

## Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8

Version 1.3

Revision Date 2023-08-31

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2020/878

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

#### 1.1 Product identifier

##### Product information

Product Name : Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8

##### EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
Gasoline, pyrolysis, hydrogenated	94114-03-1 302-639-3 649-389-00-4	Qatar Chemical Company LTD (Q-Chem) 01-2119486894-18-0009

#### 1.2

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

Relevant Identified Uses Supported : Manufacture of substance  
Formulation  
Use at Industrial Site - Intermediate  
Use as a fuel - industrial  
Use as a fuel – professional  
Use as a fuel – consumer

#### 1.3

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

**Company** : Qatar Chemical Company LTD (QChem)  
Amwal Tower, Omar Al Mukhtar St,  
Al-Dafna (Zone 61)  
PO Box 24646  
Doha, Qatar

SDS Requests: (+974) 4484-7110  
Technical Information : (+974) 4476-7145  
Responsible Party: Product Safety Group  
Email: MSDSInquiry@qchem.com.qa

**Local** : Muntajat B.V. (MBV OR)  
19th Floor, Tower E, WTC The Hague  
Prinses Margrietplantsoen 78-A, 2595 BR  
The Hague, the Netherlands.  
Tel: +31702055630  
Email: info.netherlands@muntajatbv.com

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**1.4****Emergency telephone:****Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

**Transport:**

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)

Belgium: 070 245 245 (24 hours/day, 7 days/week)

Bulgaria: +359 2 9154 233

Croatia: +3851 2348 342 (24 hours/day, 7 days/week)

Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402

Denmark: Danish Poison Center (Gifftlinjen): +45 8212 1212

Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Finland: 0800 147 111 09 471 977 (24 hours/day)

France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)

Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Greece: (0030) 2107793777 (24 hours/day, 7 days/week)

Hungary: +36-80-201-199 (24 hours/day, 7 days/week)

Iceland: 543 2222 (24 hours/day, 7 days/week)

Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic

Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371 67042473. (24 hours.)

Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Lithuania: +370 (85) 2362052

Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)

Malta: +356 2395 2000

The Netherlands: NVIC: +31 (0)88 755 8000

Norway: 22 59 13 00 (24 hours/day, 7 days/week)

Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Portugal: CIAV phone number: +351 800 250 250

Romania: +40213183606

Slovakia: +421 2 5477 4166

Slovenia: Phone number: 112

Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)

Sweden: 112 – ask for Poisons Information

Responsible Department : Product Safety and Toxicology Group  
 E-mail address : SDS@CPChem.com  
 Website : www.CPChem.com

**SECTION 2: Hazards identification****2.1****Classification of the substance or mixture  
REGULATION (EC) No 1272/2008**

Flammable liquids, Category 2

H225:

SDS Number:100000067418

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Skin irritation, Category 2	Highly flammable liquid and vapor. H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Germ cell mutagenicity, Category 1B	H340: May cause genetic defects.
Carcinogenicity, Category 1A	H350: May cause cancer.
Reproductive toxicity, Category 2	H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

**2.2****Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal Word : Danger

Hazard Statements	:	H225 H304  H315 H319 H336 H340 H350 H361fd  H372  H411	Highly flammable liquid and vapor. May be fatal if swallowed and enters airways.  Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.
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Precautionary Statements	:	<b>Prevention:</b> P201 P210  P260  P273 P280  <b>Response:</b> P301 + P310	Obtain special instructions before use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection.  IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P331	Do NOT induce vomiting.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391	Collect spillage.

Hazardous ingredients which must be listed on the label:

- 94114-03-1 Gasoline, pyrolysis, hydrogenated; Low boiling point naphtha-  
unspecified
- 71-43-2 Benzene
- 109-66-0 n-Pentane
- 108-88-3 Toluene

**Additional Labeling:**

Restricted to professional users.

**2.3****Other hazards**

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

Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 3: Composition/information on ingredients****3.1 - 3.2****Substance or Mixture**

Synonyms : Benzene Concentrate  
Hexane, Light hydrotreated distillate  
BTX Concentrate

Molecular formula : UVCB

**Hazardous ingredients**

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]	Specific Conc. Limits, M-factors and ATEs
<b>Gasoline, pyrolysis, hydrogenated</b>	<b>94114-03-1</b> <b>302-639-3</b> 649-389-00-4	Flam. Liq. 2; H225 Muta. 1B; H340 Carc. 1B; H350 Asp. Tox. 1; H304	100	
Benzene	71-43-2 200-753-7 601-020-00-8	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Eye Irrit. 2; H319	40 - 50	

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		Muta. 1B; H340 Carc. 1A; H350 Aquatic Chronic 3; H412 STOT RE 1; H372 Asp. Tox. 1; H304 Aquatic Chronic 3; H412		
n-Pentane	109-66-0 203-692-4 601-006-00-1	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	6 - 10	
Cyclopentane	287-92-3 206-016-6 601-030-00-2	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	5 - 7	
Toluene	108-88-3 203-625-9 601-021-00-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	3 - 5	
n-hexane	110-54-3 203-777-6 601-037-00-0	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361f STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	2 - 4	
Cyclohexane	110-82-7 203-806-2 601-017-00-1	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	2 - 4	M [Acute]=1
Methylcyclopentane	96-37-7 202-503-2	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	2 - 3	
Isopentane	78-78-4 201-142-8 601-085-00-2	Flam. Liq. 1; H224 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	1 - 2	

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Ethylbenzene	100-41-4 202-849-4 601-023-00-4	Flam. Liq. 2; H225 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	0,5 - 2	
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For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: First aid measures****4.1****Description of first-aid measures**

- General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.
- If inhaled : Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

**4.2 Most important symptoms and effects, both acute and delayed****Notes to physician**

- Symptoms : No data available.
- Risks : No data available.

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

- Treatment : No data available.

**SECTION 5: Firefighting measures**

- Flash point : -6,7°C (19,9°F)  
estimated
- Autoignition temperature : 510°C (950°F)  
estimated

**5.1****Extinguishing media**

- Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical.

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Unsuitable extinguishing media : High volume water jet.

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

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

**5.3****Advice for firefighters**

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

**SECTION 6: Accidental release measures****6.1****Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**6.2****Environmental precautions**

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

**6.3****Methods and materials for containment and cleaning up**

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**6.4****Reference to other sections**

Reference to other sections : For personal protection see section 8. For disposal considerations see section 13.

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**SECTION 7: Handling and storage****7.1****Precautions for safe handling  
Handling**

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

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

Requirements for storage areas and containers : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

**SECTION 8: Exposure controls/personal protection****8.1****Control parameters  
Ingredients with workplace control parameters****SK**

Zložky	Podstata	Hodnota	Kontrolné parametre	Poznámka
Benzene	SK OEL	TSH	1 ppm, 3,25 mg/m <sup>3</sup>	1B, 1A, K,
n-Pentane	SK OEL	NPEL priemerný	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Toluene	SK OEL	NPEL priemerný	50 ppm, 192 mg/m <sup>3</sup>	K,
	SK OEL	NPEL krátkodobý	100 ppm, 384 mg/m <sup>3</sup>	K,
n-Hexane	SK OEL	NPEL priemerný	20 ppm, 72 mg/m <sup>3</sup>	
	SK OEL	NPEL krátkodobý	40 ppm, 140 mg/m <sup>3</sup>	
Cyclohexane	SK OEL	NPEL priemerný	200 ppm, 700 mg/m <sup>3</sup>	
Methylcyclopentane	SK OEL	NPEL priemerný	500 ppm, 1.800 mg/m <sup>3</sup>	
	SK OEL	NPEL krátkodobý	1.000 ppm, 3.600 mg/m <sup>3</sup>	
Isopentane	SK OEL	NPEL priemerný	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Ethylbenzene	SK OEL	NPEL priemerný	100 ppm, 442 mg/m <sup>3</sup>	K,
	SK OEL	NPEL krátkodobý	200 ppm, 884 mg/m <sup>3</sup>	K,
Methylcyclohexane	SK OEL	NPEL priemerný	200 ppm, 810 mg/m <sup>3</sup>	
	SK OEL	NPEL krátkodobý	400 ppm, 1.620 mg/m <sup>3</sup>	

1A Kategória 1A - Dokázaný karcinogén pre ľudí

1B Kategória 1B - Mutagén cicavčích zárodočných buniek

K Znamená, že faktor môže byť ľahko absorbovaný kožou. Niektoré faktory, ktoré ľahko prenikajú kožou, môžu spôsobovať až smrteľné otravy, často bez varovných príznakov (napr. anilín, nitrobenzén, nitroglykol, fenoly a pod.). Pri látkach s významným prienikom cez kožu, či už v podobe kvapalín alebo pár, je osobitne dôležité zabrániť kožnému kontaktu.



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## SI

Sestavine	Osnova	Vrednost	Parametri nadzora	Pripomba
n-Pentane	SI OEL	MV	1.000 ppm, 3.000 mg/m <sup>3</sup>	
	SI OEL	KTV	2.000 ppm, 6.000 mg/m <sup>3</sup>	
Toluene	SI OEL	MV	50 ppm, 192 mg/m <sup>3</sup>	RD-2, K,
	SI OEL	KTV	100 ppm, 384 mg/m <sup>3</sup>	RD-2, K,
n-Hexane	SI OEL	MV	20 ppm, 72 mg/m <sup>3</sup>	RD-2,
	SI OEL	KTV	160 ppm, 576 mg/m <sup>3</sup>	RD-2,
Cyclohexane	SI OEL	MV	200 ppm, 700 mg/m <sup>3</sup>	
	SI OEL	KTV	800 ppm, 2.800 mg/m <sup>3</sup>	
Isopentane	SI OEL	MV	1.000 ppm, 3.000 mg/m <sup>3</sup>	
	SI OEL	KTV	2.000 ppm, 6.000 mg/m <sup>3</sup>	
Ethylbenzene	SI OEL	MV	100 ppm, 442 mg/m <sup>3</sup>	K,
	SI OEL	KTV	200 ppm, 884 mg/m <sup>3</sup>	K,
Methylcyclohexane	SI OEL	MV	200 ppm, 810 mg/m <sup>3</sup>	
	SI OEL	KTV	400 ppm, 1.620 mg/m <sup>3</sup>	

K Lastnost lažjega prehajanja snovi v organizem skozi kožo  
RD-2 Strupeno za razmnoževanje - lahko škoduje nerojenemu otroku - kategorija 2

## SE

Bestandsdelar	Grundval	Värde	Kontrollparametrar	Anmärkning
Benzene	SE AFS	NGV	0,5 ppm, 1,5 mg/m <sup>3</sup>	H, C,
	SE AFS	KGV	3 ppm, 9 mg/m <sup>3</sup>	H, C,
n-Pentane	SE AFS	NGV	600 ppm, 1.800 mg/m <sup>3</sup>	
	SE AFS	KGV	750 ppm, 2.000 mg/m <sup>3</sup>	V,
Cyclopentane	SE AFS	NGV	600 ppm, 1.800 mg/m <sup>3</sup>	
	SE AFS	KGV	750 ppm, 2.000 mg/m <sup>3</sup>	
Toluene	SE AFS	NGV	50 ppm, 192 mg/m <sup>3</sup>	H,
	SE AFS	KGV	100 ppm, 384 mg/m <sup>3</sup>	H,
n-Hexane	SE AFS	NGV	20 ppm, 72 mg/m <sup>3</sup>	
	SE AFS	KGV	50 ppm, 180 mg/m <sup>3</sup>	
Cyclohexane	SE AFS	NGV	200 ppm, 700 mg/m <sup>3</sup>	
	SE AFS	KGV	300 ppm, 1.100 mg/m <sup>3</sup>	
Methylcyclopentane	SE AFS	NGV	200 ppm, 700 mg/m <sup>3</sup>	
	SE AFS	KGV	200 ppm, 700 mg/m <sup>3</sup>	
Isopentane	SE AFS	NGV	600 ppm, 1.800 mg/m <sup>3</sup>	
	SE AFS	KGV	750 ppm, 2.000 mg/m <sup>3</sup>	V,
Ethylbenzene	SE AFS	NGV	50 ppm, 220 mg/m <sup>3</sup>	H,
	SE AFS	KGV	200 ppm, 884 mg/m <sup>3</sup>	H,

C Ämnet är cancerframkallande.  
H Ämnet kan lätt upptas genom huden.  
V Vägledande kortidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas

## RS

Компоненты	Основа	Величина	Параметры контроля	Заметка
Бензол	RS OEL	GVI	1 ppm, 3,25 mg/m <sup>3</sup>	
	RS OEL CM	TWA	1 ppm, 3,25 mg/m <sup>3</sup>	
н-пентан	RS OEL	GVI	1.000 ppm, 3.000 mg/m <sup>3</sup>	EU**,
Толуол	RS OEL	GVI	50 ppm, 192 mg/m <sup>3</sup>	K, EU**,
	RS OEL	KGVI	100 ppm, 384 mg/m <sup>3</sup>	K, EU**,
н-гексан	RS OEL	GVI	20 ppm, 72 mg/m <sup>3</sup>	Repr. cat. 3, EU**,
Циклогексан	RS OEL	GVI	200 ppm, 700 mg/m <sup>3</sup>	EU**,
Изопентан	RS OEL	GVI	1.000 ppm, 3.000 mg/m <sup>3</sup>	EU**,
Этилбензол	RS OEL	GVI	100 ppm, 442 mg/m <sup>3</sup>	K, EU*,
	RS OEL	KGVI	200 ppm, 884 mg/m <sup>3</sup>	K, EU*,

EU\* Substance mentioned in indicative exposure limit values in Directive 2000/39 / EC (first list)  
EU\*\* Substance mentioned in indicative exposure limit values in Directive 2006/15 / EC (second list)  
K This chemical substance can adversely affect the skin.  
Repr. cat. 3 chemical substances that are assumed to reduce reproductive capacity in humans and / or materials for which it is assumed that they can cause toxicity in the process of growth and development in humans.

## RO

Componente	Sursă	Valoare	Parametri de control	Notă
Benzene	RO OEL	TWA	1 ppm, 3,25 mg/m <sup>3</sup>	C1A, M1B, P,
n-Pentane	RO OEL	TWA	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Toluene	RO OEL	TWA	50 ppm, 192 mg/m <sup>3</sup>	R2, P,
	RO OEL	STEL	100 ppm, 384 mg/m <sup>3</sup>	R2, P,
n-Hexane	RO OEL	TWA	20 ppm, 72 mg/m <sup>3</sup>	R2,
Cyclohexane	RO OEL	TWA	200 ppm, 700 mg/m <sup>3</sup>	
Isopentane	RO OEL	TWA	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Ethylbenzene	RO OEL	TWA	100 ppm, 442 mg/m <sup>3</sup>	P,
	RO OEL	STEL	200 ppm, 884 mg/m <sup>3</sup>	P,
Methylcyclohexane	RO OEL	TWA	300 ppm, 1.200 mg/m <sup>3</sup>	
	RO OEL	STEL	375 ppm, 1.500 mg/m <sup>3</sup>	

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- C1A poate provoca apariția cancerului  
M1B poate provoca anomalii genetice  
P Contribuție substanțială la încărcarea totală din organism prin posibilă expunere cutanată.  
R2 susceptibil de a dăuna fertilității

**PT**

Componentes	Bases	Valor	Parâmetros de controlo	Nota
Benzene	PT OEL	VLE-MP	0,5 ppm,	P, A1,
	PT OEL	VLE_CD	2,5 ppm,	P, A1,
	PT DL 88/2015	TWA	1 ppm, 3,25 mg/m3	
n-Pentane	PT OEL	VLE-MP	1.000 ppm,	
	PT DL 305/2007	oito horas	1.000 ppm, 3.000 mg/m3	
Cyclopentane	PT OEL	VLE-MP	600 ppm,	
Toluene	PT OEL	VLE-MP	20 ppm,	P, A4,
	PT DL 305/2007	oito horas	50 ppm, 192 mg/m3	Cutânea,
	PT DL 305/2007	curta duração	100 ppm, 384 mg/m3	Cutânea,
n-Hexane	PT OEL	VLE-MP	50 ppm,	P,
	PT DL 305/2007	oito horas	20 ppm, 72 mg/m3	
Cyclohexane	PT OEL	VLE-MP	100 ppm,	
	PT DL 305/2007	oito horas	200 ppm, 700 mg/m3	
Methylcyclopentane	PT OEL	VLE-MP	500 ppm,	irritação do TRS, afeção do SNC,
	PT OEL	VLE_CD	1.000 ppm,	irritação do TRS, afeção do SNC,
Isopentane	PT OEL	VLE-MP	1.000 ppm,	
	PT DL 305/2007	oito horas	1.000 ppm, 3.000 mg/m3	
Ethylbenzene	PT OEL	VLE-MP	20 ppm,	A3,
	PT DL 305/2007	oito horas	100 ppm, 442 mg/m3	Cutânea,
	PT DL 305/2007	curta duração	200 ppm, 884 mg/m3	Cutânea,
Methylcyclohexane	PT OEL	VLE-MP	400 ppm,	

- A1 Agente carcinogénico confirmado no Homem.  
A3 Agente carcinogénico confirmado nos animais de laboratório com relevância desconhecida no Homem.  
A4 Agente não classificável como carcinogénico no Homem.  
afeção do SNC afeção do sistema nervoso central  
Cutânea Uma notação cutânea atribuída ao valor limite de exposição profissional assinala a possibilidade de absorção significativa através de pele.  
irritação do TRS irritação do trato respiratório superior  
P Perigo de absorção cutânea

**PL**

Składniki	Podstawa	Wartość	Parametry dotyczące kontroli	Uwaga
Benzene	PL NDS	NDS	1,6 mg/m3	
n-Pentane	PL NDS	NDS	3.000 mg/m3	
Toluene	PL NDS	NDS	100 mg/m3	
	PL NDS	NDSch	200 mg/m3	
n-Hexane	PL NDS	NDS	72 mg/m3	
Cyclohexane	PL NDS	NDS	300 mg/m3	
	PL NDS	NDSch	1.000 mg/m3	
Methylcyclopentane	PL NDS	NDS	400 mg/m3	
	PL NDS	NDSch	1.200 mg/m3	
Isopentane	PL NDS	NDS	3.000 mg/m3	
Ethylbenzene	PL NDS	NDS	200 mg/m3	
	PL NDS	NDSch	400 mg/m3	
Methylcyclohexane	PL NDS	NDS	1.600 mg/m3	
	PL NDS	NDSch	3.000 mg/m3	

**NO**

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
n-Pentane	FOR-2011-12-06-1358	GV	250 ppm, 750 mg/m3	
Toluene	FOR-2011-12-06-1358	GV	25 ppm, 94 mg/m3	H,
n-Hexane	FOR-2011-12-06-1358	GV	20 ppm, 72 mg/m3	R,
Cyclohexane	FOR-2011-12-06-1358	GV	150 ppm, 525 mg/m3	
Methylcyclopentane	FOR-2011-12-06-1358	GV	250 ppm, 1.050 mg/m3	
Isopentane	FOR-2011-12-06-1358	GV	250 ppm, 750 mg/m3	
Ethylbenzene	FOR-2011-12-06-1358	GV	5 ppm, 20 mg/m3	K, H,
Methylcyclohexane	FOR-2011-12-06-1358	GV	200 ppm, 800 mg/m3	

H Kjemikalier som kan tas opp gjennom huden.

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- K Kjemikalier som skal betraktes som kreftfremkallende.  
R Kjemikalier som skal betraktes som reproduksjonstoksiske.

**NL**

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Benzene	NL WG	TGG-8 uur	0,7 mg/m <sup>3</sup>	B1, H,
n-Pentane	NL WG	TGG-8 uur	1.800 mg/m <sup>3</sup>	
Toluene	NL WG	TGG-8 uur	150 mg/m <sup>3</sup>	
	NL WG	TGG-15 min	384 mg/m <sup>3</sup>	
n-Hexane	NL WG	TGG-8 uur	72 mg/m <sup>3</sup>	
	NL WG	TGG-15 min	144 mg/m <sup>3</sup>	
Cyclohexane	NL WG	TGG-8 uur	700 mg/m <sup>3</sup>	
	NL WG	TGG-15 min	1.400 mg/m <sup>3</sup>	
Isopentane	NL WG	TGG-8 uur	1.800 mg/m <sup>3</sup>	
Ethylbenzene	NL WG	TGG-8 uur	215 mg/m <sup>3</sup>	H,
	NL WG	TGG-15 min	430 mg/m <sup>3</sup>	H,

- B1 Kankerverwekkende stoffen, vastgesteld op basis van het drempelwaarde-effect  
H Huidopname

**MT**

Components	Basis	Value	Control parameters	Note
n-Pentane	MT OEL	TWA	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Toluene	MT OEL	TWA	50 ppm, 192 mg/m <sup>3</sup>	Skin,
	MT OEL	STEL	100 ppm, 384 mg/m <sup>3</sup>	Skin,
n-hexane	MT OEL	TWA	20 ppm, 72 mg/m <sup>3</sup>	
Cyclohexane	MT OEL	TWA	200 ppm, 700 mg/m <sup>3</sup>	
Isopentane	MT OEL	TWA	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Ethylbenzene	MT OEL	TWA	100 ppm, 442 mg/m <sup>3</sup>	Skin,
	MT OEL	STEL	200 ppm, 884 mg/m <sup>3</sup>	Skin,

Skin A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.

**MK**

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Benzene	MK OEL	MV	1 ppm, 3,25 mg/m <sup>3</sup>	R1, K,
n-Pentane	MK OEL	MV	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Toluene	MK OEL	MV	50 ppm, 192 mg/m <sup>3</sup>	K,
n-Hexane	MK OEL	MV	20 ppm, 72 mg/m <sup>3</sup>	RF3,
Cyclohexane	MK OEL	MV	200 ppm, 700 mg/m <sup>3</sup>	
Isopentane	MK OEL	MV	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Ethylbenzene	MK OEL	MV	100 ppm, 442 mg/m <sup>3</sup>	K,
Methylcyclohexane	MK OEL	MV	500 ppm, 2.000 mg/m <sup>3</sup>	

- K The properties of easier transport of substances into organism through (via) the skin  
R1 Carcinogenic R1 - may cause cancer. Numbers 1, 2 and 3 indicate the class of carcinogenicity or mutagenicity according to the EU classification of carcinogenic or mutagenic substances. Carcinogenic or mutagenic substances are in EU classified in separate groups, according to the fulfilling of criteria, set in the EU directive 67/548/EEC.  
RF3 Teratogenic RF3 - may be harmful for fertility. Numbers 1, 2 and 3 may the class of carcinogenicity or mutagenicity according to the EU classification of carcinogenic or mutagenic substances. Carcinogenic or mutagenic substances are in EU classified in separate groups, according to the fulfilling of criteria, set in the EU directive 67/548/EEC.

**LV**

Sastāvdaļas	Bāze	Vērtība	Pārvaldības parametri	Piezīme
Benzene	LV OEL	AER 8 st	1 ppm, 3,25 mg/m <sup>3</sup>	Āda,
n-Pentane	LV OEL	AER 8 st	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Cyclopentane	LV OEL	AER 8 st	100 mg/m <sup>3</sup>	
	LV OEL	AER īslaicīgā	300 mg/m <sup>3</sup>	
Toluene	LV OEL	AER 8 st	14 ppm, 50 mg/m <sup>3</sup>	Āda,
	LV OEL	AER īslaicīgā	40 ppm, 150 mg/m <sup>3</sup>	Āda,
n-Hexane	LV OEL	AER 8 st	20 ppm, 72 mg/m <sup>3</sup>	
Cyclohexane	LV OEL	AER 8 st	23 ppm, 80 mg/m <sup>3</sup>	
Isopentane	LV OEL	AER 8 st	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Ethylbenzene	LV OEL	AER 8 st	100 ppm, 442 mg/m <sup>3</sup>	Āda,
	LV OEL	AER īslaicīgā	200 ppm, 884 mg/m <sup>3</sup>	Āda,

Āda Āda

**LU**

Composants	Base	Valeur	Paramètres de contrôle	Note
Benzene	LU OEL	TWA	1 ppm, 3,25 mg/m <sup>3</sup>	Peau,
n-Pentane	LU OEL	TWA	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Toluene	LU OEL	TWA	50 ppm, 192 mg/m <sup>3</sup>	Peau,
	LU OEL	STEL	100 ppm, 384 mg/m <sup>3</sup>	Peau,
n-Hexane	LU OEL	TWA	20 ppm, 72 mg/m <sup>3</sup>	

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Cyclohexane	LU OEL	TWA	200 ppm, 700 mg/m3	
Isopentane	LU OEL	TWA	1.000 ppm, 3.000 mg/m3	
Ethylbenzene	LU OEL	TWA	100 ppm, 442 mg/m3	Peau,
	LU OEL	STEL	200 ppm, 884 mg/m3	Peau,

Peau Une pénétration cutanée s'ajoutant à l'inhalation réglementée est possible

**LT**

Komponentai	Šaltinis	Vertė	Kontrolės parametrai	Pastaba
Benzene	LT OEL	IPRD	1 ppm, 3,25 mg/m3	O,
	LT OEL	TPRD	6 ppm, 19 mg/m3	O,
n-Pentane	LT OEL	IPRD	1.000 ppm, 3.000 mg/m3	
Toluene	LT OEL	IPRD	50 ppm, 192 mg/m3	O,
	LT OEL	TPRD	100 ppm, 384 mg/m3	O,
n-Hexane	LT OEL	IPRD	20 ppm, 72 mg/m3	
Cyclohexane	LT OEL	IPRD	200 ppm, 700 mg/m3	
Methylcyclopentane	LT OEL	IPRD	200 ppm, 700 mg/m3	
	LT OEL	TPRD	300 ppm, 1.100 mg/m3	
Isopentane	LT OEL	IPRD	1.000 ppm, 3.000 mg/m3	
Ethylbenzene	LT OEL	IPRD	100 ppm, 442 mg/m3	O,
	LT OEL	TPRD	200 ppm, 884 mg/m3	O,
Methylcyclohexane	LT OEL	IPRD	50 mg/m3	

O pateikimas per nepažeistą odą

**IT**

Componenti	Base	Valore	Parametri di controllo	Nota
Benzene	IT VLEP	TWA	0,5 ppm,	
	IT VLEP	TPRD	2,5 ppm,	
n-Pentane	IT VLEP	TWA	667 ppm, 2.000 mg/m3	
Toluene	IT VLEP	TWA	50 ppm, 192 mg/m3	Cute,
n-Hexane	IT VLEP	TWA	20 ppm, 72 mg/m3	
Cyclohexane	IT VLEP	TWA	100 ppm, 350 mg/m3	
Isopentane	IT VLEP	TWA	667 ppm, 2.000 mg/m3	
Ethylbenzene	IT VLEP	TWA	100 ppm, 442 mg/m3	Cute,
	IT VLEP	STEL	200 ppm, 884 mg/m3	Cute,

Cute La notazione che riporta il termine 'cute' per un valore limite di esposizione professionale, indica la possibilità di un assorbimento significativo attraverso la cute.

**IS**

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Benzene	IS OEL	TWA	0,5 ppm, 1,6 mg/m3	H, K,
n-Pentane	IS OEL	TWA	500 ppm, 1.500 mg/m3	
Cyclopentane	IS OEL	TWA	300 ppm, 850 mg/m3	
Toluene	IS OEL	TWA	25 ppm, 94 mg/m3	H,
	IS OEL	STEL	50 ppm, 188 mg/m3	H,
n-Hexane	IS OEL	TWA	20 ppm, 72 mg/m3	
Cyclohexane	IS OEL	TWA	50 ppm, 175 mg/m3	
Methylcyclopentane	IS OEL	TWA	200 ppm, 700 mg/m3	
Isopentane	IS OEL	TWA	500 ppm, 1.500 mg/m3	
Ethylbenzene	IS OEL	TWA	50 ppm, 200 mg/m3	H,
	IS OEL	STEL	200 ppm, 884 mg/m3	H,
Methylcyclohexane	IS OEL	TWA	200 ppm, 805 mg/m3	

H Skin notation

K Carcinogenic substances

**IE**

Components	Basis	Value	Control parameters	Note
Benzene	IE OEL	OELV - 8 hrs (TWA)	1 ppm, 3,25 mg/m3	Sk, Carc 1A, Muta 1B,
n-Pentane	IE OEL	OELV - 8 hrs (TWA)	1.000 ppm,	
Cyclopentane	IE OEL	OELV - 8 hrs (TWA)	600 ppm, 1.720 mg/m3	
Toluene	IE OEL	OELV - 8 hrs (TWA)	50 ppm, 192 mg/m3	Sk,
	IE OEL	OELV - 15 min (STEL)	100 ppm, 384 mg/m3	Sk,
n-hexane	IE OEL	OELV - 8 hrs (TWA)	20 ppm, 72 mg/m3	Sk,
Cyclohexane	IE OEL	OELV - 8 hrs (TWA)	200 ppm, 700 mg/m3	
Methylcyclopentane	IE OEL	OELV - 8 hrs (TWA)	500 ppm, 1.800 mg/m3	
	IE OEL	OELV - 15 min (STEL)	1.000 ppm, 3.600 mg/m3	
Isopentane	IE OEL	OELV - 8 hrs (TWA)	1.000 ppm,	
Ethylbenzene	IE OEL	OELV - 8 hrs (TWA)	100 ppm, 442 mg/m3	Sk,
	IE OEL	OELV - 15 min (STEL)	200 ppm, 884 mg/m3	Sk,
Methylcyclohexane	IE OEL	OELV - 8 hrs (TWA)	400 ppm, 1.600 mg/m3	

Carc 1A Carc 1A - Substances known to have carcinogenic potential for humans

Muta 1B Muta 1B - Substances which should be regarded as if they induce heritable mutations in the germ cells of humans

Sk Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body

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## HU

Komponensek	Bázis	Érték	Ellenőrzési paraméterek	Megjegyzés
Benzene	HU OEL	AK-érték	3,25 mg/m <sup>3</sup>	T, EU6, k(1A), b, i,
n-Pentane	HU OEL	AK-érték	2.950 mg/m <sup>3</sup>	R, EU2,
Toluene	HU OEL	AK-érték	190 mg/m <sup>3</sup>	R+T, b, EU2, i,
	HU OEL	CK-érték	380 mg/m <sup>3</sup>	R+T, b, EU2, i,
n-Hexane	HU OEL	AK-érték	72 mg/m <sup>3</sup>	T, b, EU2, i,
Cyclohexane	HU OEL	AK-érték	700 mg/m <sup>3</sup>	N, EU2,
Isopentane	HU OEL	AK-érték	3.000 mg/m <sup>3</sup>	N, EU2,
Ethylbenzene	HU OEL	AK-érték	442 mg/m <sup>3</sup>	T, b, EU1, i,
	HU OEL	CK-érték	884 mg/m <sup>3</sup>	T, b, EU1, i,

b Bőrön át is felszívódik. Az AK-értékek a veszélyes anyagoknak ezt a tulajdonságát, illetve az ebből származó expozíciót csak a levegőben megengedett koncentrációjuk mértékének megfelelően veszik figyelembe

EU1 2000/39/EK irányelvben közölt érték

EU2 2006/15/EK irányelvben közölt érték

EU6 2019/130 EU irányelvben közölt érték

i Ingerlő anyag (Izgatja a bőrt, nyálkahártyát, szemet vagy mindhámat)

k(1A) rákkeltő 1A

N Irritáló anyagok, egyszerű főttógázok, csekély egészségkárosító hatással bíró anyagok. Korrekció NEM szükséges.

R Azok az anyagok, amelyek egészségkárosító hatása RÖVID expozíció hatására jelentkezik. Korrigált AK = AK x 8/a napi óraszám

R+T Azok az anyagok, amelyek RÖVID és TARTÓS expozíciója is egészségkárosodást okoz. Korrigált AK = AK x 8/a napi óraszám; Korrigált AK = AK x 40/a heti óraszám. A két faktor közül a szigorúbb (kisebb) értéket kell alkalmazni

T Azok az anyagok, amelyek egészségkárosító hatása TARTÓS expozíciót követően jelentkezik. Korrigált AK = AK x 40/a heti óraszám

## HR

Sastojci	Temelj	Vrijednost	Nadzorni parametri	Bilješka
	HR OEL	GVI	300 ppm,	Karc 1B, Muta 1B,
	HR OEL	GVI	100 ppm, 400 mg/m <sup>3</sup>	
	HR OEL	KGVI	500 ppm,	Karc 1B, Muta 1B,
Benzene	HR OEL	GVI	1 ppm, 3,25 mg/m <sup>3</sup>	koža, Karc 1A, Muta 1B,
n-Pentane	HR OEL	GVI	600 ppm, 1.800 mg/m <sup>3</sup>	
	HR OEL	GVI	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Toluene	HR OEL	GVI	50 ppm, 192 mg/m <sup>3</sup>	koža,
	HR OEL	KGVI	100 ppm, 384 mg/m <sup>3</sup>	koža,
n-Hexane	HR OEL	GVI	20 ppm, 72 mg/m <sup>3</sup>	koža,
Cyclohexane	HR OEL	GVI	200 ppm, 700 mg/m <sup>3</sup>	koža,
Isopentane	HR OEL	GVI	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Ethylbenzene	HR OEL	GVI	100 ppm, 442 mg/m <sup>3</sup>	koža,
	HR OEL	KGVI	200 ppm, 884 mg/m <sup>3</sup>	koža,
Methylcyclohexane	HR OEL	GVI	400 ppm, 1.600 mg/m <sup>3</sup>	

Karc 1A Tvar koja je prema Uredbi (EZ) br. 1272/2008 razvrstana kao karcinogena 1.A kategorije

Karc 1B Tvar koja je prema Uredbi (EZ) br. 1272/2008 razvrstana kao karcinogena 1.B kategorije

koža Razvrstana kao tvar koja nadražuje kožu (H315) ili je takva napomena navedena u direktivama

Muta 1B Tvar koja je prema Uredbi (EZ) br. 1272/2008 razvrstana kao mutagena 1.B kategorije

## GR

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Benzene	GR OEL	TWA	1 ppm, 3,25 mg/m <sup>3</sup>	Δ,
n-Pentane	GR OEL	TWA	1.000 ppm, 2.950 mg/m <sup>3</sup>	
	GR OEL	STEL	1.000 ppm, 2.950 mg/m <sup>3</sup>	
Cyclopentane	GR OEL	TWA	600 ppm, 1.720 mg/m <sup>3</sup>	
Toluene	GR OEL	TWA	50 ppm, 192 mg/m <sup>3</sup>	Δ,
	GR OEL	STEL	100 ppm, 384 mg/m <sup>3</sup>	Δ,
n-Hexane	GR OEL	TWA	20 ppm, 72 mg/m <sup>3</sup>	
Cyclohexane	GR OEL	TWA	200 ppm, 700 mg/m <sup>3</sup>	
Methylcyclopentane	GR OEL	TWA	500 ppm, 1.800 mg/m <sup>3</sup>	
	GR OEL	STEL	1.000 ppm, 3.600 mg/m <sup>3</sup>	
Isopentane	GR OEL	TWA	1.000 ppm, 2.950 mg/m <sup>3</sup>	
Ethylbenzene	GR OEL	TWA	100 ppm, 435 mg/m <sup>3</sup>	
	GR OEL	STEL	125 ppm, 545 mg/m <sup>3</sup>	
Methylcyclohexane	GR OEL	TWA	500 ppm, 2.000 mg/m <sup>3</sup>	
	GR OEL	STEL	500 ppm, 2.000 mg/m <sup>3</sup>	

Δ Η ένδειξη 'δέρμα' (Δ), η οποία επισημαίνει ορισμένους χημικούς παράγοντες του πίνακα της παρ. 1 του άρθρου 3, υπονοεί την πιθανή συμβολή στην συνολική έκθεση του εργαζόμενου και της ποσότητας αυτών των χημικών παραγόντων που απορροφάται διαμέσου του δέρματος κατά την άμεση επαφή μαζί τους.

## GB

Components	Basis	Value	Control parameters	Note
Benzene	GB EH40	TWA	1 ppm, 3,25 mg/m <sup>3</sup>	Sk, Carc,
n-Pentane	GB EH40	TWA	600 ppm, 1.800 mg/m <sup>3</sup>	
Toluene	GB EH40	TWA	50 ppm, 191 mg/m <sup>3</sup>	Sk,
	GB EH40	STEL	100 ppm, 384 mg/m <sup>3</sup>	Sk,
n-hexane	GB EH40	TWA	20 ppm, 72 mg/m <sup>3</sup>	
Cyclohexane	GB EH40	TWA	100 ppm, 350 mg/m <sup>3</sup>	

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	GB EH40	STEL	300 ppm, 1.050 mg/m3	
Isopentane	GB EH40	TWA	600 ppm, 1.800 mg/m3	
Ethylbenzene	GB EH40	TWA	100 ppm, 441 mg/m3	Sk,
	GB EH40	STEL	125 ppm, 552 mg/m3	Sk,

Carc Capable of causing cancer and/or heritable genetic damage.

Sk Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

**FR**

Composants	Base	Valeur	Paramètres de contrôle	Note
Benzene	FR VLE	VME	1 ppm, 3,25 mg/m3	C1A, M1B, Peau, VLR contraignantes,
n-Pentane	FR VLE	VME	1.000 ppm, 3.000 mg/m3	VLR contraignantes,
Cyclopentane	FR VLE	VME	600 ppm, 1.720 mg/m3	Valeurs limites indicatives,
Toluene	FR VLE	VME	20 ppm, 76,8 mg/m3	R2, Peau, VLR contraignantes,
	FR VLE	VLCT (VLE)	100 ppm, 384 mg/m3	R2, Peau, VLR contraignantes,
n-Hexane	FR VLE	VME	20 ppm, 72 mg/m3	R2, VLR contraignantes,
Cyclohexane	FR VLE	VME	200 ppm, 700 mg/m3	VLR contraignantes,
	FR VLE	VLCT (VLE)	375 ppm, 1.300 mg/m3	Valeurs limites indicatives,
Methylcyclopentane	FR VLE	VME	500 ppm, 1.800 mg/m3	Valeurs limites indicatives,
Isopentane	FR VLE	VME	1.000 ppm, 3.000 mg/m3	VLR indicatives,
Ethylbenzene	FR VLE	VME	20 ppm, 88,4 mg/m3	Peau, VLR contraignantes,
	FR VLE	VLCT (VLE)	100 ppm, 442 mg/m3	Peau, VLR contraignantes,
Methylcyclohexane	FR VLE	VME	400 ppm, 1.600 mg/m3	Valeurs limites indicatives,

C1A Cancérogène de catégorie 1A - Substances que l'on sait être cancérogènes chez l'homme

M1B Mutagène de catégorie 1B - Substances devant être assimilées à des substances pour l'homme

Peau Risque de pénétration percutanée

R2 Toxique pour la reproduction de catégorie 2 - Substances préoccupantes en raison d'effets toxiques pour la reproduction possibles

Valeurs limites indicatives Valeurs limites indicatives

VLR Valeurs limites réglementaires contraignantes

VLR contraignantes Valeurs limites réglementaires indicatives

**FI**

Aineosat	Peruste	Arvo	Valvontaa koskevat muuttujat	Huomautus
Benzene	FI OEL CM	TWA	1 ppm, 3,25 mg/m3	
n-Pentane	FI OEL	HTP-arvot 15 min	630 ppm, 1.900 mg/m3	
	FI OEL	HTP-arvot 8h	500 ppm, 1.500 mg/m3	
Toluene	FI OEL	HTP-arvot 8h	25 ppm, 81 mg/m3	melu, iho,
	FI OEL	HTP-arvot 15 min	100 ppm, 380 mg/m3	melu, iho,
n-Hexane	FI OEL	HTP-arvot 8h	20 ppm, 72 mg/m3	iho,
Cyclohexane	FI OEL	HTP-arvot 8h	100 ppm, 350 mg/m3	
	FI OEL	HTP-arvot 15 min	250 ppm, 875 mg/m3	
Methylcyclopentane	FI OEL	HTP-arvot 8h	500 ppm, 1.800 mg/m3	
	FI OEL	HTP-arvot 15 min	630 ppm, 2.300 mg/m3	
Isopentane	FI OEL	HTP-arvot 15 min	630 ppm, 1.900 mg/m3	
	FI OEL	HTP-arvot 8h	500 ppm, 1.500 mg/m3	
Ethylbenzene	FI OEL	HTP-arvot 8h	50 ppm, 220 mg/m3	iho,
	FI OEL	HTP-arvot 15 min	200 ppm, 880 mg/m3	iho,
Methylcyclohexane	FI OEL	HTP-arvot 8h	400 ppm, 1.600 mg/m3	
	FI OEL	HTP-arvot 15 min	500 ppm, 2.000 mg/m3	

iho Ihon läpi imeytyvien aineiden elimistöön joutuvia määriä ja elimistöön joutuneesta aineesta aiheutuvaa vaaraa ei voida näin ollen arvioida pelkästään ilmapitoisuuksien avulla. Tämän vuoksi näiden aineiden HTP-arvojen yhteyteen on huomautussarakkeeseen otettu ihon läpi imeytymisen osoittamiseksi merkintä 'iho'. Monet aineet, varsinkin voimakkaat hapot tai emäkset, voivat aiheuttaa iholle jouduttuaan ihon ärsyntyä tai syöpymistä.

melu Melu: aineille, joiden tiedetään voimistavan melun haitallisia kuuloaikutuksia.

**ES**

Componentes	Base	Valor	Parámetros de control	Nota
Benzene	ES VLA	VLA-ED	1 ppm, 3,25 mg/m3	M1B, vía dérmica, C1A,
n-Pentane	ES VLA	VLA-ED	1.000 ppm, 3.000 mg/m3	
Cyclopentane	ES VLA	VLA-ED	600 ppm, 1.745 mg/m3	
Toluene	ES VLA	VLA-ED	50 ppm, 192 mg/m3	vía dérmica,
	ES VLA	VLA-EC	100 ppm, 384 mg/m3	vía dérmica,
n-Hexane	ES VLA	VLA-ED	20 ppm, 72 mg/m3	
Cyclohexane	ES VLA	VLA-ED	200 ppm, 700 mg/m3	
Methylcyclopentane	ES VLA	VLA-ED	500 ppm, 1.790 mg/m3	

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	ES VLA	VLA-EC	1.000 ppm, 3.580 mg/m3	
Isopentane	ES VLA	VLA-ED	1.000 ppm, 3.000 mg/m3	
Ethylbenzene	ES VLA	VLA-ED	100 ppm, 441 mg/m3	via dérmica,
	ES VLA	VLA-EC	200 ppm, 884 mg/m3	via dérmica,
Methylcyclohexane	ES VLA	VLA-ED	400 ppm, 1.630 mg/m3	

C1A Carcinógenos para el hombre, en base a la existencia de pruebas en humanos.

M1B Sustancias de las que se considera que inducen mutaciones hereditarias en las células germinales humanas  
via dérmica Via dérmica**EE**

Komponendid, osad	Alused	Väärtus	Kontrolliparameetrid	Märkused
Benzene	EE OEL	Piirnorm	0,5 ppm, 1,5 mg/m3	A, C,
	EE OEL	Lühiajalise kokkupuute piirnorm	3 ppm, 9 mg/m3	A, C,
n-Pentane	EE OEL	Piirnorm	1.000 ppm, 3.000 mg/m3	
Toluene	EE OEL	Piirnorm	50 ppm, 192 mg/m3	A,
	EE OEL	Lühiajalise kokkupuute piirnorm	100 ppm, 384 mg/m3	A,
n-Hexane	EE OEL	Piirnorm	20 ppm, 72 mg/m3	
Cyclohexane	EE OEL	Piirnorm	200 ppm, 700 mg/m3	
Methylcyclopentane	EE OEL	Piirnorm	200 ppm, 700 mg/m3	
	EE OEL	Lühiajalise kokkupuute piirnorm	300 ppm, 1.100 mg/m3	
Isopentane	EE OEL	Piirnorm	1.000 ppm, 3.000 mg/m3	
Ethylbenzene	EE OEL	Piirnorm	100 ppm, 442 mg/m3	A, S,
	EE OEL	Lühiajalise kokkupuute piirnorm	200 ppm, 884 mg/m3	A, S,
Methylcyclohexane	EE OEL	Piirnorm	400 ppm, 1.600 mg/m3	

A Naha kaudu kergesti absorbeeruvad ained

C Kantserogeensed ained

S Sensibiliseerivad ained

**DK**

Komponenter	Basis	Værdi	Kontrolparametre	Note
Benzene	DK OEL	GV	0,5 ppm, 1,6 mg/m3	H, K,
n-Pentane	DK OEL	GV	500 ppm, 1.500 mg/m3	
Cyclopentane	DK OEL	GV	300 ppm, 850 mg/m3	
Toluene	DK OEL	GV	25 ppm, 94 mg/m3	H,
n-Hexane	DK OEL	GV	20 ppm, 72 mg/m3	
Cyclohexane	DK OEL	GV	50 ppm, 172 mg/m3	
Methylcyclopentane	DK OEL	GV	200 ppm, 700 mg/m3	
Isopentane	DK OEL	GV	500 ppm, 1.500 mg/m3	
Ethylbenzene	DK OEL	GV	50 ppm, 217 mg/m3	H, K,
Methylcyclohexane	DK OEL	GV	200 ppm, 805 mg/m3	

H Betyder, at stoffet kan optages gennem huden.

K Betyder, at stoffet er optaget på listen over stoffer, der anses for at være kræftfremkaldende.

**DE**

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Benzene	DE TRGS 910	Akzeptanzkonzentration	0,06 ppm, 0,2 mg/m3	H,
	DE TRGS 910	Toleranzkonzentration	0,6 ppm, 1,9 mg/m3	H,
n-Pentane	DE TRGS 900	AGW	1.000 ppm, 3.000 mg/m3	Y,
Toluene	DE TRGS 900	AGW	50 ppm, 190 mg/m3	H, Y,
n-Hexane	DE TRGS 900	AGW	50 ppm, 180 mg/m3	Y,
Cyclohexane	DE TRGS 900	AGW	200 ppm, 700 mg/m3	
Methylcyclopentane	DE TRGS 900	AGW	500 ppm, 1.800 mg/m3	
Isopentane	DE TRGS 900	AGW	1.000 ppm, 3.000 mg/m3	
Ethylbenzene	DE TRGS 900	AGW	20 ppm, 88 mg/m3	H, Y,
	DE TRGS 900	AGW	200 mg/m3	Gruppen-AGW, AGS,
Methylcyclohexane	DE TRGS 900	AGW	200 ppm, 810 mg/m3	

AGS Ausschuss für Gefahrstoffe

Gruppen-AGW Gruppengrenzwert für Kohlenwasserstoff-Lösemittelgemische

H Hautresorptiv

Y Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden

**CZ**

Složky	Základ	Hodnota	Kontrolní parametry	Poznámka
Benzene	CZ OEL	PEL	3 mg/m3	I, K, M, D,
	CZ OEL	NPK-P	10 mg/m3	I, K, M, D,
n-Pentane	CZ OEL	PEL	3.000 mg/m3	
	CZ OEL	NPK-P	4.500 mg/m3	
Toluene	CZ OEL	PEL	192 mg/m3	I, D,
	CZ OEL	NPK-P	384 mg/m3	I, D,

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n-Hexane	CZ OEL	PEL	70 mg/m3	I, D,
	CZ OEL	NPK-P	200 mg/m3	I, D,
Cyclohexane	CZ OEL	PEL	700 mg/m3	I,
	CZ OEL	NPK-P	2.000 mg/m3	I,
Methylcyclopentane	CZ OEL	PEL	1.000 mg/m3	D,
	CZ OEL	NPK-P	2.000 mg/m3	D,
Isopentane	CZ OEL	PEL	3.000 mg/m3	
	CZ OEL	NPK-P	4.500 mg/m3	
Ethylbenzene	CZ OEL	PEL	200 mg/m3	D,
	CZ OEL	NPK-P	500 mg/m3	D,
Methylcyclohexane	CZ OEL	PEL	1.500 mg/m3	I,
	CZ OEL	NPK-P	2.000 mg/m3	I,

D Při expozici se významně uplatňuje pronikání faktoru kůži  
I dráždí sliznice (oči, dýchací cesty), respektive kůži  
K karcinogen kategorie 1A a 1B (s větou H350, H350i)  
M mutagen v zárodečných buňkách kategorie 1A a 1B (s větou H340)

**CY**

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
n-Pentane	CY OEL	TWA	1.000 ppm, 3.000 mg/m3	
Toluene	CY OEL	TWA	50 ppm, 192 mg/m3	
	CY OEL	STEL	100 ppm, 384 mg/m3	
n-Hexane	CY OEL	TWA	20 ppm, 72 mg/m3	
Cyclohexane	CY OEL	TWA	200 ppm, 700 mg/m3	
Isopentane	CY OEL	TWA	1.000 ppm, 3.000 mg/m3	
Ethylbenzene	CY OEL	TWA	100 ppm, 442 mg/m3	
	CY OEL	STEL	200 ppm, 884 mg/m3	

**CH**

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Benzene	CH SUVA	MAK-Wert	0,5 ppm, 1,6 mg/m3	H, Carc.Cat.1, M1B, NIOSH, DFG, HSE, BG,
n-Pentane	CH SUVA	MAK-Wert	600 ppm, 1.800 mg/m3	NIOSH, SSc,
	CH SUVA	KZGW	1.200 ppm, 3.600 mg/m3	NIOSH, SSc,
Cyclopentane	CH SUVA	MAK-Wert	600 ppm, 1.720 mg/m3	
Toluene	CH SUVA	MAK-Wert	50 ppm, 190 mg/m3	OL, H, R2D, R2F, NIOSH, DFG, INRS, HSE, SSc,
	CH SUVA	KZGW	200 ppm, 760 mg/m3	OL, H, R2D, R2F, NIOSH, DFG, INRS, HSE, SSc,
n-Hexane	CH SUVA	MAK-Wert	50 ppm, 180 mg/m3	H, R2F, NIOSH, SSc,
	CH SUVA	KZGW	400 ppm, 1.440 mg/m3	H, R2F, NIOSH, SSc,
Cyclohexane	CH SUVA	MAK-Wert	200 ppm, 700 mg/m3	NIOSH,
	CH SUVA	KZGW	800 ppm, 2.800 mg/m3	NIOSH,
Methylcyclopentane	CH SUVA	MAK-Wert	500 ppm, 1.800 mg/m3	NIOSH,
	CH SUVA	KZGW	1.000 ppm, 3.600 mg/m3	NIOSH,
Isopentane	CH SUVA	MAK-Wert	600 ppm, 1.800 mg/m3	NIOSH, SSc,
	CH SUVA	KZGW	1.200 ppm, 3.600 mg/m3	NIOSH, SSc,
Ethylbenzene	CH SUVA	MAK-Wert	50 ppm, 220 mg/m3	OL, H, NIOSH,
	CH SUVA	KZGW	50 ppm, 220 mg/m3	OL, H, NIOSH,
Methylcyclohexane	CH SUVA	MAK-Wert	400 ppm, 1.600 mg/m3	NIOSH, INRS,
	CH SUVA	KZGW	800 ppm, 3.200 mg/m3	NIOSH, INRS,

BG BG  
Carc.Cat.1 Krebserzeugende Stoffe Kategorie 1  
DFG Deutsche Forschungsgemeinschaft  
H Vergiftung durch Hautresorption möglich; Bei Stoffen, welche die Haut leicht zu durchdringen vermögen, kann durch die zusätzliche Hautresorption die innere Belastung wesentlich höher werden als bei alleiniger Aufnahme durch die Atemwege.  
HSE Health and Safety Executive (Occupational Medicine and Hygiene Laboratory)  
INRS Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles  
M1B Stoffe, die wahrscheinlich vererbare Mutationen an menschlichen Keimzellen auslösen.  
NIOSH National Institute for Occupational Safety and Health  
OL lärmverstärkende Ototoxizität  
R2D Stoffe, die möglicherweise beim Menschen reproduktionstoxisch sind; die Beeinträchtigung bezieht sich auf die Entwicklung.  
R2F Stoffe, die möglicherweise beim Menschen reproduktionstoxisch sind; die Beeinträchtigung bezieht sich auf die Fruchtbarkeit oder Sexualität.  
SSc Eine Schädigung der Leibesfrucht braucht bei Einhaltung des MAK-Wertes nicht befürchtet zu werden.

**BG**

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Benzene	BG OEL	TWA	1 ppm, 3,25 mg/m3	
n-Pentane	BG OEL	TWA	1.000 ppm, 3.000 mg/m3	
Toluene	BG OEL	TWA	50 ppm, 192 mg/m3	
	BG OEL	STEL	100 ppm, 384 mg/m3	
n-Hexane	BG OEL	TWA	20 ppm, 72 mg/m3	



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Cyclohexane	BG OEL	TWA	200 ppm, 700 mg/m <sup>3</sup>	
Isopentane	BG OEL	TWA	1.000 ppm, 3.000 mg/m <sup>3</sup>	
Ethylbenzene	BG OEL	TWA	435 mg/m <sup>3</sup>	
	BG OEL	STEL	545 mg/m <sup>3</sup>	
Methylcyclohexane	BG OEL	TWA	500 mg/m <sup>3</sup>	

**BE**

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Benzene	BE OEL	TGG 8 hr	1 ppm, 3,25 mg/m <sup>3</sup>	D, C,
n-Pentane	BE OEL	TGG 8 hr	600 ppm, 1.800 mg/m <sup>3</sup>	
	BE OEL	TGG 15 min	750 ppm, 2.250 mg/m <sup>3</sup>	
Cyclopentane	BE OEL	TGG 8 hr	600 ppm, 1.800 mg/m <sup>3</sup>	
Toluene	BE OEL	TGG 8 hr	20 ppm, 77 mg/m <sup>3</sup>	D,
	BE OEL	TGG 15 min	100 ppm, 384 mg/m <sup>3</sup>	D,
n-Hexane	BE OEL	TGG 8 hr	20 ppm, 72 mg/m <sup>3</sup>	
Cyclohexane	BE OEL	TGG 8 hr	100 ppm, 350 mg/m <sup>3</sup>	
Methylcyclopentane	BE OEL	TGG 8 hr	500 ppm, 1.786 mg/m <sup>3</sup>	
	BE OEL	TGG 15 min	1.000 ppm, 3.551 mg/m <sup>3</sup>	
Isopentane	BE OEL	TGG 8 hr	600 ppm, 1.800 mg/m <sup>3</sup>	
	BE OEL	TGG 15 min	750 ppm, 2.250 mg/m <sup>3</sup>	
Ethylbenzene	BE OEL	TGG 8 hr	20 ppm, 87 mg/m <sup>3</sup>	D,
	BE OEL	TGG 15 min	125 ppm, 551 mg/m <sup>3</sup>	D,
Methylcyclohexane	BE OEL	TGG 8 hr	400 ppm, 1.633 mg/m <sup>3</sup>	

C De betrokken stof valt onder het toepassingsgebied van het koninklijk besluit van 2 december 1993 betreffende de bescherming van de werknemers tegen de risico's van blootstelling aan kankerverwekkende en mutagene agentia op het werk.

D Opname van het agens via de huid, de slijmvliezen of de ogen vormt een belangrijk deel van de totale blootstelling. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.

**AT**

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Benzene	AT OEL	TRK-TMW	1 ppm, 3,2 mg/m <sup>3</sup>	H,
	AT OEL	TRK-KZW	4 ppm, 12,8 mg/m <sup>3</sup>	H,
n-Pentane	AT OEL	MAK-TMW	600 ppm, 1.800 mg/m <sup>3</sup>	
	AT OEL	MAK-KZW	1.200 ppm, 3.600 mg/m <sup>3</sup>	
Toluene	AT OEL	MAK-TMW	50 ppm, 190 mg/m <sup>3</sup>	H,
	AT OEL	MAK-KZW	100 ppm, 380 mg/m <sup>3</sup>	H,
n-Hexane	AT OEL	MAK-TMW	20 ppm, 72 mg/m <sup>3</sup>	
	AT OEL	MAK-KZW	80 ppm, 288 mg/m <sup>3</sup>	
Cyclohexane	AT OEL	MAK-TMW	200 ppm, 700 mg/m <sup>3</sup>	
	AT OEL	MAK-KZW	800 ppm, 2.800 mg/m <sup>3</sup>	
Methylcyclopentane	AT OEL	TRK-TMW	200 ppm, 715 mg/m <sup>3</sup>	
	AT OEL	TRK-KZW	800 ppm, 2.860 mg/m <sup>3</sup>	
Isopentane	AT OEL	MAK-TMW	600 ppm, 1.800 mg/m <sup>3</sup>	
	AT OEL	MAK-KZW	1.200 ppm, 3.600 mg/m <sup>3</sup>	
Ethylbenzene	AT OEL	MAK-TMW	100 ppm, 440 mg/m <sup>3</sup>	H,
	AT OEL	MAK-KZW	200 ppm, 880 mg/m <sup>3</sup>	H,
Methylcyclohexane	AT OEL	MAK-KZW	1.600 ppm, 6.400 mg/m <sup>3</sup>	
	AT OEL	MAK-TMW	400 ppm, 1.600 mg/m <sup>3</sup>	

H Besondere Gefahr der Hautresorption

**Biological exposure indices****SK**

Názov látky	Č. CAS	Kontrolné parametre	Doba odberu vzorky	Aktualizácia
Toluene	108-88-3	toluén: 600 µg/l (Krv)	Koniec vystavenia alebo pracovnej zmeny	2016-01-18
		toluén: 6.517 µmol.l-1 (Krv)	Koniec vystavenia alebo pracovnej zmeny	2016-01-18
		kyselina hippurová: 2.401 mg/l (moč)	Koniec vystavenia alebo pracovnej zmeny	2016-01-18
		kyselina hippurová: 13399 µmol.l-1 (moč)	Koniec vystavenia alebo pracovnej zmeny	2016-01-18
		kyselina hippurová: 1600 mg/g kreatinínu (moč)	Koniec vystavenia alebo pracovnej zmeny	2016-01-18

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		kyselina hippurová: 1010 μmol/mmol kreatinínu (moč)	Koniec vystavenia alebo pracovnej zmeny	2016-01-18
		o-krezol: 14.3 μmol.l-1 (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		o-krezol: 1.03 mg/g kreatinínu (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		o-krezol: 1.08 μmol/mmol kreatinínu (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		o-krezol: 1,5 mg/l (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
n-Hexane	110-54-3	2,5-hexándión a 4,5-dihydroxy-2- hexanón: 5 mg/l (moč)	Koniec vystavenia alebo pracovnej zmeny	2011-11-23
		2,5-hexándión a 4,5-dihydroxy-2- hexanón: 20 μmol.l-1 (moč)	Koniec vystavenia alebo pracovnej zmeny	2011-11-23
		2,5-hexándión a 4,5-dihydroxy-2- hexanón: 3 mg/g kreatinínu (moč)	Koniec vystavenia alebo pracovnej zmeny	2011-11-23
		2,5-hexándión a 4,5-dihydroxy-2- hexanón: 1.4 μmol/mmol kreatinínu (moč)	Koniec vystavenia alebo pracovnej zmeny	2011-11-23
Ethylbenzene	100-41-4	2- a 4-etylfenol: 12 mg/l (Krv)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		kyselina mandľová a kyselina fenyglyoxylová: 1.600 mg/l (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		2- a 4-etylfenol: 98.6 μmol.l-1 (Krv)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18

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		kyselina mandl'ová a kyselina fenylglyoxylová: 10590 µmol.l-1 (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		kyselina mandl'ová a kyselina fenylglyoxylová: 1067 mg/g kreatinínu (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		kyselina mandl'ová a kyselina fenylglyoxylová: 799 µmol/mmol kreatinínu (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		2- a 4-etylfenol: 8.03 mg/g kreatinínu (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		2- a 4-etylfenol: 7.44 µmol/mmol kreatinínu (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18

**SI**

Ime snovi	Št. CAS	Parametri nadzora	Čas vzorčenia	Sprememba
Benzene	71-43-2	fenol: 18 mmol/mol kreatinina Rezultati, ki so izraženi s kreatininom, se pri koncentraciji kreatinina < 0.5 g/l in > 3.0 g/l, ne upoštevajo. (Urin)	Ob koncu delovne izmene	2001-12-11
		benzen: 4.99 mmol/l (Zadnji izdihani zrak)	16 Ur po končanem delu	2001-12-11
		fenol: 15 mg/g kreatinina Rezultati, ki so izraženi s kreatininom, se pri koncentraciji kreatinina < 0.5 g/l in > 3.0 g/l, ne upoštevajo. (Urin)	Ob koncu delovne izmene	2001-12-11
		benzen: 0.12 Delov na milijon (Zadnji izdihani zrak)	16 Ur po končanem delu	2001-12-11
Toluene	108-88-3	toluen: 600 µmol/l (Kri)	Ob koncu delovne izmene	2018-12-04
		o-krezol: 1,5 mg/l po hidrolizi (Urin)	pri dolgotrajni izpostavljenosti: ob koncu delovne izmene po več zaporednih delavnikihOb koncu delovne izmene	2018-12-04
n-Hexane	110-54-3	2,5-heksandion in 4,5-dihidroksi-2-heksanon: 5 mg/l po hidrolizi (Urin)	Ob koncu delovne izmene	2018-12-04

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Cyclohexane	110-82-7	1,2-cicloheksandiol: 150 mg/g kreatinina po hidrolizi (Urin)	pri dolgotrajni izpostavljenosti: ob koncu delovne izmene po več zaporednih delavnikih Ob koncu delovne izmene	2018-12-04
Ethylbenzene	100-41-4	mandljeva kislina in fenilgliksilna kislina: 250 mg/g kreatinina (Urin)	Ob koncu delovne izmene	2018-12-04

**RO**

Numele substanței	Nr. CAS	Parametri de control	Timpe de prelevare a probei	Adus la zi
Benzene	71-43-2	fenoli totali: 50 mg/l (Urină)	Sfârșit schimb	2018-08-17
		acid S-fenil-mercapturic: 25 µg/g creatinină (Urină)	Sfârșit schimb	2018-08-17
		Acid t,t muconic: 500 µg/g creatinină (Urină)	Sfârșit schimb	2018-08-17
Toluene	108-88-3	o-cresol: 3 mg/l (Urină)	Sfârșit schimb	2018-08-17
		acid hipuric: 2 g/l (Urină)	Sfârșit schimb	2018-08-17
n-Hexane	110-54-3	2,5 hexandionă: 5 mg/g creatinină (Urină)	Sfârșit schimb	2002-11-25
Ethylbenzene	100-41-4	acid mandelic: 1.5 g/g creatinină (Urină)	Sfârșit săptămână	2002-11-25

**PT**

Nome da substância	No. CAS	Parâmetros de controlo	Tempo de amostra	Atualizada em
Benzene	71-43-2	Ácido s-fenilmercaptúrico: 25 µg/g creatinina Valor basal (Urina) Abrangido por legislação nacional específica ( )	Fim do turno	2014-11-14
		Ácido t,t-mucônico: 500 µg/g creatinina Valor basal (Urina) Abrangido por legislação nacional específica ( )	Fim do turno	2014-11-14
Toluene	108-88-3	Tolueno: 0,02 mg/l (Sangue)	Antes do último turno da semana de trabalho	2014-11-14
		Tolueno: 0,03 mg/l (Urina)	Fim do turno	2014-11-14
		o-Cresol: 0.3 mg/g creatinina Com hidrólise (Urina) Valor basal ( )	Fim do turno	2014-11-14
n-Hexane	110-54-3	2,5-Hexanodiona: 0,4 mg/l Sem hidrólise (Urina)	No final do turno e no final da semana de trabalho	2014-11-14
Ethylbenzene	100-41-4	Soma do ácido mandélico e ácido fenilgloxílico: 0.7 g/g creatinina Não específico (Urina)	Fim do turno	2014-11-14

**LV**

Vielas nosaukums	CAS Nr.	Pārvaldības parametri	Parauga ņemšanas laiks	Precizējums
Benzene	71-43-2	fenilmerkaptūrskābi: 25 µg/g kreatinīna (Urīns)	maiņas beigās nosaka	2007-05-18
Toluene	108-88-3	toluolu: 0,05 mg/l (Asinis)	maiņas beigās nosaka	2007-05-18
		hipurskābi: 1.6 g/g kreatinīns (Urīns)	maiņas beigās nosaka	2007-05-18

**IT**

Denominazione della sostanza	N. CAS	Parametri di controllo	Tempo di campionamento	Aggiornamento
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**HU**

Az anyag megnevezése	CAS szám	Ellenőrzési paraméterek	Mintavétel időpontja	Aktualizálás
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Benzene	71-43-2	S-fenil-merkaptursav: 0.04 mg/g kreatinin (húgyhólyag)	A műszak végén	2020-02-06
		S-fenil-merkaptursav: 0.22 µmol/mmol kreatinin (kerekített értékek) (húgyhólyag)	A műszak végén	2020-02-06
Toluene	108-88-3	o-krezol: 1 mg/g kreatinin (húgyhólyag)	A műszak végén	2020-02-06
		o-krezol: 1 µmol/mmol kreatinin (kerekített értékek) (húgyhólyag)	A műszak végén	2020-02-06
n-Hexane	110-54-3	2,5-hexán-dion: 2 mg/l Hidrolízis után (húgyhólyag)	A műszak végén	2020-02-06
		2,5-hexán-dion: 18 µmol/l Hidrolízis után (húgyhólyag)	A műszak végén	2020-02-06
Ethylbenzene	100-41-4	mandulasav: 1500 mg/g kreatinin (húgyhólyag)	Munkahét végén A műszak végén	2020-02-06
		mandulasav: 1110 µmol/mmol kreatinin (kerekített értékek) (húgyhólyag)	Munkahét végén A műszak végén	2020-02-06

**HR**

Naziv tvari	CAS-br.	Nadzorni parametri	Vrijeme uzorkovanja	Ažurirati
Benzene	71-43-2	Benzen: 28 µg/l (Krv)	na kraju radne smjene	2018-10-12
		Benzen: 0.36 µmol/l (Krv)	na kraju radne smjene	2018-10-12
		S-fenilmerkaptorna kiselina: 46 µg/g kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	na kraju radne smjene	2018-10-12
		S-fenilmerkaptorna kiselina: 21.7 µmol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	na kraju radne smjene	2018-10-12
Toluene	108-88-3	toluen: 10.85 µmol/l (Krv)	na kraju radne smjene	2018-10-12
		toluen: 1 mg/l (Krv)	na kraju radne smjene	2018-10-12
		toluen: 0.83 µmol/l (krajnje izdahnuti zrak)	za vrijeme izloženosti	2018-10-12
		toluen: 20 dijelova na milijun (krajnje izdahnuti zrak)	za vrijeme izloženosti	2018-10-12
		hipurna kiselina: 1.58 mol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin) hrana bogata voćem i povrćem te konzervirana Na-benzoatom povišuje nalaz ( )	na kraju radne smjene	2018-10-12
		hipurna kiselina: 2.5 g/g kreatinin Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin) hrana bogata voćem i povrćem te konzervirana Na-benzoatom povišuje nalaz ( )	na kraju radne smjene	2018-10-12

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		o-krezol: 1.05 mmol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	na kraju radne smjene	2018-10-12
		o-krezol: 1 mg/g kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	na kraju radne smjene	2018-10-12
n-Hexane	110-54-3	n-heksan: 1.74 µmol/l (Krv)	za vrijeme izloženosti	2018-10-12
		n-heksan: 150 µg/l (Krv)	za vrijeme izloženosti	2018-10-12
		n-heksan: 1.66 µmol/l (krajnje izdahnuti zrak)	za vrijeme izloženosti	2018-10-12
		n-heksan: 40 dijelova na milijun (krajnje izdahnuti zrak)	za vrijeme izloženosti	2018-10-12
		2-heksanol: 0.22 mmol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin) interferencija istodobne izloženosti metil etil-ketonu ()	na kraju radne smjene	2018-10-12
		2-heksanol: 0.2 mg/g kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin) interferencija istodobne izloženosti metil etil-ketonu ()	na kraju radne smjene	2018-10-12
		2,5-heksandion: 5.25 mmol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin) interferencija istodobne izloženosti metil etil-ketonu ()	na kraju radne smjene	2018-10-12
		2,5-heksandion: 5.3 mg/g kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin) interferencija istodobne izloženosti metil etil-ketonu ()	na kraju radne smjene	2018-10-12
Cyclohexane	110-82-7	1,2-cikloheksandiol: 150 mg/g kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	kod kronične izloženosti nakon nekoliko uzastopnih smjenana kraju radne smjene	2018-10-12

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		1,2-cikloheksandiol: 146 mmol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	kod kronične izloženosti nakon nekoliko uzastopnih smjenana kraju radne smjene	2018-10-12
		cikloheksanol: 4.49 µmol/l (Krv)	za vrijeme izloženosti	2018-10-12
		cikloheksanol: 450 µg/l (Krv)	za vrijeme izloženosti	2018-10-12
		cikloheksanol: 3.61 mmol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	za vrijeme druge polovice radne smjene	2018-10-12
		cikloheksanol: 3.2 mg/g kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	za vrijeme druge polovice radne smjene	2018-10-12
Ethylbenzene	100-41-4	etilbenzen: 14.1 µmol/l (Krv)	za vrijeme izloženosti	2018-10-12
		etilbenzen: 1,5 mg/l (Krv)	za vrijeme izloženosti	2018-10-12
		bademova kiselina: 1.12 mol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	Na kraju radne smjene i na kraju radnog tjedna	2018-10-12
		bademova kiselina: 1.5 g/g kreatinin Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	Na kraju radne smjene i na kraju radnog tjedna	2018-10-12

## FI

Aineen nimi	CAS-Nro.	Valvontaa koskevat muuttujat	Näytteenottoaika	Päivämäärä
Toluene	108-88-3	tolueeni: 500 nmol/l (Veri)	Työpäivän jälkeinen aamu	2016-12-22
Ethylbenzene	100-41-4	mantelihapo: 5.2 mmol/l (Virtsa)	Työvuoron päätyttyä työviikon tai altistumisjakson loputtua	2014-04-01

## ES

Nombre de la sustancia	No. CAS	Parámetros de control	Hora de muestreo	Puesto al día
Benzene	71-43-2	ácido t,t-mucónico: 2 mg/l Cuando el final de la exposición no coincide con el final de la jornada laboral, la muestra se tomará lo antes posible después de que cese la exposición real (Orina)	Final de la jornada laboral	2017-01-01

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		ácido S-fenilmercaptúrico: 0.045 mg/g creatinina Cuando el final de la exposición no coincida con el final de la jornada laboral, la muestra se tomará lo antes posible después de que cese la exposición real (Orina)	Final de la jornada laboral	2017-01-01
Toluene	108-88-3	o-cresol: 0.6 mg/g creatinina Cuando el final de la exposición no coincida con el final de la jornada laboral, la muestra se tomará lo antes posible después de que cese la exposición real (Orina) Fondo. El indicador está generalmente presente en cantidades detectables en personas no expuestas laboralmente. Estos niveles de fondo están considerados en el valor VLB. ( )	Final de la jornada laboral	2018-02-19
		tolueno: 0,05 mg/l Antes del comienzo de la quinta jornada consecutiva de exposición. (Sangre)	principio de la última jornada de la semana laboral	2018-02-19
		tolueno: 0,08 mg/l Cuando el final de la exposición no coincida con el final de la jornada laboral, la muestra se tomará lo antes posible después de que cese la exposición real (Orina)	Final de la jornada laboral	2018-02-19
n-Hexane	110-54-3	2,5-hexanodiona: 0,2 mg/l 2,5-hexanodiona libre, es decir, sin conjugar. Esta sustancia es metabolito del n-hexano y de la metil-n-butilcetona. (Orina) Después de cuatro o cinco días consecutivos de trabajo con exposición, lo antes posible después del final de la última jornada, dado que los indicadores biológicos se eliminan con vidas medias superiores a las cinco horas. Estos indicadores se acumulan en el organismo durante la semana de trabajo, por lo tanto el momento de muestreo es crítico con relación a exposiciones anteriores. ( ) Sin hidrólisis ( )	Final de la semana laboral	2014-01-01



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Ethylbenzene	100-41-4	suma del ácido mandélico y el ácido fenilgloxílico: 700 mg/g creatinina Después de cuatro o cinco días consecutivos de trabajo con exposición, lo antes posible después del final de la última jornada, dado que los indicadores biológicos se eliminan con vidas medias superiores a las cinco horas. Estos indicadores se acumulan en el organismo durante la semana de trabajo, por lo tanto el momento de muestreo es crítico con relación a exposiciones anteriores. (Orina) El indicador biológico es inespecífico puesto que puede encontrarse después de la exposición a otros agentes químicos () El indicador biológico es un indicador de exposición al agente químico en cuestión, pero la interpretación cuantitativa de su medida es ambigua (semicuantitativa). Estos indicadores biológicos deben utilizarse como una prueba de selección (screening) cuando no se pueda realizar una prueba cuantitativa o usarse como prueba de confirmación si la prueba cuantitativa no es específica y el origen del determinante es dudoso. ()	Final de la semana laboral	2015-02-01
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## DE

Stoffname	CAS-Nr.	Zu überwachende Parameter	Probennahmezeitpunkt	Stand
Toluene	108-88-3	Toluol: 600 µg/l (Blut)	Schichtende	2019-03-29
		o-Kresol: 1,5 mg/l Nach Hydrolyse (Urin)	bei Langzeitexposition: nach mehreren vorangegangenen Schichten Expositionsende, bzw. Schichtende	2019-03-29
		Toluol: 75 µg/l (Urin)	Expositionsende, bzw. Schichtende	2019-03-29
n-Hexane	110-54-3	2,5-Hexandion plus 4,5-Dihydroxy-2-hexanon: 5 mg/l Nach Hydrolyse (Urin)	Expositionsende, bzw. Schichtende	2013-09-19
Cyclohexane	110-82-7	1,2-Cyclohexandiol: 150 mg/g Kreatinin Nach Hydrolyse (Urin)	bei Langzeitexposition: nach mehreren vorangegangenen Schichten Expositionsende, bzw. Schichtende	2018-06-07
Ethylbenzene	100-41-4	Mandelsäure + Phenylglyoxylsäure: 250 mg/g Kreatinin (Urin)	Expositionsende, bzw. Schichtende	2017-06-08

## CZ

Název látky	Č. CAS	Kontrolní parametry	Doba odběru vzorku	Aktualizace
Benzene	71-43-2	S- Fenylmerkapturová kyselina: 0.05 mg/g kreatininu (moč)	Konec směny	2013-04-22
		S- Fenylmerkapturová kyselina: 0.024 µmol/mmol kreatininu (moč)	Konec směny	2013-04-22
		t,t-mukonová kyselina: 1.5 mg/g kreatininu (moč)	Konec směny	2013-04-22
		t,t-mukonová kyselina: 1.2 µmol/mmol kreatininu (moč)	Konec směny	2013-04-22

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Toluene	108-88-3	Hippurová kyselina: 1600 mg/g kreatininu Je-li hodnota při nálezu kyseliny hippurové vyšší než 1600 mg/g, avšak nepřesahuje 2500 mg/g kreatininu, použije se ke zpřesnění expozice toluenu biologický expoziční test podle ukazatele o-Kresol. Je-li hodnota při nálezu kyseliny hippurové vyšší než 2500 mg/g, považuje se za hodnotu prokazující, že jde o pracovní expozici toluenu, jehož hodnota PEL je překračována a biologický expoziční test podle ukazatele o-Kresol se již neprovádí (moč)	Konec směny	2013-04-22
		Hippurová kyselina: 1000 µmol/mmol kreatininu Je-li hodnota při nálezu kyseliny hippurové vyšší než 1600 mg/g, avšak nepřesahuje 2500 mg/g kreatininu, použije se ke zpřesnění expozice toluenu biologický expoziční test podle ukazatele o-Kresol. Je-li hodnota při nálezu kyseliny hippurové vyšší než 2500 mg/g, považuje se za hodnotu prokazující, že jde o pracovní expozici toluenu, jehož hodnota PEL je překračována a biologický expoziční test podle ukazatele o-Kresol se již neprovádí (moč)	Konec směny	2013-04-22
		o-Kresol: 1.5 mg/g kreatininu Po hydrolyse (moč)	Konec směny	2013-04-22
		o-Kresol: 1.6 µmol/mmol kreatininu Po hydrolyse (moč)	Konec směny	2013-04-22
Ethylbenzene	100-41-4	Mandlová kyselina: 1500 mg/g kreatininu (moč)	Konec směny	2003-12-15
		Mandlová kyselina: 1100 µmol/mmol kreatininu (moč)	Konec směny	2003-12-15

**CH**

Stoffname	CAS-Nr.	Zu überwachende Parameter	Probennahmezeitpunkt	Stand
Benzene	71-43-2	S-Phenylmerkaptursäure: 25 µg/g Kreatinin BAT-Werte von Arbeitsstoffen mit der Einstufung 'krebserzeugend' C1 und C2. (Urin) Umwelteinflüsse; Die mit X gekennzeichneten biologischen Parameter werden auch in unterschiedlicher Quantität bei beruflich Nichtexponierten gemessen, da sie zusätzlich auf Umwelteinflüsse zurückgeführt werden können. Die Festsetzung des BAT-Wertes berücksichtigt bei diesen Parametern auch die Einflüsse von Umweltfaktoren. ()	Expositionsende, bzw. Schichtende	2016-01-01
		S-Phenylmerkaptursäure: 0.011 µmol/mmol Kreatinin BAT-Werte von Arbeitsstoffen mit der Einstufung 'krebserzeugend' C1 und C2. (Urin) Umwelteinflüsse; Die mit X gekennzeichneten biologischen Parameter werden auch in unterschiedlicher Quantität bei beruflich Nichtexponierten gemessen, da sie zusätzlich auf Umwelteinflüsse zurückgeführt werden können. Die Festsetzung des BAT-Wertes berücksichtigt bei diesen Parametern auch die Einflüsse von Umweltfaktoren. ()	Expositionsende, bzw. Schichtende	2016-01-01

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		t,t-Mukonsäure: 500 µg/g Kreatinin Provisorische Festlegung. Die BAT-Werte für diesen biologische Parameter sind aus verschiedenen Gründen noch nicht definitiv festgelegt. (Urin) BAT-Werte von Arbeitsstoffen mit der Einstufung 'krebserzeugend' C1 und C2. () Umwelteinflüsse; Die mit X gekennzeichneten biologischen Parameter werden auch in unterschiedlicher Quantität bei beruflich Nichtexponierten gemessen, da sie zusätzlich auf Umwelteinflüsse zurückgeführt werden können. Die Festsetzung des BAT-Wertes berücksichtigt bei diesen Parametern auch die Einflüsse von Umweltfaktoren. ()	Expositionsende, bzw. Schichtende	2016-01-01
		t,t-Mukonsäure: 0.398 µmol/mmol Kreatinin Provisorische Festlegung. Die BAT-Werte für diesen biologische Parameter sind aus verschiedenen Gründen noch nicht definitiv festgelegt. (Urin) BAT-Werte von Arbeitsstoffen mit der Einstufung 'krebserzeugend' C1 und C2. () Umwelteinflüsse; Die mit X gekennzeichneten biologischen Parameter werden auch in unterschiedlicher Quantität bei beruflich Nichtexponierten gemessen, da sie zusätzlich auf Umwelteinflüsse zurückgeführt werden können. Die Festsetzung des BAT-Wertes berücksichtigt bei diesen Parametern auch die Einflüsse von Umweltfaktoren. ()	Expositionsende, bzw. Schichtende	2016-01-01
Toluene	108-88-3	o-Kresol: 0,5 mg/l Quantitative Interpretation schwierig; Bei den mit Q gekennzeichneten biologischen Parametern ist die exakte quantitative Interpretation schwierig. Als Screening-Test kann der biologische Parameter verwendet werden, ebenfalls als Zusatzuntersuchung nach der Bestimmung nicht spezifischer Parameter (N). (Urin)	Expositionsende, bzw. Schichtende bei Langzeitexposition: nach mehreren vorangegangenen Schichten	2018-01-18
		Hippursäure: 2 g/g Kreatinin Nicht spezifischer Parameter; Die mit N gekennzeichneten biologischen Parameter sind nicht für den aufgeführten Arbeitsstoff spezifisch, sondern können auch nach Expositionen gegenüber bestimmten anderen Arbeitsstoffen im biologischen Material gemessen werden. In der Praxis hat sich die Bestimmung dieser Stoffe jedoch bewährt. Bei speziellen Problemen empfiehlt sich zusätzlich die Bestimmung eines spezifischen Parameters. (Urin) Umwelteinflüsse; Die mit X gekennzeichneten biologischen Parameter werden auch in unterschiedlicher Quantität bei beruflich Nichtexponierten gemessen, da sie zusätzlich auf Umwelteinflüsse zurückgeführt werden können. Die Festsetzung des BAT-Wertes berücksichtigt bei diesen Parametern auch die Einflüsse von Umweltfaktoren. ()	Expositionsende, bzw. Schichtende bei Langzeitexposition: nach mehreren vorangegangenen Schichten	2018-01-18

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		Toluol: 6.48 µmol/l (Blut)	Expositionsende, bzw. Schichtende	2018-01-18
		Hippursäure: 1.26 mmol/mmol Kreatinin Nicht spezifischer Parameter; Die mit N gekennzeichneten biologischen Parameter sind nicht für den aufgeführten Arbeitsstoff spezifisch, sondern können auch nach Expositionen gegenüber bestimmten anderen Arbeitsstoffen im biologischen Material gemessen werden. In der Praxis hat sich die Bestimmung dieser Stoffe jedoch bewährt. Bei speziellen Problemen empfiehlt sich zusätzlich die Bestimmung eines spezifischen Parameters. (Urin) Umwelteinflüsse; Die mit X gekennzeichneten biologischen Parameter werden auch in unterschiedlicher Quantität bei beruflich Nichtexponierten gemessen, da sie zusätzlich auf Umwelteinflüsse zurückgeführt werden können. Die Festsetzung des BAT-Wertes berücksichtigt bei diesen Parametern auch die Einflüsse von Umweltfaktoren. ()	Expositionsende, bzw. Schichtende bei Langzeitexposition: nach mehreren vorangegangenen Schichten	2018-01-18
		o-Kresol: 4.62 µmol/l Quantitative Interpretation schwierig; Bei den mit Q gekennzeichneten biologischen Parametern ist die exakte quantitative Interpretation schwierig. Als Screening-Test kann der biologische Parameter verwendet werden, ebenfalls als Zusatzuntersuchung nach der Bestimmung nicht spezifischer Parameter (N). (Urin)	Expositionsende, bzw. Schichtende bei Langzeitexposition: nach mehreren vorangegangenen Schichten	2018-01-18
		Toluol: 600 µg/l (Blut)	Expositionsende, bzw. Schichtende	2018-01-18
n-Hexane	110-54-3	2,5-Hexandion plus 4,5-Dihydroxy-2-hexanon: 5 mg/l Nicht spezifischer Parameter; Die mit N gekennzeichneten biologischen Parameter sind nicht für den aufgeführten Arbeitsstoff spezifisch, sondern können auch nach Expositionen gegenüber bestimmten anderen Arbeitsstoffen im biologischen Material gemessen werden. In der Praxis hat sich die Bestimmung dieser Stoffe jedoch bewährt. Bei speziellen Problemen empfiehlt sich zusätzlich die Bestimmung eines spezifischen Parameters. (Urin)	Expositionsende, bzw. Schichtende	2005-01-01
Cyclohexane	110-82-7	Gesamt-1,2-Cyclohexandiol: 150 mg/g Kreatinin (Urin)	Expositionsende, bzw. Schichtende bei Langzeitexposition: nach mehreren vorangegangenen Schichten	2011-01-01
		Gesamt-1,2-Cyclohexandiol: 146 µmol/mmol Kreatinin (Urin)	Expositionsende, bzw. Schichtende bei Langzeitexposition: nach mehreren vorangegangenen Schichten	2011-01-01
Ethylbenzene	100-41-4	Ethylbenzol: 1,5 mg/l (Blut)	Expositionsende, bzw. Schichtende	2005-01-01

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		Ethylbenzol: 14.1 µmol/l (Blut)	Expositionsende, bzw. Schichtende	2005-01-01
		Mandelsäure plus Phenylglyoxylsäure: 600 mg/g Kreatinin s. auch Styrol (Urin)	Expositionsende, bzw. Schichtende	2018-05-28

**BG**

Наименование на веществото	CAS номер	Параметри на контрол	Време на взимане на пробата	Последна актуализация
Benzene	71-43-2	Trans, trans -муконова киселина: 2 mg/l (Урина)	В края на експозицията или в края на работната смяна	2007-08-17
		S-фенилмеркаптурова киселина: 0.045 mg/g креатинин (Урина)	В края на експозицията или в края на работната смяна	2007-08-17
Toluene	108-88-3	хипурова киселина: 1.6 mmol/mmol креатинин (Урина)	В края на експозицията или в края на работната смяна	2007-08-17
Ethylbenzene	100-41-4	бадемена киселина и фенилглиоксалова киселина - сумарно: 2000 mg/g креатинин (Урина)	В края на експозицията или в края на работната смяна	2007-08-17

**AT**

Stoffname	CAS-Nr.	Zu überwachende Parameter	Probennahmezeitpunkt	Stand
Benzene	71-43-2	t,t-Muconsäure: 1,6 mg/l (Urin)	Nach Ablauf einer Arbeitswoche/am Ende des Arbeitstages/am Schichtende	2014-02-18
Toluene	108-88-3	o-Cresol: 0,8 mg/l Bei wiederholt erhöhten o-Cresolwerten ist zusätzlich Toluol im Blut am Ende eines Arbeitstages zu bestimmen (der Zeitpunkt der Untersuchung ist anzugeben). (Urin)	Nach Ablauf einer Arbeitswoche/am Ende des Arbeitstages/am Schichtende	2014-02-18
		Toluol: 250 µg/l (Blut)	Am Ende eines Arbeitstages	2014-02-18

**DMEL**

Benzene

: End Use: Workers

Routes of exposure: Skin contact

Potential health effects: Chronic effects, Systemic effects

Value: 234 mg/kg

End Use: Workers

Routes of exposure: Inhalation

Potential health effects: Chronic effects, Systemic effects

Value: 3,25 mg/m<sup>3</sup>

End Use: Consumers

Routes of exposure: Skin contact

Potential health effects: Chronic effects, Systemic effects

Value: 0,234 mg/kg

End Use: Consumers

Routes of exposure: Inhalation

Potential health effects: Chronic effects, Systemic effects

Value: 0,00325 mg/m<sup>3</sup>

Derived minimal effect level

End Use: Consumer use

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Routes of exposure: Ingestion  
 Potential health effects: Chronic effects, Systemic effects  
 Value: 0,00014 mg/kg  
 Derived minimal effect level

**8.2**

**Exposure controls**  
**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal protective equipment**

- Respiratory protection : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as: Air-Purifying Respirator for Organic Vapors. A positive pressure, air-supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.
- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.
- Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

**SECTION 9: Physical and chemical properties****9.1****Information on basic physical and chemical properties****Appearance**

Physical state : liquid  
 Color : Colorless

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Odor	: Mild
<b>Safety data</b>	
Flash point	: -6,7°C (19,9°F) estimated
Lower explosion limit	: 1,2 %(V)
Upper explosion limit	: 7,4 %(V)
Oxidizing properties	: No
Autoignition temperature	: 510°C (950°F) estimated
Molecular formula	: UVCB
pH	: Not applicable
Pour point	: No data available
Boiling point/boiling range	: 66-232°C (151-450°F)
Vapor pressure	: 3,30 PSI at 38°C (100°F)
Relative density	: 0,84 at 15,6 °C (60,1 °F)
Water solubility	: negligible
Partition coefficient: n- octanol/water	: No data available
Viscosity, kinematic	: 0,5 cSt at 38°C (100°F)
Relative vapor density	: No data available
Evaporation rate	: No data available
Percent volatile	: 50 % Concentration : 420 g/l
	50 % Concentration : 420 g/l

**SECTION 10: Stability and reactivity****10.1**

**Reactivity** : Stable under recommended storage conditions.

**10.2**

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**Chemical stability** : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3****Possibility of hazardous reactions**

**Hazardous reactions** : Further information: No decomposition if stored and applied as directed.

Hazardous reactions: Vapors may form explosive mixture with air.

**10.4**

**Conditions to avoid** : Heat, flames and sparks.

**10.5**

**Materials to avoid** : No data available.

**10.6**

**Other data** : No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information****11.1****Information on toxicological effects****Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8**

**Acute oral toxicity** : LD50 Oral: > 2.000 mg/kg  
Species: Rat  
Method: Acute toxicity estimate  
Information given is based on data obtained from similar substances.

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**Acute inhalation toxicity** : LC50: > 20 mg/l  
Exposure time: 4 h  
Species: Rat  
Test atmosphere: vapor  
Method: Acute toxicity estimate

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**Acute dermal toxicity** : LD50 Dermal: > 5.000 mg/kg  
Species: Rabbit  
Information given is based on data obtained from similar substances.

**Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8**

**Skin irritation** : May cause skin irritation in susceptible persons.

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**Eye irritation** : May irritate eyes.

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**Sensitization** : No adverse effects expected. Information given is based on data obtained from similar substances.

**Repeated dose toxicity**

**Benzene** : Species: Rat, female  
Sex: female  
Application Route: oral gavage  
Dose: 0, 25, 50, 100 mg/kg  
Exposure time: 103 wk  
Number of exposures: 5 d/wk  
NOEL: < 25 mg/kg  
Lowest observable effect level: 25 mg/kg

Species: Rat, male  
Sex: male  
Application Route: oral gavage  
Dose: 0, 50, 100, 200 mg/kg  
Exposure time: 103 wk  
Number of exposures: 5 d/wk  
NOEL: < 50 mg/kg  
Lowest observable effect level: 50 mg/kg

Species: Mouse  
Application Route: oral gavage  
Dose: 0, 25, 50, 100 mg/kg  
Exposure time: 103 wk  
NOEL: < 25 mg/kg

**n-Pentane** : Species: Rat, Male and female  
Sex: Male and female  
Application Route: inhalation (gas)  
Dose: 0, 5000, 10,000, 20,000 mg/m<sup>3</sup>  
Exposure time: 13 wk  
Number of exposures: 6 h/d, 5 d/wk  
NOEL: 20,000 mg/m<sup>3</sup>  
Method: OECD Test Guideline 413

**Cyclopentane** : Species: Rat, males  
Sex: males  
Dose: 0, 0.22, 1.12, 5.29 mg/l  
Exposure time: 28 d  
Number of exposures: 6 h/d  
NOEL: 1,12 mg/l  
Lowest observable effect level: 5,29 mg/l  
Method: OECD Test Guideline 412

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Species: Rat, females  
Sex: females  
Dose: 0, 0.22, 1.12, 5.29 mg/l  
Exposure time: 28 d  
Number of exposures: 6 h/d  
NOEL: 5,29 mg/l  
Lowest observable effect level: > 5,29 mg/l  
Method: OECD Test Guideline 412

Species: Rat, male and female  
Sex: male and female  
Dose: 5, 10, 30 mg/l  
Exposure time: 90 d  
Number of exposures: 6 h/d  
NOEL: 30 mg/l  
Method: OECD Test Guideline 413  
No adverse effects expected

Toluene

Species: Rat  
Application Route: Inhalation  
Dose: 0, 100, 625, 1250, 3000 ppm  
Exposure time: 15 wk  
Number of exposures: 6.5 h/d, 5 d/wk  
NOEL: 625 ppm

Species: Mouse  
Application Route: Inhalation  
Dose: 0, 100, 625, 1250, 3000 ppm  
Exposure time: 14 wk  
Number of exposures: 6.5 h/d, 5 d/wk  
NOEL: 100 ppm

n-hexane

Species: Rat, male  
Sex: male  
Application Route: Inhalation  
Dose: 3,000 ppm  
Exposure time: 16 wks  
Number of exposures: 12 h/d  
Lowest observable effect level: 3,000 ppm  
Target Organs: Peripheral nervous system

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Species: Mouse, female  
 Sex: female  
 Application Route: Inhalation  
 Dose: 500, 1,000, 4,000, 10,000 ppm  
 Exposure time: 13 wks  
 Number of exposures: 6h or 22h (1,000 ppm)/ 5d/wk  
 Lowest observable effect level: 500 ppm  
 Target Organs: Nose

Species: Mouse, male  
 Sex: male  
 Application Route: Inhalation  
 Dose: 500, 1,000, 4000, 10,000 ppm  
 Exposure time: 13 wks  
 Number of exposures: 6h or 22h (1,000 ppm)/d, 5d/wk  
 NOEL: 500 ppm  
 Lowest observable effect level: 1,000 ppm  
 Target Organs: Nose

Species: Rat, male  
 Sex: male  
 Application Route: oral gavage  
 Dose: 568, 1,135, 3,973 mg/kg bw/day  
 Exposure time: 90 or 120 days  
 Number of exposures: Daily or 5d/wk (120-d study)  
 NOEL: 568 mg/kg bw/day  
 Lowest observable effect level: 1135 mg/kg bw/day

**Cyclohexane**

Species: Rat  
 Application Route: Inhalation  
 Dose: 0, 500, 2000, 7000 ppm  
 Exposure time: 90 day  
 Number of exposures: 6 h/d, 5 d/wk  
 NOEL: 2000 ppm

Species: Rat, Male and female  
 Sex: Male and female  
 Application Route: Inhalation  
 Dose: 0, 500, 2,000, 7000 ppm  
 Exposure time: 13-14 wk  
 Number of exposures: 6 hr/d, 5 d/wk  
 NOEL: 7000 ppm

Species: Mouse, Male and female  
 Sex: Male and female  
 Application Route: Inhalation  
 Dose: 0, 500, 2000, 7000 ppm  
 Exposure time: 13-14 wk  
 Number of exposures: 6 hr/d, 5 d/wk  
 NOEL: 2000 ppm  
 Target Organs: Blood

**Isopentane**

Species: Rat, male and female  
 Sex: male and female  
 Application Route: Inhalation  
 Dose: 668, 2220, 6646 ppm  
 Exposure time: 13 wk  
 Number of exposures: 6 h/d, 5 d/wk  
 NOEL: > 2220 ppm  
 Lowest observable effect level: > = 6646 ppm

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Method: OECD Guideline 413  
 Target Organs: Kidney  
 Information given is based on data obtained from similar substances.

Ethylbenzene

Species: Rat, male  
 Sex: male  
 Application Route: Inhalation  
 Dose: 200, 400, 600, 800 ppm  
 Exposure time: 13 weeks  
 Number of exposures: 6 hours/day, 6 days/week  
 NOEL: 200 ppm  
 Test substance: yes  
 Target Organs: Ototoxicity

**Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8**

**Genotoxicity in vitro** : Remarks: May cause genetic defects., Information refers to the main ingredient.

**Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8**

**Genotoxicity in vivo** : Remarks: May cause genetic defects., Information refers to the main ingredient.

**Carcinogenicity**

Benzene

: Species: Rat  
 Sex: female  
 Dose: 0, 25, 50, 250 mg/kg  
 Exposure time: 103 wks  
 Number of exposures: daily, 5 days/week  
 Test substance: yes  
 Remarks: zymbal gland carcinomas, squamous cell papillomas

Species: Rat  
 Sex: male  
 Dose: 0, 50, 100, 200 mg/kg  
 Exposure time: 103 wks  
 Number of exposures: daily, 5 days/week  
 Test substance: yes  
 Remarks: zymbal gland carcinomas, squamous cell papillomas

Species: Mouse  
 Sex: male and female  
 Dose: 25, 50, 100 mg/kg  
 Exposure time: 103 wks  
 Number of exposures: daily, 5 days/week  
 Test substance: yes  
 Remarks: Clear evidence of multiple organ carcinogenicity.

Toluene

Species: Rat  
 Dose: 0, 600, 1200 ppm  
 Exposure time: 2 yrs  
 Number of exposures: 6.5 h/d, 5 d/wk  
 Remarks: No evidence of carcinogenicity

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	Species: Mouse Dose: 0, 600, 1200 ppm Exposure time: 2 yrs Number of exposures: 6.5 h/d, 5 d/wk Remarks: No evidence of carcinogenicity
n-hexane	Species: Rat Dose: 0.043, 900, 3,000, 9,016 ppm Exposure time: 2 yrs Number of exposures: 6 h/d, 5 d/wk Remarks: No evidence of carcinogenicity, Information given is based on data obtained from similar substances.
	Species: Mouse Sex: male and female Dose: 0.039, 900, 3,000, 9,018 ppm Exposure time: 2 yrs Number of exposures: 6 h/d, 5 d/wk Remarks: No evidence of carcinogenicity, Information given is based on data obtained from similar substances.

**Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8**  
**Reproductive toxicity** : This information is not available.

**Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8**  
**Developmental Toxicity** : This information is not available.

**Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8**  
**Aspiration toxicity** : May be fatal if swallowed and enters airways.  
**Toxicology Assessment**

**Specific Target Organ Toxicity (Single Exposure)**

n-Pentane	: Assessment: May cause drowsiness or dizziness.
Cyclopentane	Assessment: May cause drowsiness or dizziness.
Toluene	Assessment: May cause drowsiness or dizziness.
n-hexane	Assessment: May cause drowsiness or dizziness.
Cyclohexane	Route of Exposure: Inhalation Target Organs: Central nervous system Assessment: May cause drowsiness or dizziness.
Methylcyclopentane	Route of Exposure: inhalation (vapor) Assessment: May cause drowsiness or dizziness.
Isopentane	Assessment: May cause drowsiness or dizziness.
Ethylbenzene	Assessment: May cause respiratory irritation.

**Specific Target Organ Toxicity (Repeated Exposure)**

Benzene : Target Organs: Blood  
Assessment: Causes damage to organs through prolonged or

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	repeated exposure.
Toluene	Route of Exposure: Inhalation Target Organs: Auditory organs, color vision Assessment: May cause damage to organs through prolonged or repeated exposure.
n-hexane	Route of Exposure: Inhalation Target Organs: Nervous system Assessment: May cause damage to organs through prolonged or repeated exposure.
Cyclohexane	Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure. Remarks: Not classified
Ethylbenzene	Route of Exposure: Inhalation Target Organs: Auditory organs Assessment: May cause damage to organs through prolonged or repeated exposure.

**Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8  
CMR effects**

- : Carcinogenicity:  
May cause cancer.
- Mutagenicity:  
May cause genetic defects.
- Teratogenicity:  
May damage the unborn child.
- Reproductive toxicity:  
May damage fertility.

**11.2****Information on other hazards****Hydrogenated Pyrolysis Gas (HPG) Hydrogenated C5-C8**

- Further information** : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.
- Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 12: Ecological information****12.1****Toxicity****Toxicity to fish**

- Benzene : LC50: 5,3 mg/l  
Exposure time: 96 h  
Species: Oncorhynchus mykiss (rainbow trout)  
flow-through test Test substance: yes  
Method: OECD Test Guideline 203

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n-Pentane	LC50: 4,3 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) semi-static test
Cyclopentane	LL50: 29,3 mg/l Exposure time: 96 h Species: Fish Method: QSAR modeled data
Toluene	LC50: 18 - 36 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
n-hexane	LL50: 12,51 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) Method: QSAR modeled data
Cyclohexane	LC50: 4,53 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow) Method: OECD Test Guideline 203
Methylcyclopentane	LL50: 18,27 mg/l Exposure time: 96 h Species: Fish Method: QSAR
Isopentane	LC50: 4,26 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) semi-static test Method: OECD Test Guideline 203 Information given is based on data obtained from similar substances.
Ethylbenzene	LC50: 4,3 mg/l Exposure time: 96 h Species: Marone saxatilis (striped bass)

**Toxicity to daphnia and other aquatic invertebrates**

Benzene	: EC50: 10 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Test substance: yes Method: OECD Test Guideline 202
n-Pentane	EC50: 2,7 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test
Cyclopentane	EC50: 2,3 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Information given is based on data obtained from similar substances.
Toluene	EC50: 3,78 mg/l

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	Exposure time: 48 h Species: <i>Daphnia magna</i> (Water flea)
n-hexane	EL50: 21,85 mg/l Exposure time: 48 h Species: <i>Daphnia magna</i> (Water flea) Method: QSAR modeled data
Cyclohexane	EC50: 0,9 mg/l Exposure time: 48 h Species: <i>Daphnia magna</i> (Water flea) Method: OECD Test Guideline 202
Methylcyclopentane	LC50: 4,45 mg/l Exposure time: 48 h Species: <i>Daphnia magna</i> (Water flea) Method: QSAR
Isopentane	EC50: 2,3 mg/l Exposure time: 48 h Species: <i>Daphnia magna</i> (Water flea) static test Method: OECD Test Guideline 202
Ethylbenzene	LC50: 2,6 mg/l Exposure time: 96 h Species: <i>Mysidopsis bahia</i> (mysid shrimp)
	EC50: 2,2 mg/l Exposure time: 48 h Species: <i>Daphnia magna</i> (Water flea) Method: OECD Test Guideline 202
<b>Toxicity to algae</b>	
Benzene	: ErC50: 100 mg/l Exposure time: 72 h Species: <i>Pseudokirchneriella subcapitata</i> (green algae) Test substance: yes Method: OECD Test Guideline 201
n-Pentane	EbC50: 10,7 mg/l Exposure time: 72 h Species: <i>Pseudokirchneriella subcapitata</i> (green algae) static test
Cyclopentane	EC50: 2,04 mg/l Exposure time: 72 h Species: <i>Scenedesmus capricornutum</i> (fresh water algae) static test Method: OECD Test Guideline 201 Information given is based on data obtained from similar substances.
Toluene	EC50: 134 mg/l Exposure time: 72 h Species: <i>Chlamydomonas angulosa</i> (Green algae)
n-hexane	EL50: 9,29 mg/l Exposure time: 72 h Species: <i>Pseudokirchneriella subcapitata</i> (green algae) Method: QSAR modeled data



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Cyclohexane	<p>EbC50: 3,4 mg/l Exposure time: 72 h Species: Selenastrum capricornutum (algae)</p> <p>NOEC: 0,925 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (microalgae) Method: OECD Test Guideline 201</p>
Methylcyclopentane	<p>EC50: 5,048 mg/l Exposure time: 96 h Species: green algae Method: QSAR</p>
Isopentane	<p>EC50: 7,51 mg/l Exposure time: 72 h Species: Scenedesmus capricornutum (fresh water algae) Growth inhibition Method: OECD Test Guideline 201 Information given is based on data obtained from similar substances.</p>
Ethylbenzene	<p>ErC50: 5,0 mg/l Exposure time: 96 h Species: Selenastrum capricornutum (algae)</p> <p>ErC50: 7,7 mg/l Exposure time: 72 h Species: Skeletonema costatum (Marine Algae)</p>

**M-Factor**  
cyclohexane : M-Factor (Acute Aquat. Tox.) 1

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

Ethylbenzene : NOEC: 1 mg/l  
Exposure time: 7 d  
Species: Daphnia pulex (Water flea)  
semi-static test  
Analytical monitoring: yes

**12.2****Persistence and degradability**

Biodegradability : This material is not expected to be readily biodegradable.  
Information given is based on data obtained from similar substances.

**12.3****Bioaccumulative potential**

Elimination information (persistence and degradability)

Bioaccumulation : No data available

**12.4****Mobility in soil**

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**Mobility**

Benzene	: No data available
n-Pentane	: After release, disperses into the air.
Cyclopentane	: No data available
Toluene	: Not expected to adsorb on soil.
n-hexane	: Method: Calculation, Mackay Level III Fugacity Model The product will be dispersed amongst the various environmental compartments (soil/ water/ air).
Cyclohexane	: Not expected to adsorb on soil.
Methylcyclopentane	: No data available
Isopentane	: No data available
Ethylbenzene	: Method: Calculation, Mackay Level I Fugacity Model Disperses rapidly in air.

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

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

**12.6****Endocrine disrupting properties**

Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7****Other adverse effects**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

**12.8****Additional Information****Ecotoxicology Assessment**

Short-term (acute) aquatic hazard : Toxic to aquatic life.  
Long-term (chronic) aquatic hazard : Toxic to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations****13.1**

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**Waste treatment methods**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

- Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

**SECTION 14: Transport information****14.1 - 14.7****Transport information**

**The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

UN1203, GASOLINE, 3, II

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

UN1203, GASOLINE, 3, II, (-6,7 °C c.c.), MARINE POLLUTANT, (TOLUENE, ETHYLBENZENE)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

UN1203, GASOLINE, 3, II

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**

UN1203, GASOLINE, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (TOLUENE, ETHYLBENZENE)

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**

33, UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (TOLUENE, ETHYLBENZENE)

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**

UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (TOLUENE, ETHYLBENZENE)

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<b>Other information</b>	<b>:</b> Pyrolysis gasoline (containing benzene) (n), Environmental Cat.Y, Ship Type2 U.S. Coast Guard Compatibility Group 32
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**Maritime transport in bulk according to IMO instruments**

**SECTION 15: Regulatory information****15.1****Safety, health and environmental regulations/legislation specific for the substance or mixture  
National legislation**

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

**15.2****Major Accident Hazard  
Legislation**

**:** ZEU\_SEVES3 Update:  
FLAMMABLE LIQUIDS  
P5c  
Quantity 1: 5.000 t  
Quantity 2: 50.000 t

**:** ZEU\_SEVES3 Update:  
ENVIRONMENTAL HAZARDS  
E2  
Quantity 1: 200 t  
Quantity 2: 500 t

**:** ZEU\_SEVES3 Update:  
Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)  
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Quantity 1: 2.500 t  
Quantity 2: 25.000 t

**Notification status**

Europe REACH	<b>:</b> This product is in full compliance according to REACH regulation 1907/2006/EC.
Switzerland CH INV	<b>:</b> On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	<b>:</b> Not in compliance with the inventory
Canada DSL	<b>:</b> Not in compliance with the inventory
Other AICS	<b>:</b> Not in compliance with the inventory
New Zealand NZIoC	<b>:</b> Not in compliance with the inventory
Japan ENCS	<b>:</b> Not in compliance with the inventory

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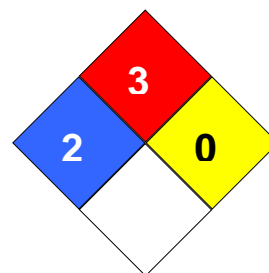
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Korea KECI	:	All substances in this product were registered, notified to be registered, or exempted from registration by QChem through an Only Representative according to K-REACH regulations. Importation of this product is permitted if the Korean Importer of Record was included on QChem's notifications or if the Importer of Record themselves notified the substances.
Philippines PICCS	:	Not in compliance with the inventory
China IECSC	:	Not in compliance with the inventory
Taiwan TCSI	:	Not in compliance with the inventory

**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 2  
Fire Hazard: 3  
Reactivity Hazard: 0

**Further information**

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

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

**Key or legend to abbreviations and acronyms used in the safety data sheet**

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AIRC	Australian Inventory of Industrial Chemicals	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic

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GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%	ATE	Acute toxicity estimate

**Full text of H-Statements referred to under sections 2 and 3.**

H224	Extremely flammable liquid and vapor.
H225	Highly flammable liquid and vapor.
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.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
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.