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (53 mg/m ³) ② 15 ppm (80 mg/m ³) ⑤ (peut être absorbé par la peau) D



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CZ from 1 Mar 2020	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 9.4 ppm (50 mg/m ³) ② 18.8 ppm (100 mg/m ³)
PL from 12 Jun 2018	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 20 mg/m ³ ② 50 mg/m ³ ⑤ (może przenikać przez skórę do organizmu) skóra
NO	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ⑤ E
IE from 17 Jan 2020	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ⑤ IOELV
HTP (FI)	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 1 ppm (5 mg/m ³) ② 2 ppm (10 mg/m ³)
LT	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ⑤ (Kancerogeninės) K
SE	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ③ 15 ppm (80 mg/m ³)
NPEL (SK) from 23 Nov 2011	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ② 15 ppm (80 mg/m ³) ⑤ K
TRGS 900 (DE) from 23 Jun 2022	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 0.4 ppm (2 mg/m ³) ② 1.6 ppm (8 mg/m ³) ⑤ (Aerosol und Dampf, kann über die Haut aufgenommen werden) AGS, H, Y, EU, 11, 27
DK	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ② 20 ppm (100 mg/m ³) ⑤ EK
BG	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m ³ ② 75 mg/m ³
HR	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
ES	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (53 mg/m ³) ② 15 ppm (80 mg/m ³) ⑤ (puede ser absorbido a través dérmica) vía dérmica, VLI
RO from 21 Aug 2018	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ⑤ C2
EE	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
LV	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
Alberta (CA) from 1 Dec 2021	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (52 mg/m ³) ② 15 ppm (79 mg/m ³) ⑤ (may be absorbed through the skin) 1



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BC (CA) from 1 Jun 2018	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm ⑤ (may be absorbed through the skin) Skin; 2B
MY from 1 Jan 2000	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (52 mg/m ³)
IOELV (EU)	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
VLA (FR)	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
SI from 4 Dec 2018	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m ³ ② 50 mg/m ³ ⑤ (frakcija ki jo je mogoče vdihniti računati je treba z možnostjo prodiranja skozi kožo) K, Y, EU0
TW	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (52 mg/m ³)
KR	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ② 15 ppm (75 mg/m ³)
IS	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
CN from 1 Apr 2020	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m ³ ② 75 mg/m ³ ⑤ (#####)
RU	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	③ 20 mg/m ³
HU	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m ³ ⑤ i
GR from 1 Oct 2016	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
NL	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m ³ ② 80 mg/m ³
NL from 1 Jan 2023	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ② 16 ppm (80 mg/m ³)
MAK (AT)	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) III B, H
SI from 4 Dec 2018	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm ② 10 ppm ⑤ (računati je treba z možnostjo prodiranja skozi kožo) K, Y, EU0
TR	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
IDLH (US) from 1 Jan 1994	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 250 ppm



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Québec (CA) from 1 Apr 2022	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm ⑤ (may be absorbed through the skin)
OSHA (US)	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³)
NIOSH (US)	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m ³) ② 15 ppm (75 mg/m ³)
ACGIH (US)	naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (52 mg/m ³) ② 15 ppm (79 mg/m ³) ⑤ (may be absorbed through the skin)
CH from 1 Jan 2022	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ② 40 ppm (200 mg/m ³) ⑤ SSC; Tox: Blut Asthma ZNS; Messmeth: INRS
BE	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ⑤ tous isomères
PL from 12 Jun 2018	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 100 mg/m ³ ② 170 mg/m ³ ⑤ (może przenikać przez skórę do organizmu) skóra
NO	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ⑤ Trimetylbenzen, alle isomere E
HTP (FI)	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
SE from 21 Aug 2018	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ② 35 ppm (170 mg/m ³)
NPEL (SK) from 10 Feb 2018	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
MAK (AT)	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	② 30 ppm (150 mg/m ³) ⑤ (max. 4x15 min./Schicht)
BG from 6 Jan 2012	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
DK from 13 Feb 2021	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ② 40 ppm (200 mg/m ³) ⑤ E
EE	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ⑤ (Trimetüülbenseen, kõik isomeerid)
LT from 21 Aug 2018	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ② 30 ppm (150 mg/m ³)
RO	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
LV	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
Alberta (CA)	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (123 mg/m ³)



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Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
ES	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ⑤ VLI
BC (CA)	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm
IOELV (EU)	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
JP	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (120 mg/m ³)
VRC (FR) from 3 May 2021	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ② 50 ppm (250 mg/m ³)
SI from 4 Dec 2018	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ② 40 ppm (200 mg/m ³) ⑤ Y, BAT, EU1
TW	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (123 mg/m ³)
KR	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (125 mg/m ³)
WEL (GB)	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (125 mg/m ³)
IS	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
MAK (AT)	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
HU from 28 May 2022	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 100 mg/m ³ ⑤ Trimetilbenzol T
RU	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 10 mg/m ³ ③ 30 mg/m ³
GR from 1 Oct 2016	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (125 mg/m ³)
NL	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 100 mg/m ³ ② 200 mg/m ³
MY from 1 Jan 2000	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (123 mg/m ³)
TRGS 900 (DE) from 29 Mar 2019	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ② 40 ppm (200 mg/m ³) ⑤ DFG, EU, Y
TR	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³)
IE from 17 Jan 2020	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 20 ppm (100 mg/m ³) ⑤ IOELV



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ACGIH (US) from 1 Jan 2022	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 10 ppm
HR from 4 Jan 2021	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (125 mg/m ³)
NIOSH (US)	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm (125 mg/m ³)
Québec (CA) from 1 Apr 2022	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	① 25 ppm
BE from 1 Dec 2011	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 20 ppm (77 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (peut être absorbé par la peau) D
CZ from 1 Mar 2020	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50.112 ppm (192 mg/m ³) ② 100.224 ppm (384 mg/m ³) ⑤ (může pronikat pokožkou) B, D, I
PL from 12 Jun 2018	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 100 mg/m ³ ② 200 mg/m ³ ⑤ (może przenikać przez skórę do organizmu) skóra
NO	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 25 ppm (94 mg/m ³) ⑤ (kan absorberes gjennom huden) HE
TRGS 900 (DE) from 2 Jul 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (190 mg/m ³) ② 100 ppm (380 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) DFG, EU, H, Y
IE from 4 May 2010	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (may be absorbed through the skin) Sk, IOELV
HTP (FI) from 2 Dec 2009	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 25 ppm (81 mg/m ³) ② 100 ppm (380 mg/m ³) ⑤ (voivat imeytyä ihon läpi) iho, melu
LT from 15 Oct 2007	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (tikėtinas įsisavinimas per odą, pavojingas reprodukcijai) R O
NPEL (SK) from 23 Nov 2011	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (rátajte so vstrebávaním cez pokožku) K
MAK (AT)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	② 100 ppm (380 mg/m ³) ⑤ (max. 4x15 min./Schicht, kann über die Haut aufgenommen werden) d, H
BG	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (трябва да се очаква абсорбиране през кожата)
DK from 28 Jun 2022	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 25 ppm (94 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (kan optages gennem huden) EH



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Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
HR	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (mora se uzeti u obzir prodiranje kroz kožu) koža
RO from 21 Aug 2018	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (e de așteptat asimilarea prin piele) P,R2
ES	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (puede ser absorbido a través dérmica) vía dérmica, VLB®, VLI, r
EE from 17 Jan 2020	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (naha kaudu kergesti absorbeeruvad ained) A
Alberta (CA) from 1 Dec 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (188 mg/m ³) ⑤ (may be absorbed through the skin) 1
LV	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 14 ppm (50 mg/m ³) ② 40 ppm (150 mg/m ³) ⑤ (var absorbet caur adu) Āda; letekme uz dzirdi
BC (CA)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 20 ppm ⑤ R
IOELV (EU)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (may be absorbed through the skin)
JP	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (188 mg/m ³) ⑤ (#####)
VRC (FR) from 9 May 2012	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 20 ppm (76.8 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (peut être absorbé par la peau)
SI	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (računati je treba z možnostjo prodiranja skozi kožo) K, Y, BAT, EU2
WEL (GB) from 1 Oct 2007	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (191 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (may be absorbed through the skin)
TW	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 100 ppm (376 mg/m ³) ⑤ (#####)
MAK (AT)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (190 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) d, H
KR	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (188 mg/m ³) ② 150 ppm (560 mg/m ³)
IS	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 25 ppm (94 mg/m ³) ② 50 ppm (188 mg/m ³) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð) H



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Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
CN from 1 Apr 2020	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 mg/m ³ ② 100 mg/m ³ ⑤ (#####)
RU	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 mg/m ³ ③ 150 mg/m ³
HU from 25 Jan 2011	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 190 mg/m ³ ② 380 mg/m ³ ⑤ (felvehető a bőrön keresztül) b, i, BEM, R+T
GR from 1 Oct 2016	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (αναμένετε απορρόφηση από το δέρμα)
NL from 1 Jan 2023	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 39 ppm (150 mg/m ³) ② 100 ppm (384 mg/m ³)
CH from 1 Jan 2022	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (190 mg/m ³) ② 200 ppm (760 mg/m ³) ⑤ (kann über die Haut aufgenommen werden) H R2D R2F SSC OL B; Tox: Sehen ZNS; Messmeth: INRS HSE NIOSH DFG
MY from 1 Jan 2000	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (188 mg/m ³) ⑤ (resapan melalui kulit hendaklah diambil kira)
TR	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (cilt yoluyla alınabilir) Deri
SE from 1 Jul 2012	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 50 ppm (192 mg/m ³) ② 100 ppm (384 mg/m ³) ⑤ (kan absorberas genom huden)
IDLH (US) from 1 Jan 1994	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 500 ppm
OSHA (US)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 200 ppm ③ 300 ppm ⑤ (Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift: 500 ppm 10 minutes)
NIOSH (US)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 100 ppm (375 mg/m ³) ② 150 ppm (560 mg/m ³)
ACGIH (US) from 1 Jan 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 20 ppm
Québec (CA) from 1 Apr 2022	toluene CAS No.: 108-88-3 EC No.: 203-625-9	① 20 ppm



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8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
BAT (CH) from 1 Jan 2022	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	2 g/L	① Methylhippursäuren ② Urin ③ Expositionsende bzw. Schichtende
VLB (ES) from 1 Jan 2014	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	1 g/g creatinina	① Ácidos metilhipúricos ② orina ③ fin de exposición o fin de turno
OEL-B (JP)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	800 mg/L	① total (o-,m-,p-) methylhippuric acid ② # ③ ##### ##
VLBO (RO)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	3 µg/L	① Acid metilhipuric ② urina ③ finalul expunerii, resp. finalul schimbului
BMH (SK)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	1.5 mg/L	① Xylén ② krv ③ koniec expozície, príp. koniec zmeny
BMH (SK)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	2,000 mg/L	① Suma kyselín 2,3,4-metylhippurových ② urín ③ koniec expozície, príp. koniec zmeny
BIO (FI)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	5 mmol/L	① Virtsan metyylhippuurihappo ② virtsa ③ altistumisen päättyminen, tai vuoron päättyminen
ACGIH-BEI (US)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	1.5 g/g creatinine	① Methylhippuric acids ② urine ③ end of exposure or end of shift
BAT (SI) from 4 Dec 2018	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	2 g/L	① metilhipurna kislin(vseizomere) ② urin ③ ob koncu delovne izmene
BIO (HU) from 7 Feb 2020	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	1,500 mg/g kreatinin	① Metil-hippursavak ② vizelet ③ expozíció vége illetve műszak vége
TRGS 903 (DE) from 1 Nov 2016	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	2,000 mg/L	① Methylhippur-(Tolur-)säure (alle Isomere) ② Urin ③ Expositionsende bzw. Schichtende
BIO (HR)	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	1.5 mg/L	① ksilen ② krv ③ kraj izloženosti, odnosno kraj smjene
BIO (HR) from 12 Oct 2018	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	1.5 g/g kreatinin	① metilhipurna kiselina ② urin ③ kraj izloženosti, odnosno kraj smjene



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Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
BMGV (GB) from 30 Nov 2022	xylene CAS No.: 1330-20-7 EC No.: 215-535-7	650 mmol/mol creatinine	① methyl hippuric acid ② urine ③ end of exposure or end of shift
TRGS 903 (DE) from 7 Jun 2017	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	250 mg/g Creatinin	① Mandelsäure + Phenylglyoxylsäure ② Urin ③ Expositionsende bzw. Schichtende
BAT (CH) from 1 Jan 2022	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	600 mg/g Creatinin	① Mandelsäure + Phenylglyoxylsäure ② Urin ③ Expositionsende bzw. Schichtende
VLB (ES)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	700 mg/g creatinina	① Ácido mandélico + ácido fenilglioílico ② orina ③ en caso de exposición por largo tiempo, fin de exposición o fin de turno
BIO (HU) from 7 Feb 2020	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	1,500 mg/g kreatinin	① mandulasav ② vizelet ③ a munkahét utolsó műszakának a vége.
BIO (FI) from 1 Oct 2020	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	5.2 mmol/L	① mantelihappo ② virtsa ③ työviikon viimeisen työvuoron päätyttyä
VLBO (RO)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	1.5 g/g creatinină	① acid mandelic ② urina ③ la expunerea de durata, finalul expunerii, resp. finalul schimbului
BMH (SK)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	12 mg/L	① 2 - a 4 -Etylfenol ② urín ③ pri dlhodobej expozícií, koniec expozície, príp. koniec zmeny
BMH (SK)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	1,600 mg/L	① kyselina mandľová + Kyselina 2- fenyl-2-oxooctová ② urín ③ pri dlhodobej expozícií, koniec expozície, príp. koniec zmeny
ACGIH-BEI (US) from 1 Jan 2014	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	0.15 g/g creatinine	① Sum of mandelic acid and phenylglyoxylic acid in urine ② urine ③ end of shift at end of workweek
BIO (HR)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	1.5 mg/L	① etilbenzen ② krv ③ za vrijeme izloženosti
BIO (HR)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	1.5 g/g kreatinin	① bademova kiselina ② urin ③ pri dugotrajnom izlaganju, kraj izloženosti, odnosno kraj smjene
BAT (SI) from 4 Dec 2018	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	250 g/g kreatinina	① mandljeva kislina + fenilglioksilna kislina ② urin ③ ob koncu delovne izmene



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BIO (BG)	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	2,000 mg/g креатинин	① Бадемова киселина + фенилглиоксилова киселина ② урина ③ край на експозицията, респ. край на работната смяна
OEL-B (JP) from 18 May 2021	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	150 mg/g ## ####	① Mandelic acid ② # ③ #####
OEL-B (JP) from 18 May 2021	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	200 mg/g ## ####	① Mandelic acid + Phenylglyoxylic acid ② # ③ #####
OEL-B (JP) from 18 May 2021	ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	15 µg/L #### ##	① Ethylbenzene ② # ③ #####
TRGS 903 (DE) from 1 Nov 2012	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	400 mg/g Creatinin	① Dimethylbenzoesäure, Nach Hydrolyse: ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende
BIO (HR) from 12 Oct 2018	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	400 mg/g kreatinin	① Dimethylbenzoesäuren ② urin ③ pri dugotrajnom izlaganju, kraj izloženosti, odnosno kraj smjene
BAT (SI) from 12 May 2021	1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9	400 mg/g kreatinina	① dimetilbenzojska kislina (vse izomere po hidrolizi) ② urin ③ po več zaporednih delavnikih, ob koncu delovne izmene
TRGS 903 (DE) from 1 Nov 2012	toluene CAS No.: 108-88-3 EC No.: 203-625-9	1.5 mg/L	① o-Kresol ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende
TRGS 903 (DE) from 13 Jan 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.6 mg/L	① Toluol ② Blut ③ unmittelbar nach Exposition
BAT (CH) from 1 Jan 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	75 µg/L	① Toluol ② Urin ③ Expositionsende bzw. Schichtende
BAT (CH)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.5 mg/L	① o-Kresol ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende
VLB (ES) from 1 Jan 2018	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.6 mg/g creatinina	① (o-Cresol) ② orina ③ fin de exposición o fin de turno
VLB (ES)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.05 mg/L	① (tolueno) ② sangre ③ fin de exposición o fin de turno



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Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
BIO (HU)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	1 mg/g kreatinin	① o-Krezol ② vizelet ③ expozíció vége illetve műszak vége
BIO (FI)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	500 nmol/L	① toluoli ② veri ③ ennen seuraavaa vuoroa
OEL-B (JP)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.6 mg/L	① ##### ② ## ③ ##### ## ④ Within 2h prior to
OEL-B (JP)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.06 mg/L	① ##### ② # ③ ##### ## ④ Within 2h prior to
VLBO (RO)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	2 g/L	① Acid hipuric o-cresol ② urina ③ finalul expunerii, resp. finalul schimbului
VLBO (RO)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	3 mg/L	① Acid hipuric o-cresol ② urina ③ finalul expunerii, resp. finalul schimbului
BMH (SK)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	600 µg/L	① toulén ② krv ③ koniec expozície, príp. koniec zmeny
BMH (SK)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	1.5 mg/L	① o-krezol ② urín ③ pri dlhodobej expozícií, koniec expozície, príp. koniec zmeny
BMH (SK)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	2,401 mg/L	① Kyselina hippurová ② urín ③ koniec expozície, príp. koniec zmeny
ACGIH-BEI (US)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.02 mg/L	① Toluene in blood ② blood ③ Prior to last shift of workweek
ACGIH-BEI (US)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.03 mg/L	① Toluene in urine ② urine ③ end of exposure or end of shift
ACGIH-BEI (US)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.3 mg/g creatinine	① o-Cresol in urine ② urine ③ end of exposure or end of shift
BAT (CH)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	2 g/g Creatinin	① Hippursäure ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende



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Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
VLB (ES) from 1 Jan 2018	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.08 mg/L	① (tolueno) ② sangre ③ fin de exposición o fin de turno
BAT (SI) from 11 May 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	600 µg/L	① toluen ② kri ③ ob koncu delovne izmene
BAT (SI) from 11 May 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	1.5 mg/L kreatinina	① o-krezol ② urin ③ po več zaporednih delavnikih, ob koncu delovne izmene
TRGS 903 (DE) from 28 Mar 2019	toluene CAS No.: 108-88-3 EC No.: 203-625-9	75 µg/L	① Toluol ② Urin ③ Expositionsende bzw. Schichtende
BIO (BG)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	1.6 mmol креатинин	① хипурова киселина ② урина ③ край на експозицията, респ. край на работната смяна
BIO (HR)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	1 mg/L	① toluol ② krv ③ kraj izloženosti, odnosno kraj smjene
BIO (HR)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	20 ppm krajnje izdahnuti zrak	① toluol ③ za vrijeme izloženosti
BIO (HR)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	2.5 g/g kreatinin	① hipurna kiselina ② urin ③ kraj izloženosti, odnosno kraj smjene
BIO (HR)	toluene CAS No.: 108-88-3 EC No.: 203-625-9	1 mg/g kreatinin	① o-krezol ② urin ③ kraj izloženosti, odnosno kraj smjene
BAT (SI) from 11 May 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	75 µg/L	① toluen ② urin ③ ob koncu delovne izmene
BER (LV) from 20 May 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	0.05 mg/L	① tulols ② asinis ③ ekspozīcijas beigās, respektīvi, darba maiņas beigās
BER (LV) from 20 May 2021	toluene CAS No.: 108-88-3 EC No.: 203-625-9	1.6 g/g vreatinins	① hipurskābi ② urīns ③ ekspozīcijas beigās, respektīvi, darba maiņas beigās

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
xylene CAS No.: 1330-20-7 EC No.: 215-535-7	77 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
xylene CAS No.: 1330-20-7 EC No.: 215-535-7	14.8 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects



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Substance name	DNEL value	① DNEL type ② Exposure route
xylene CAS No.: 1330-20-7 EC No.: 215-535-7	180 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
xylene CAS No.: 1330-20-7 EC No.: 215-535-7	108 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
xylene CAS No.: 1330-20-7 EC No.: 215-535-7	1.6 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3	12.8 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4	77 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	25 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	25 mg/m ³	① DNEL worker ② Acute - inhalation, local effects
toluene CAS No.: 108-88-3 EC No.: 203-625-9	192 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
toluene CAS No.: 108-88-3 EC No.: 203-625-9	192 mg/m ³	① DNEL worker ② Acute - inhalation, local effects
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	44.18 mg/m ³	① DNEL worker ② Acute - inhalation, systemic effects
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.25 mg/kg	① DNEL worker ② Long-term - dermal, systemic effects
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	166 mg/kg	① DNEL worker ② Acute - dermal, systemic effects

Substance name	PNEC Value	① PNEC type
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.074 µg/L	① PNEC aquatic, freshwater
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.0074 µg/L	① PNEC aquatic, marine water
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	100 mg/L	① PNEC sewage treatment plant
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.226 mg/kg	① PNEC sediment, freshwater
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.0266 mg/kg	① PNEC sediment, marine water
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.37 µg/L	① PNEC aquatic, intermittent release

* **8.2. Exposure controls**

8.2.1. Appropriate engineering controls

Avoid exposure. Do not breathe gas/fumes/vapour/spray.



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8.2.2. Personal protection equipment



Eye/face protection:

During transfer: Eye glasses with side protection
 DIN-/EN-Norms EN 166

Skin protection:

Hand protection

Suitable material: Butyl caoutchouc (butyl rubber), CR (polychloroprene, chloroprene rubber)

Thickness of the glove material: $\geq 0,4$ mm

Breakthrough time: >480 min

Breakthrough times and swelling properties of the material must be taken into consideration.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Tested protective gloves must be worn: EN ISO 374

Suitable protective clothing: Protective clothing solvent-resistant like: EN 465

Respiratory protection:

Usually no personal respiratory protection necessary.

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Filtering device with filter or ventilator filtering device of type: AX

Other protection measures:

Wear suitable protective clothing. Take off immediately all contaminated clothing and wash it before reuse.

8.2.3. Environmental exposure controls

See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

* 9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: light yellow

Odour: characteristic

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	<i>not applicable</i>		
Melting point	<i>not determined</i>		
Freezing point	<i>not determined</i>		
Initial boiling point and boiling range	136 - < 210 °C		
Decomposition temperature	<i>not determined</i>		
Flash point	46 °C		
Evaporation rate	<i>not determined</i>		
Auto-ignition temperature	<i>not determined</i>		
Upper/lower flammability or explosive limits	0.6 - 8 Vol-%		
Vapour pressure	0.2 hPa	50 °C	
Vapour density	<i>not determined</i>		
Density	0.82 g/cm ³		
Relative density	<i>not determined</i>		
Bulk density	<i>not determined</i>		
Water solubility	practically insoluble		
Partition coefficient: n-octanol/water	<i>not applicable</i>		
Dynamic viscosity	<i>not determined</i>		
Kinematic viscosity	1.3 mm ² /s	40 °C	

* 9.2. Other information

Not applicable



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SECTION 10: Stability and reactivity

* 10.1. Reactivity

The product is chemically stable under recommended conditions of storage, use and temperature.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

* 10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge.

* 10.5. Incompatible materials

Oxidising agent, strong
 Pyrophoric or self-heating substances
 Strong acid
 Alkali (lye), concentrated

* 10.6. Hazardous decomposition products

Hazardous combustion products: Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x)
 During heating or in case of fire, toxic gases is possible.
 Do not inhale explosion and combustion gases.

Further information

Do not mix with other chemicals.

SECTION 11: Toxicological information

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

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9
LD₅₀ oral: >5,000 mg/kg (Rat)
LD₅₀ dermal: >5,000 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (vapour): >5 mg/L 4 h (Rat)
LC₅₀ Acute inhalation toxicity (dust/mist): >5.266 mg/L 4 h (rat) OECD Guideline 403 (Acute Inhalation Toxicity)
xylene CAS No.: 1330-20-7 EC No.: 215-535-7
LD₅₀ oral: 4,300 mg/kg (Rat)
LD₅₀ dermal: >1,700 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (vapour): 11 mg/L 4 h (Rat)
2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3
LD₅₀ oral: 2,047 mg/kg (Rat)
LD₅₀ dermal: >3,000 mg/kg (Rat)
LC₅₀ Acute inhalation toxicity (vapour): 11 mg/L 4 h (Rat)
Alkohole, C12-13-verzweigt und linear, ethoxyliert CAS No.: 160901-19-9 EC No.: 931-954-4
LD₅₀ oral: 2,000 mg/kg (Ratte)
LD₅₀ dermal: >2,000 mg/kg (Kaninchen)
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5
LD₅₀ oral: >2,000 mg/kg (rat) OECD Guideline 401 (Acute Oral Toxicity)
LD₅₀ dermal: >2,500 mg/kg (rat)
LC₅₀ Acute inhalation toxicity (vapour): >0.4 mg/L 4 h (rat)
1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9
LD₅₀ oral: 5,000 mg/kg (Rat)
LC₅₀ Acute inhalation toxicity (vapour): 18 mg/L 4 h (Rat)
toluene CAS No.: 108-88-3 EC No.: 203-625-9
LD₅₀ oral: 5,580 mg/kg (Rat)
LD₅₀ dermal: 12,124 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (vapour): 28.1 mg/L 4 h (Rat)



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Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3

LD₅₀ oral: 2,100 - 2,200 mg/kg (rat)

LD₅₀ dermal: 15,000 mg/kg (rabbit)

Acute oral toxicity:

ATEmix: 21043,8 mg/kg
 Based on available data, the classification criteria are not met.

Acute dermal toxicity:

ATEmix: 7345,1 mg/kg
 Based on available data, the classification criteria are not met.

Acute inhalation toxicity:

ATEmix: Acute inhalation toxicity (vapour) 34,72 mg/L
 Acute inhalation toxicity (dust/mist) 4,735 mg/L
 Harmful if inhaled.

Skin corrosion/irritation:

Causes skin irritation. Repeated exposure may cause skin dryness or cracking.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation:

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

Germ cell mutagenicity:

No indications of human germ cell mutagenicity exist.

Carcinogenicity:

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

Reproductive toxicity:

No indications of human reproductive toxicity exist.

STOT-single exposure:

May cause respiratory irritation.

STOT-repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard:

For viscosity data, see section 9.
 May be fatal if swallowed and enters airways.

Additional information:

Repeated exposure may cause skin dryness or cracking.

* **11.2. Information on other hazards**

Endocrine disrupting properties:

This product contains a substance that has endocrine disrupting properties with respect to humans.

Other information:

No information available.

SECTION 12: Ecological information

* **12.1. Toxicity**

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9
 EC No.: 918-481-9

LC₅₀: >1,000 mg/L 4 d (fish, Oncorhynchus mykiss (Rainbow trout))

EC₅₀: >1,000 mg/L 2 d (crustaceans, Daphnia magna (Big water flea))

ErC₅₀: >1,000 mg/L 4 d (Algae/water plant, Pseudokirchneriella subcapitata)

xylene CAS No.: 1330-20-7 EC No.: 215-535-7

LC₅₀: 26.7 mg/L 4 d (fish, Pimephales promelas)

EC₅₀: 3.82 mg/L 2 d (crustaceans, Daphnia magna)

EC₅₀: >3.4 mg/L 2 d (crustaceans, Ceriodaphnia spec) Ecotoxicology and Environmental Safety 3

EC₅₀: 7.6 mg/L 4 d (fish, Oncorhynchus mykiss (Rainbow trout)) OECD 203

NOEC: >1.3 mg/L 56 d (fish, Oncorhynchus mykiss (Rainbow trout)) Appl. Sci. Branch. Eng. Res. Cent. Denve

NOEC: 1.17 mg/L 4 d (crustaceans, Ceriodaphnia spec) Ecotoxicology and Environmental Safety 3

ErC₅₀: 4.9 mg/L 3 d (Algae/water plant, Selenastum capricomutum)

ErC₅₀: 4.7 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata) Ecotoxicology and Environmental Safety



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2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3
LC ₅₀ : 17.1 mg/L 4 d (fish, <i>Leuciscus idus</i> (golden orfe))
LC ₅₀ : 17.1 mg/L 4 d (fish, <i>Leuciscus idus</i> (golden orfe))
EC ₅₀ : 39 mg/L 2 d (crustaceans, <i>Daphnia magna</i> (Big water flea))
EC ₅₀ : 39 mg/L 2 d (crustaceans, <i>Daphnia magna</i>)
ErC ₅₀ : 11.5 mg/L 3 d (Algae/water plant, <i>Scenedesmus subspicatus</i>)
ErC ₅₀ : 11.5 mg/L 3 d (Algae/water plant, <i>Scenedesmus subspicatus</i>)
ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4
ErC ₅₀ : 3.6 mg/L 4 d (Algae/water plant)
Alkohole, C12-13-verzweigt und linear, ethoxiliert CAS No.: 160901-19-9 EC No.: 931-954-4
LC ₅₀ : >1 - 10 mg/L 4 d (fish, <i>Poecilia reticulata</i> (Guppy)) OECD 203
EC ₅₀ : >1 - 10 mg/L 2 d (crustaceans, <i>Daphnia magna</i> (Großer Wasserfloh)) OECD 202
LC ₅₀ : >1 - 10 mg/L 4 d (fish, <i>Poecilia reticulata</i> (Guppy)) OECD 203
EC ₅₀ : >1 - 10 mg/L 2 d (crustaceans, <i>Daphnia magna</i> (Big water flea)) OECD 202
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5
LC ₅₀ : 6.08 mg/L 3 d (fish, <i>Pimephales promelas</i>)
LC ₅₀ : 1.2 mg/L 4 d (fish, <i>Oncorhynchus gorboscha</i>)
LC ₅₀ : 6.35 mg/L 2 d (fish, <i>Pimephales promelas</i>)
EC ₅₀ : 2.16 mg/L 2 d (crustaceans, <i>Daphnia magna</i>) OECD Guideline 202 (<i>Daphnia</i> sp. Acute Immobilisation Test)
NOEC: 0.12 mg/L 40 d (fish, <i>Oncorhynchus gorboscha</i>)
LOEC: 0.38 mg/L 40 d (fish, <i>Oncorhynchus gorboscha</i>)
1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9
LC ₅₀ : 7.72 mg/L 4 d (fish, <i>Pimephales promelas</i>)
EC ₅₀ : 3.6 mg/L 2 d (crustaceans, <i>Daphnia</i>)
toluene CAS No.: 108-88-3 EC No.: 203-625-9
LC ₅₀ : 5.5 - 340 mg/L 4 d (fish)
LC ₅₀ : 15.5 - 310 mg/L 2 d (crustaceans)
LC ₅₀ : 13 mg/L 4 d (fish, <i>Carassius auratus</i> (goldfish)) IUCLID
EC ₅₀ : 6 - 19.6 mg/L 2 d (crustaceans, <i>Daphnia magna</i> (Big water flea))
EC ₅₀ : 12.5 mg/L 3 d (Algae/water plant)
ErC ₅₀ : >433 mg/L 4 d (Algae/water plant, <i>Pseudokirchneriella subcapitata</i>) GESTIS
ErC ₅₀ : 12.5 mg/L 3 d (Algae/water plant)
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3
LC ₅₀ : ≥40 mg/L 2 d (fish)
LC ₅₀ : ≥0.58 - 0.58 mg/L 4 d (crustaceans)
NOEC: ≥0.07 mg/L 3 d (Algae/water plant)

Aquatic toxicity:

Harmful to aquatic life with long lasting effects.

Additional ecotoxicological information:

Do not allow uncontrolled discharge of product into the environment.

12.2. Persistence and degradability

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9
Biodegradation: Yes, rapidly

Additional information:

The product has not been tested.

* **12.3. Bioaccumulative potential**

xylene CAS No.: 1330-20-7 EC No.: 215-535-7
Log K_{OW}: 3.2
Bioconcentration factor (BCF): 8.8 Species: <i>Oncorhynchus mykiss</i> (Rainbow trout)
2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3
Log K_{OW}: 2.9



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ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4
Log K_{OW} : 3.15
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5
Log K_{OW} : 3.45
1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9
Log K_{OW} : 3.63
toluene CAS No.: 108-88-3 EC No.: 203-625-9
Log K_{OW} : 2.73
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3
Log K_{OW} : 7.14

Partition coefficient: n-octanol/water:

not applicable

Accumulation / Evaluation:

The product has not been tested.

12.4. Mobility in soil

The product has not been tested.

* **12.5. Results of PBT and vPvB assessment**

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
xylene CAS No.: 1330-20-7 EC No.: 215-535-7
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
2-ethylhexan-1-ol CAS No.: 104-76-7 EC No.: 203-234-3
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
ethylbenzene CAS No.: 100-41-4 EC No.: 202-849-4
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Alkohole, C12-13-verzweigt und linear, ethoxyliert CAS No.: 160901-19-9 EC No.: 931-954-4
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene CAS No.: 64742-94-5 EC No.: 919-284-0
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
1,2,4-trimethylbenzene CAS No.: 95-63-6 EC No.: 202-436-9
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
toluene CAS No.: 108-88-3 EC No.: 203-625-9
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

* **12.6. Endocrine disrupting properties**

This product contains a substance that has endocrine disrupting properties with respect to non-target organisms.

* **12.7. Other adverse effects**

No information available.

SECTION 13: Disposal considerations

* **13.1. Waste treatment methods**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.
 Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal

**Waste codes/waste designations according to EWC/AVV
 Directive 2008/98/EC (Waste Framework Directive)**

HP 3	Flammable
HP 4	Irritant — skin irritation and eye damage



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HP 5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 6	Acute Toxicity

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:

Non-contaminated packages may be recycled.





Other disposal recommendations:

Consult the appropriate local waste disposal expert about waste disposal.

* **13.2. Additional information**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
UN 1993	UN 1993	UN 1993	UN 1993
14.2. UN proper shipping name			
FLAMMABLE LIQUID, N.O.S. (Xylene, Ethylbenzene)	FLAMMABLE LIQUID, N.O.S. (Xylene, Ethylbenzene)	FLAMMABLE LIQUID, N.O.S. (Xylene, Ethylbenzene)	FLAMMABLE LIQUID, N.O.S. (Xylene, Ethylbenzene)
14.3. Transport hazard class(es)			
 3	 3	 3	 3
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
No	No	No	No
14.6. Special precautions for user			
Limited quantity (LQ): 5 L Hazard identification number (Kemler No.): 30 Classification code: F1 Tunnel restriction code: (D/E)	Limited quantity (LQ): 5 L Classification code: F1	Limited quantity (LQ): 5 L EmS-No.: F-E; S-E	No data available

14.7. Maritime transport in bulk according to IMO instruments

No transport as bulk according to IBC Code.

SECTION 15: Regulatory information

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

15.1.1. EU legislation

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive], Hazard categories:

- P5c Flammable liquids of Categories 2 or 3, not covered by P5a and P5b

Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).

Volatile organic compounds (VOC) content in percent by weight: >85 - < 95 % w/w



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15.1.2. National regulations

 **[DE] National regulations**

Restrictions of occupation

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Annex Chemikalien-Verbotsverordnung (ChemVerbotsV)

Not applicable

Störfallverordnung (12. BImSchV)

for substances contained in the product:

Hazard categories:

- P5c Flammable liquids of Categories 2 or 3, not covered by P5a and P5b

Technische Anleitung zur Reinhaltung der Luft (TA-Luft)

Remark:

To follow: 5.2.5

Water hazard class

WGK:

2 - obviously hazardous to water

Source:

Self-classification (mixture; calculation rule).

Technische Regeln für Gefahrstoffe

Minimum protective measures according to TRGS 500

Berufsgenossenschaftliche Vorschriften (DGUV-Vorschriften)

To follow: Berufsgenossenschaftliche Informationen (DGUV-Informationen) 868
 Berufsgenossenschaftliche Regeln (DGUV-Regeln) 189, 190, 192, 195

 **[CH] National regulations**

Other regulations, restrictions and prohibition regulations

Mengenschwelle (Schweiz - StFV)
 Gefahrencode
 Brandverhütung, BVD (Schweiz)
 Störfallverordnung (StFV)

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

15.3. Additional information

Tactile warning according to EN/ISO 11683. Child-resistant fastenings (EN/862/ISO 8317).

SECTION 16: Other information

* **16.1. Indication of changes**

1.1.	Product identifier
1.2.	Relevant identified uses of the substance or mixture and uses advised against
1.3.	Details of the supplier of the safety data sheet
1.4.	Emergency telephone number
2.1.	Classification of the substance or mixture
2.2.	Label elements
2.3.	Other hazards
3.2.	Mixtures
4.1.	Description of first aid measures
4.2.	Most important symptoms and effects, both acute and delayed
4.3.	Indication of any immediate medical attention and special treatment needed
5.1.	Extinguishing media
5.2.	Special hazards arising from the substance or mixture
5.3.	Advice for firefighters
6.1.	Personal precautions, protective equipment and emergency procedures
6.2.	Environmental precautions
6.3.	Methods and material for containment and cleaning up
6.5.	Additional information
7.1.	Precautions for safe handling



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7.2.	Conditions for safe storage, including any incompatibilities
8.1.	Control parameters
8.2.	Exposure controls
9.1.	Information on basic physical and chemical properties
9.2.	Other information
10.1.	Reactivity
10.3.	Possibility of hazardous reactions
10.5.	Incompatible materials
10.6.	Hazardous decomposition products
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
11.2.	Information on other hazards
12.1.	Toxicity
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
12.6.	Endocrine disrupting properties
12.7.	Other adverse effects
13.1.	Waste treatment methods
13.2.	Additional information
14.2.	UN proper shipping name
14.4.	Packing group
14.5.	Environmental hazards
14.6.	Special precautions for user
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes
16.3.	Key literature references and sources for data
16.4.	Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]
16.5.	Relevant R-, H- and EUH-phrases (Number and full text)

16.2. Abbreviations and acronyms

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).
 See overview table at www.euphrac.eu

* 16.3. Key literature references and sources for data

EC 1907/2006 - REACH Regulation
 1272/2008 EC - Regulation on classification, labeling and packaging of substances and mixtures, and amending Directives 67/548/EEC and 1999/45/EC and Regulation (EC) No 1907/2006
 Regulation (EC) No 1907/2006 (REACH), Annex II
 European Chemicals Agency (ECHA), C & L classification and labeling inventory
 European Chemicals Agency (ECHA), ECHA CHEM Registered substances
 OECD The Global Portal to Information on Chemical Substances (ChemPortal)
 Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances
 Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)

Substance name	Type	source of supply
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9 EC No.: 918-481-9	Classification of the substance or mixture; LC ₅₀ Acute inhalation toxicity (dust/mist)	Source: European Chemicals Agency, http://echa.europa.eu/
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	LD ₅₀ oral; LD ₅₀ dermal; LC ₅₀ Acute inhalation toxicity (vapour); LC ₅₀ ; EC ₅₀ ; NOEC; LOEC	Source: European Chemicals Agency, http://echa.europa.eu/



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* **16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]**

Hazard classes and hazard categories	Hazard statements	Classification procedure
flammable liquids (<i>Flam. Liq. 3</i>)	H226: Flammable liquid and vapour.	On basis of test data.
Aspiration hazard (<i>Asp. Tox. 1</i>)	H304: May be fatal if swallowed and enters airways.	Calculation method.
Skin corrosion/irritation (<i>Skin Irrit. 2</i>)	H315: Causes skin irritation.	Calculation method.
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	Calculation method.
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	Calculation method.
STOT-single exposure (<i>STOT SE 3</i>)	H335: May cause respiratory irritation.	Calculation method.
STOT-repeated exposure (<i>STOT RE 2</i>)	H373: May cause damage to organs through prolonged or repeated exposure.	Calculation method.
Hazardous to the aquatic environment (<i>Aquatic Chronic 3</i>)	H412: Harmful to aquatic life with long lasting effects.	Calculation method.

* **16.5. Relevant R-, H- and EUH-phrases (Number and full text)**

Hazard statements	
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
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.
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.
H351	Suspected of causing cancer.
H360F	May damage fertility.
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.

16.6. Training advice

No data available

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

* Data changed compared with the previous version.