GET Plasti Dip UV Red

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date: 12/7/2018 Revision date: 11/10/2023 Version: 2.0

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

1.1. Product identifier

Product form	:	Mixture
Product name	:	GET Plasti Dip UV Red
Product code	:	GETF954154C1-UV
Product group	:	Trade product
UFI	:	

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Coating Solution

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer
Plasti Dip International, Inc.
3920 Pheasant Ridge Drive
Blaine, MN 55449
Phone - (763) 785-2156

Distributor
Global Express
7 Indian Path
Millstone, NJ 08535
(732) 977-0605

EU Importer of Record
PLASTIDIP UK LTD, Unit 1,
Harvesting Lane, East Meon,
Hampshire, GU32 1QR,
United Kingdom.

1.4. Emergency telephone number

Manufacturer Emergency number
CHEMTREC: 1-800-424-9300 (US);
+1 703-741-5970 (International)

Distributor Emergency Number
CHEMTREC: 1-800-424-9300 (US);
+1 703-741-5970 (International)

Importer Emergency Number
CHEMTREC: 1-800-424-9300 (US);
+1 703-741-5970 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]Mixtures/Substances: SDS EU > 2015: According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Reproductive toxicity, Category 2	H361
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity – Repeated exposure, Category 2	H373
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS07 GHS08 GHS09

Signal word (CLP)	:	Danger
Contains	:	Heptane, Methyl Ethyl Ketone, Petroleum Distillates
Hazard statements (CLP)	:	H225 - Highly flammable liquid and vapour. H304 - May be fatal if swallowed and enters airways. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H361 - Suspected of damaging fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	:	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260 – Do not breather dust/fume/gas/mist/vapours/spray. P273 – Aovid release into the environment. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, doctor. P403+P235 – Store in a well-ventilated place. Keep cool. P501 - Dispose of contents to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

The mixture contains Methyl ethyl ketone (CAS#78-93-3), which is identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Naphtha, petroleum, hydrotreated light	CAS-No.: 64742-49-0 EC-No.: 265-151-9 EC Index-No.: 649-328-00-1	30 – 60	Carc. 1B, H350 Muta. 1B, H340 Asp. Tox. 1, H304
Distillates, petroleum, light distillate hydrotreating process, low-boiling	CAS-No.: 68410-97-9 EC-No.: 270-093-2 EC Index-No.: 649-332-00-3	30 – 60	Muta. 1B, H340 Carc. 1B, H350 Asp. Tox. 1, H304
Solvent naphtha, petroleum, light aliphatic	CAS-No.: 64742-89-8 EC-No.: 265-192-2 EC Index-No.: 649-267-00-0	30 – 60	Muta. 1B, H340 Carc. 1B, H350 Asp. Tox. 1, H304
Xylene (o-, m-, p- isomers)	CAS-No.: 1330-20-7 EC-No.: 215-535-7 EC Index-No.: 601-022-00-9	10 – 30	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315
n-Heptane	CAS-No.: 142-82-5 EC-No.: 205-563-8 EC Index-No.: 601-008-00-2	7 – 13	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Methyl ethyl ketone	CAS-No.: 78-93-3 EC-No.: 201-159-0 EC Index-No.: 606-002-00-3	7 – 13	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethylbenzene	CAS-No.: 100-41-4 EC-No.: 202-849-4 EC Index-No.: 601-023-00-4	1 – 5	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Octane	CAS-No.: 111-65-9 EC-No.: 203-892-1 EC Index-No.: 601-009-00-8	1 – 5	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Cyclohexane	CAS-No.: 110-82-7 EC-No.: 203-806-2 EC Index-No.: 601-017-00-1	1 – 5	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Stoddard solvent	CAS-No.: 8052-41-3 EC-No.: 232-489-3 EC Index-No.: 649-345-00-4	0.1 – 1	Carc. 1B, H350 Muta. 1B, H340 Asp. Tox. 1, H304 STOT RE 1, H372
Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	CAS-No.: 41556-26-7 EC-No.: 255-437-1	0.1 – 1	Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Cumene	CAS-No.: 98-82-8 EC-No.: 202-704-5 EC Index-No.: 601-024-00-X	0.1 – 1	Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H335 Aquatic Chronic 2, H411
Hexane	CAS-No.: 110-54-3 EC-No.: 203-777-6 EC Index-No.: 601-037-00-0	0.1 – 1	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
Decanedioic acid, methyl 1,2,2,6,6-pentamethyl-4-piperidinyl ester	CAS-No.: 82919-37-7 EC-No.: 280-060-4	0.1 – 1	Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Specific concentration limits

Name	Product identifier	Specific concentration limits
Hexane	CAS-No.: 110-54-3 EC-No.: 203-777-6 EC Index-No.: 601-037-00-0	(5 ≤C ≤ 100) STOT RE 2, H373

Full text of H- and EUH-statements: see section 16

SECTION 4: First Aid measures

4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If breathing is difficult, supply oxygen. If breathing has stopped, give artificial respiration.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention immediately.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing if pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

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

Symptoms/effects : May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Symptoms/effects after inhalation : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Causes skin irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways.

Chronic symptoms : May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility or the unborn child.

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

No additional information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Carbon dioxide. Dry chemical.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.

Explosion hazard : Heating may cause an explosion.

Reactivity in case of fire : None known.

Hazardous decomposition products in case of fire : Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon oxides and other organic compounds will be evolved when this material undergoes thermal degradation.

5.3. Advice for firefighters

Precautionary measures fire : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment. Prevent human exposure to fire, fumes, smoke and products of combustion.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : This material is flammable and may be ignited by heat, sparks, or static electricity.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Prevent entry to sewers and public waters.
Methods for cleaning up : Exclude sources of ignition and ventilate the area. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Handle in accordance with good industrial hygiene and safety procedures. Use only in well-ventilated areas. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep the container tightly closed. Store in a dry, cool and well-ventilated place. Keep away from ignition sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

Distillates, petroleum, light distillate hydrotreating process, low-boiling (68410-97-9)	
EU - Biological Limit Value (BLV)	
Remark	OELs not established
United Kingdom - Occupational Exposure Limits	
Remark (WEL)	OELs not established

Naphtha, petroleum, hydrotreated light (64742-49-0)	
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	500 mg/m³ (extraction)
NDSCh (OEL STEL)	1500 mg/m³ (extraction (Benzin)

Octane (111-65-9)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	1400 mg/m³ (Octane all isomers)
MAK (OEL TWA) [ppm]	300 ppm (Octane all isomers)
MAK (OEL STEL)	5600 mg/m³ (Octane all isomers)
MAK (OEL STEL) [ppm]	1200 ppm (Octane all isomers)
Belgium - Occupational Exposure Limits	
OEL TWA	1420 mg/m³
OEL TWA	300 ppm
OEL STEL	1775 mg/m³
OEL STEL	375 ppm
Bulgaria - Occupational Exposure Limits	
OEL TWA	1450 mg/m³
OEL STEL	1800 mg/m³
Denmark - Occupational Exposure Limits	
OEL TWA [1]	935 mg/m³
OEL TWA [2]	200 ppm
OEL STEL	1870 mg/m³
OEL STEL	400 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	1400 mg/m³ (Octane)
HTP (OEL TWA) [2]	300 ppm (Octane)
HTP (OEL STEL)	1800 mg/m³
HTP (OEL STEL) [ppm]	380 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	1450 mg/m³
VME (OEL TWA) [ppm]	300 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	2400 mg/m³
AGW (OEL TWA) [2]	500 ppm
AGW (OEL C)	4800 mg/m³
AGW (OEL C) [ppm]	1000 ppm
Greece - Occupational Exposure Limits	
OEL TWA	2350 mg/m³
OEL TWA	500 ppm
OEL STEL	2350 mg/m³

Octane (111-65-9)	
OEL STEL	500 ppm
Hungary - Occupational Exposure Limits	
CK (OEL STEL)	4700 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	1450 mg/m³
OEL TWA [2]	300 ppm
OEL STEL	4350 mg/m³ (calculated)
OEL STEL	900 ppm (calculated)
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	1000 mg/m³
NDSCh (OEL STEL)	1800 mg/m³
Romania - Occupational Exposure Limits	
OEL TWA	1500 mg/m³
OEL TWA	322 ppm
OEL STEL	2000 mg/m³
OEL STEL	429 ppm
Slovakia - Occupational Exposure Limits	
NPHV (OEL C)	1400 mg/m³ (Octanes)
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	1420 mg/m³
VLA-ED (OEL TWA) [2]	300 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	1200 mg/m³
WEL TWA (OEL TWA) [2]	210 ppm
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	725 mg/m³
Grenseverdi (OEL TWA) [2]	150 ppm
Korttidsverdi (OEL STEL)	906.25 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	187.5 ppm (value calculated)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	1400 mg/m³
MAK (OEL TWA) [2]	300 ppm
KZGW (OEL STEL)	2800 mg/m³
KZGW (OEL STEL) [ppm]	600 ppm
USA - ACGIH - Occupational Exposure Limits	
Local name	Octane, all isomers
ACGIH OEL TWA [ppm]	300 ppm
Remark (ACGIH)	TLV® Basis: URT irr
Regulatory reference	ACGIH 2023

n-Heptane (142-82-5)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	2085 mg/m³
IOEL TWA [ppm]	500 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	2000 mg/m³
MAK (OEL TWA) [ppm]	500 ppm
MAK (OEL STEL)	8000 mg/m³
MAK (OEL STEL) [ppm]	2000 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	1664 mg/m³
OEL TWA	400 ppm
OEL STEL	2085 mg/m³
OEL STEL	500 ppm
Denmark - Occupational Exposure Limits	
OEL TWA [1]	820 mg/m³
OEL TWA [2]	200 ppm
OEL STEL	1640 mg/m³
OEL STEL	400 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	1200 mg/m³
HTP (OEL TWA) [2]	300 ppm
HTP (OEL STEL)	2100 mg/m³
HTP (OEL STEL) [ppm]	500 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	1668 mg/m³
VME (OEL TWA) [ppm]	400 ppm
VLE (OEL C/STEL)	2100 mg/m³
VLE (OEL C/STEL) [ppm]	500 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	2100 mg/m³
AGW (OEL TWA) [2]	500 ppm
AGW (OEL C)	2100 mg/m³
AGW (OEL C) [ppm]	500 ppm
Ireland - Occupational Exposure Limits	
OEL TWA [1]	2085 mg/m³
OEL TWA [2]	500 ppm
Italy - Occupational Exposure Limits	
OEL TWA	2085 mg/m³
OEL TWA	500 ppm

n-Heptane (142-82-5)	
Latvia - Occupational Exposure Limits	
OEL TWA	350 mg/m³
OEL TWA	85 ppm
OEL STEL	2085 mg/m³
OEL STEL	500 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	1200 mg/m³
TGG-15min (OEL STEL)	1600 mg/m³
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [2]	500 ppm
USA - ACGIH - Occupational Exposure Limits	
Local name	Heptane, isomers (n-Heptane)
ACGIH OEL TWA [ppm]	400 ppm
ACGIH OEL STEL [ppm]	500 ppm (listed under Heptane, all isomers)
Remark (ACGIH)	TLV® Basis: CNS impair; URT irr
Regulatory reference	ACGIH 2023

Toluene (108-88-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	192 mg/m³
IOEL TWA [ppm]	50 ppm
IOEL STEL	384 mg/m³
IOEL STEL [ppm]	100 ppm
Notes	Possibility of significant uptake through the skin
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	190 mg/m³
MAK (OEL TWA) [ppm]	50 ppm
MAK (OEL STEL)	380 mg/m³
MAK (OEL STEL) [ppm]	100 ppm
Chemical category	Skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	77 mg/m³
OEL TWA	20 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Skin, Skin notation
Bulgaria - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³

Toluene (108-88-3)	
OEL STEL	100 ppm
Bulgaria - Biological limit values	
BLV	1.6 mmol/mmol Creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: at the end of exposure or end of work shift
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	192 mg/m³
GVI (OEL TWA) [2]	50 ppm
KGVI (OEL STEL)	384 mg/m³
KGVI (OEL STEL) [ppm]	100 ppm
Chemical category	Skin notation
Croatia - Biological limit values	
BLV	1 mg/l Parameter: Toluene - Medium: blood - Sampling time: at the end of the work shift 20 ppm Medium: final exhaled air - Sampling time: during exposure 2.5 g/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine) 1 mg/g creatinine Parameter: o-Cresol - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine)
Cyprus - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Skin-potential for cutaneous absorption
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	200 mg/m³
Chemical category	Potential for cutaneous absorption
Czech Republic - Biological limit values	
BLV	1.6 µmol/mmol Creatinine Parameter: o-Cresol - Medium: urine - Sampling time: end of shift (after hydrolysis) 1000 µmol/mmol Creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (exposure testing using the o-Cresol parameter to precisely measure Toluene exposure is needed if the value of Hippuric acid is between 1600 and 2500 mg/g of Creatinine, no additional testing is needed if the Hippuric acid value is >2500 mg/g of Creatinine as work exposure to Toluene will have highly exceeded the PEL value.) 1.5 mg/g creatinine Parameter: o-Cresol - Medium: urine - Sampling time: end of shift (after hydrolysis) 1600 mg/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (exposure testing using the o-Cresol parameter to precisely measure Toluene exposure is needed if the value of Hippuric acid is between 1600 and 2500 mg/g of Creatinine, no additional testing is needed if the Hippuric acid value is >2500 mg/g of Creatinine as work exposure to Toluene will have highly exceeded the PEL value.)
Denmark - Occupational Exposure Limits	
OEL TWA [1]	94 mg/m³
OEL TWA [2]	25 ppm
OEL STEL	188 mg/m³
OEL STEL	50 ppm

Toluene (108-88-3)	
Chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Skin notation
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	81 mg/m³
HTP (OEL TWA) [2]	25 ppm
HTP (OEL STEL)	380 mg/m³
HTP (OEL STEL) [ppm]	100 ppm
Chemical category	Potential for cutaneous absorption
Finland - Biological limit values	
BLV	500 nmol/L Parameter: Toluene - Medium: blood - Sampling time: in the morning after a working day
France - Occupational Exposure Limits	
VME (OEL TWA)	76.8 mg/m³ TWA [VME] (restrictive limit)
VME (OEL TWA) [ppm]	20 ppm TWA [VME] (restrictive limit)
VLE (OEL C/STEL)	384 mg/m³ STEL [VLCT] (restrictive limit)
VLE (OEL C/STEL) [ppm]	100 ppm STEL [VLCT] (restrictive limit)
Chemical category	Risk of cutaneous absorption
France - Biological limit values	
BLV	20 µg/l Parameter: Toluene - Medium: blood - Sampling time: end of workweek (Semi-quantitative (ambiguous interpretation)) Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (per the Authority, the values for this substance must be decided and/or determined on a case by case basis. Guidance for the calculation of and interpretation of values is provided in the source)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	190 mg/m³
AGW (OEL TWA) [2]	50 ppm
AGW (OEL C)	760 mg/m³
AGW (OEL C) [ppm]	200 ppm
Chemical category	Skin notation
Germany - Biological limit values (TRGS 903)	
BLV	600 µg/l Parameter: Toluene - Medium: whole blood - Sampling time: immediately after exposure 75 µg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 1.5 mg/l Parameter: o-Cresol (after hydrolysis) - Medium: urine - Sampling time: for long-term exposures: at the end of the shift after several shifts 1.5 mg/l Parameter: o-Cresol (after hydrolysis) - Medium: urine - Sampling time: end of shift

Toluene (108-88-3)	
Gibraltar - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Skin notation
Greece - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	skin - potential for cutaneous absorption
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	190
CK (OEL STEL)	380 mg/m³
Chemical category	Potential for cutaneous absorption
Ireland - Occupational Exposure Limits	
OEL TWA [1]	192 mg/m³
OEL TWA [2]	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
Chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	14 ppm
OEL STEL	150 mg/m³
OEL STEL	40 ppm
Chemical category	skin - potential for cutaneous exposure
Latvia - Biological limit values	
BEI	1.6 g/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift 0.05 mg/l Parameter: Toluene - Medium: blood - Sampling time: end of shift
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	192 mg/m³
IPRV (OEL TWA) [ppm]	50 ppm
TPRV (OEL STEL)	384 mg/m³

Toluene (108-88-3)	
TPRV (OEL STEL) [ppm]	100 ppm
Chemical category	Reproductive toxin, Skin notation
Luxembourg - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Possibility of significant uptake through the skin
Malta - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Possibility of significant uptake through the skin
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	150 mg/m³
TGG-8u (OEL TWA) [ppm]	39 ppm
TGG-15min (OEL STEL)	384 mg/m³
TGG-15min (OEL STEL) [ppm]	100 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	100 mg/m³
NDSCh (OEL STEL)	200 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	192 mg/m³ (indicative limit value)
OEL TWA	50 ppm (indicative limit value)
OEL STEL	384 mg/m³ (indicative limit value)
OEL STEL	100 ppm (indicative limit value)
Chemical category	A4 - Not Classifiable as a Human Carcinogen, skin - potential for cutaneous exposure indicative limit value
Romania - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Skin notation
Romania - Biological limit values	
BLV	2 g/l Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift 3 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	192 mg/m³

Toluene (108-88-3)	
NPHV (OEL TWA) [2]	50 ppm
NPHV (OEL C)	384 mg/m³
Chemical category	Potential for cutaneous absorption
Slovakia - Biological limit values	
BLV	600 µg/l Parameter: Toluene - Medium: blood - Sampling time: end of exposure or work shift 1.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: after all work shifts (for long-term exposure) 1.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of exposure or work shift 1600 mg/g creatinine Parameter: Hippuric acid - Sampling time: end of exposure or work shift
Slovenia - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Category 2, Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	191 mg/m³
VLA-ED (OEL TWA) [2]	50 ppm
VLA-EC (OEL STEL)	384 mg/m³
VLA-EC (OEL STEL) [ppm]	100 ppm
Chemical category	skin - potential for cutaneous absorption
Spain - Biological limit values	
BLV	0.6 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift 0.05 mg/l Parameter: Toluene - Medium: blood - Sampling time: start of last shift of workweek 0.08 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	192 mg/m³
NGV (OEL TWA) [ppm]	50 ppm
KTV (OEL STEL)	384 mg/m³
KTV (OEL STEL) [ppm]	100 ppm
Chemical category	Skin notation
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	191 mg/m³
WEL TWA (OEL TWA) [2]	50 ppm
WEL STEL (OEL STEL)	384 mg/m³
WEL STEL (OEL STEL) [ppm]	100 ppm
WEL chemical category	Potential for cutaneous absorption

Toluene (108-88-3)	
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	94 mg/m³
Grenseverdi (OEL TWA) [2]	25 ppm
Korttidsverdi (OEL STEL)	141 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	37.5 ppm (value calculated)
Chemical category	Skin notation
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	190 mg/m³
MAK (OEL TWA) [2]	50 ppm
KZGW (OEL STEL)	760 mg/m³
KZGW (OEL STEL) [ppm]	200 ppm
Chemical category	Skin notation, Category 2 reproductive toxin
Switzerland - Biological limit values	
BAT	600 µg/l Parameter: Toluene - Medium: whole blood - Sampling time: end of shift 6.48 µmol/l Parameter: Toluene - Medium: whole blood - Sampling time: end of shift 2 g/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 0.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 4.62 µmol/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 75 µg/l Parameter: Toluol - Medium: urine - Sampling time: end of shift
Turkey - Occupational Exposure Limits	
OEL TWA	192 mg/m³
OEL TWA	50 ppm
OEL STEL	384 mg/m³
OEL STEL	100 ppm
Chemical category	Skin notation
USA - ACGIH - Occupational Exposure Limits	
Local name	Toluene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: CNS, visual & hearing impair; female repro system eff; pregnancy loss. Notations: OTO; A4 (Not classifiable as a Human Carcinogen); BEI
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	TOLUENE
BEI	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g creatinine Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)

Toluene (108-88-3)	
Regulatory reference	ACGIH 2023
Benzene (71-43-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	3.25 mg/m³
IOEL TWA [ppm]	1 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	3.2 mg/m³
MAK (OEL TWA) [ppm]	1 ppm
MAK (OEL STEL)	12.8 mg/m³
MAK (OEL STEL) [ppm]	4 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	3.25 mg/m³
OEL TWA	1 ppm
Denmark - Occupational Exposure Limits	
OEL TWA [1]	1.6 mg/m³
OEL TWA [2]	0.5 ppm
OEL STEL	3.2 mg/m³
OEL STEL	1 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	3.25 mg/m³
HTP (OEL TWA) [2]	1 ppm
OEL TWA	3.25 mg/m³
OEL TWA	1 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	3.25 mg/m³
VME (OEL TWA) [ppm]	1 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	1.9 mg/m³
AGW (OEL TWA) [2]	0.6 ppm
AGW (OEL C)	15.2 mg/m³
AGW (OEL C) [ppm]	4.8 ppm
Hungary - Occupational Exposure Limits	
CK (OEL STEL)	3 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	3 mg/m³
OEL TWA [2]	1 ppm
Italy - Occupational Exposure Limits	
OEL TWA	3.25 mg/m³
OEL TWA	1 ppm

Benzene (71-43-2)	
Latvia - Occupational Exposure Limits	
OEL TWA	3.25 mg/m³
OEL TWA	1 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	3.25 mg/m³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	1.6 mg/m³
Romania - Occupational Exposure Limits	
OEL TWA	3.25 mg/m³
OEL TWA	1 ppm
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	3.25 mg/m³
VLA-ED (OEL TWA) [2]	1 ppm
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	1.5 mg/m³
NGV (OEL TWA) [ppm]	0.5 ppm
KTV (OEL STEL)	9 mg/m³
KTV (OEL STEL) [ppm]	3 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [2]	1 ppm
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	1.6 mg/m³
MAK (OEL TWA) [2]	0.5 ppm
USA - ACGIH - Occupational Exposure Limits	
Local name	Benzene
ACGIH OEL TWA [ppm]	0.5 ppm
ACGIH OEL STEL [ppm]	2.5 ppm
Remark (ACGIH)	TLV® Basis: Leukemia. Notations: Skin; A1 (Confirmed Human Carcinogen); BEI
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	BENZENE
BEI	25 µg/g creatinine Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: End of shift - Notations: B 500 µg/g creatinine Parameter: t,t-Muconic acid - Medium: urine - Sampling time: End of shift - Notations: B
Regulatory reference	ACGIH 2023

Ethylbenzene (100-41-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	442 mg/m³
IOEL TWA [ppm]	100 ppm

Ethylbenzene (100-41-4)	
IOEL STEL	884 mg/m³
IOEL STEL [ppm]	200 ppm
Notes	Possibility of significant uptake through the skin
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	440 mg/m³
MAK (OEL TWA) [ppm]	100 ppm
MAK (OEL STEL)	880 mg/m³
MAK (OEL STEL) [ppm]	200 ppm
Chemical category	Skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	551 mg/m³
OEL STEL	125 ppm
Chemical category	Skin, Skin notation
Bulgaria - Occupational Exposure Limits	
OEL TWA	435 mg/m³
OEL STEL	545 mg/m³
Bulgaria - Biological limit values	
BLV	2000 mg/g creatinine Parameter: Mandelic acid and Phenylglyoxylic acid - total - Medium: urine - Sampling time: at the end of exposure or end of work shift (possible significant absorption through the skin)
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	442 mg/m³
GVI (OEL TWA) [2]	100 ppm
KGVI (OEL STEL)	884 mg/m³
KGVI (OEL STEL) [ppm]	200 ppm
Chemical category	Skin notation
Croatia - Biological limit values	
BLV	1.5 mg/l Parameter: Ethylbenzene - Medium: blood - Sampling time: during exposure 1.5 g/g creatinine Parameter: Mandelic acid - Medium: urine - Sampling time: at the end of the work shift and at the end of the working week (calculated on the average Creatinine value of 1.2 g/L urine)
Cyprus - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	Skin-potential for cutaneous absorption
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	200 mg/m³

Ethylbenzene (100-41-4)	
Chemical category	Potential for cutaneous absorption
Czech Republic - Biological limit values	
BLV	1100 µmol/mmol Creatinine Parameter: Mandelic acid - Medium: urine - Sampling time: end of shift 1500 mg/g creatinine Parameter: Mandelic acid - Medium: urine - Sampling time: end of shift
Denmark - Occupational Exposure Limits	
OEL TWA [1]	217 mg/m³
OEL TWA [2]	50 ppm
OEL STEL	434 mg/m³
OEL STEL	100 ppm
Chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	Skin notation, Sensitizer
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	220 mg/m³
HTP (OEL TWA) [2]	50 ppm
HTP (OEL STEL)	880 mg/m³
HTP (OEL STEL) [ppm]	200 ppm
Chemical category	Potential for cutaneous absorption
Finland - Biological limit values	
BLV	Parameter: Mandelic acid - Medium: urine - Sampling time: after the shift after a working week or exposure period
France - Occupational Exposure Limits	
VME (OEL TWA)	88.4 mg/m³ TWA [VME] (restrictive limit)
VME (OEL TWA) [ppm]	20 ppm TWA [VME] (restrictive limit)
VLE (OEL C/STEL)	442 mg/m³ STEL [VLCT] (restrictive limit)
VLE (OEL C/STEL) [ppm]	100 ppm STEL [VLCT] (restrictive limit)
Chemical category	Risk of cutaneous absorption
France - Biological limit values	
BLV	Parameter: Mandelic acid - Medium: urine - Sampling time: end of shift at end of workweek (per the Authority, the values for this substance must be decided and/or determined on a case by case basis. Guidance for the calculation of and interpretation of values is provided in the source)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	88 mg/m³
AGW (OEL TWA) [2]	20 ppm

Ethylbenzene (100-41-4)	
AGW (OEL C)	176 mg/m³
AGW (OEL C) [ppm]	40 ppm
Chemical category	Skin notation
Germany - Biological limit values (TRGS 903)	
BLV	250 mg/g creatinine Parameter: Mandelic acid plus Phenylglyoxylic acid - Medium: urine - Sampling time: end of shift
Gibraltar - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	Skin notation
Greece - Occupational Exposure Limits	
OEL TWA	435 mg/m³
OEL TWA	100 ppm
OEL STEL	545 mg/m³
OEL STEL	125 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	442 mg/m³
CK (OEL STEL)	884 mg/m³
Chemical category	Potential for cutaneous absorption
Ireland - Occupational Exposure Limits	
OEL TWA [1]	442 mg/m³
OEL TWA [2]	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	skin - potential for cutaneous exposure

Ethylbenzene (100-41-4)	
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	442 mg/m³
IPRV (OEL TWA) [ppm]	100 ppm
TPRV (OEL STEL)	884 mg/m³
TPRV (OEL STEL) [ppm]	200 ppm
Chemical category	Skin notation
Luxembourg - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	Possibility of significant uptake through the skin
Malta - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	Possibility of significant uptake through the skin
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	215 mg/m³
TGG-8u (OEL TWA) [ppm]	48.6 ppm
TGG-15min (OEL STEL)	430 mg/m³
TGG-15min (OEL STEL) [ppm]	97.3 ppm
MAC chemical category	Skin notation
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	200 mg/m³
NDSCh (OEL STEL)	400 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	442 mg/m³ (indicative limit value)
OEL TWA	100 ppm (indicative limit value)
OEL STEL	884 mg/m³ (indicative limit value)
OEL STEL	200 ppm (indicative limit value)
Chemical category	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, skin - potential for cutaneous exposure indicative limit value
Romania - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm

Ethylbenzene (100-41-4)	
Chemical category	Skin notation
Romania - Biological limit values	
BLV	1.5 g/g creatinine Parameter: Mandelic acid - Medium: urine - Sampling time: end of work week
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	442 mg/m³
NPHV (OEL TWA) [2]	100 ppm
NPHV (OEL C)	884 mg/m³
Chemical category	Potential for cutaneous absorption
Slovakia - Biological limit values	
BLV	12 mg/l Parameter: 2 and 4-Ethylphenol - Medium: urine - Sampling time: end of exposure or work shift (also after all work shifts for long-term exposure) 1600 mg/l Parameter: Mandelic acid and Phenylglycolic acid - Medium: urine - Sampling time: end of exposure or work shift (also after all work shifts for long-term exposure)
Slovenia - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	441 mg/m³
VLA-ED (OEL TWA) [2]	100 ppm
VLA-EC (OEL STEL)	884 mg/m³
VLA-EC (OEL STEL) [ppm]	200 ppm
Chemical category	skin - potential for cutaneous absorption
Spain - Biological limit values	
BLV	700 mg/g creatinine Parameter: Mandelic acid plus Phenylglyoxylic acid - Medium: urine - Sampling time: end of workweek
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	220 mg/m³
NGV (OEL TWA) [ppm]	50 ppm
KTV (OEL STEL)	884 mg/m³
KTV (OEL STEL) [ppm]	200 ppm
Chemical category	Skin notation
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	441 mg/m³
WEL TWA (OEL TWA) [2]	100 ppm
WEL STEL (OEL STEL)	552 mg/m³
WEL STEL (OEL STEL) [ppm]	125 ppm
WEL chemical category	Potential for cutaneous absorption

Ethylbenzene (100-41-4)	
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	20 mg/m³
Grenseverdi (OEL TWA) [2]	5 ppm
Korttidsverdi (OEL STEL)	30 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	10 ppm (value calculated)
Chemical category	Skin notation, Carcinogen
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	435 mg/m³
MAK (OEL TWA) [2]	100 ppm
KZGW (OEL STEL)	435 mg/m³
KZGW (OEL STEL) [ppm]	100 ppm
Chemical category	Skin notation
Switzerland - Biological limit values	
BAT	600 mg/g creatinine Parameter: Mandelic acid and Phenylglyoxylacid - Medium: urine - Sampling time: end of shift (see also Styrene)
Turkey - Occupational Exposure Limits	
OEL TWA	442 mg/m³
OEL TWA	100 ppm
OEL STEL	884 mg/m³
OEL STEL	200 ppm
Chemical category	Skin notation
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethylbenzene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; ototoxicity; kidney eff; CNS impair. Notations: OTO (Ototoxicant); A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans); BEI
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	ETHYLBENZENE
BEI	0.15 g/g creatinine Parameter: Sum of mandelic acid and phenylglyoxylic acid (with hydrolysis) - Medium: urine - Sampling time: End of shift - Notations: Ns
Regulatory reference	ACGIH 2023

Naphthalene (91-20-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	50 mg/m³
IOEL TWA [ppm]	10 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	50 mg/m³

Naphthalene (91-20-3)	
MAK (OEL TWA) [ppm]	10 ppm
Chemical category	Skin notation, Group B Carcinogen
Belgium - Occupational Exposure Limits	
OEL TWA	53 mg/m³
OEL TWA	10 ppm
OEL STEL	80 mg/m³
OEL STEL	5 ppm
Chemical category	Skin
Bulgaria - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL STEL	75 mg/m³
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	50 mg/m³
GVI (OEL TWA) [2]	10 ppm
Cyprus - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	50 mg/m³
Denmark - Occupational Exposure Limits	
OEL TWA [1]	50 mg/m³
OEL TWA [2]	10 ppm
OEL STEL	100 mg/m³
OEL STEL	20 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	5 mg/m³
HTP (OEL TWA) [2]	1 ppm
HTP (OEL STEL)	10 mg/m³
HTP (OEL STEL) [ppm]	2 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	50 mg/m³
VME (OEL TWA) [ppm]	10 ppm
Chemical category	Carcinogen category 2
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	2 mg/m³
AGW (OEL TWA) [2]	0.4 ppm

Naphthalene (91-20-3)	
AGW (OEL C)	8 mg/m³
AGW (OEL C) [ppm]	1.6 ppm
Chemical category	Skin notation
Gibraltar - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
Greece - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	50 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	50 mg/m³
OEL TWA [2]	10 ppm
OEL STEL	75 mg/m³
OEL STEL	15 ppm
Italy - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
Latvia - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	50 mg/m³
IPRV (OEL TWA) [ppm]	10 ppm
Chemical category	Carcinogen
Luxembourg - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
Malta - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	50 mg/m³
TGG-8u (OEL TWA) [ppm]	10 ppm
TGG-15min (OEL STEL)	80 mg/m³
TGG-15min (OEL STEL) [ppm]	16 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	20 mg/m³

Naphthalene (91-20-3)	
NDSCh (OEL STEL)	50 mg/m³
NDSP (OEL C)	50 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	50 mg/m³ (indicative limit value)
OEL TWA	10 ppm (indicative limit value)
OEL STEL	15 ppm
Chemical category	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, skin - potential for cutaneous exposure
Romania - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	9.5 ppm
Chemical category	C2
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	50 mg/m³
NPHV (OEL TWA) [2]	10 ppm
NPHV (OEL C)	80 mg/m³
Chemical category	Potential for cutaneous absorption
Slovenia - Occupational Exposure Limits	
OEL TWA	50 mg/m³ (inhalable fraction)
OEL TWA	10 ppm
OEL STEL	50 mg/m³ (inhalable fraction)
OEL STEL	10 ppm
Chemical category	Category 2, Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	53 mg/m³
VLA-ED (OEL TWA) [2]	10 ppm
VLA-EC (OEL STEL)	80 mg/m³
VLA-EC (OEL STEL) [ppm]	15 ppm
Chemical category	skin - potential for cutaneous absorption
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	50 mg/m³
NGV (OEL TWA) [ppm]	10 ppm
KTV (OEL STEL)	80 mg/m³
KTV (OEL STEL) [ppm]	15 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	53 mg/m³
WEL TWA (OEL TWA) [2]	10 ppm
WEL STEL (OEL STEL)	80 mg/m³
WEL STEL (OEL STEL) [ppm]	15 ppm

Naphthalene (91-20-3)	
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	50 mg/m³
Grenseverdi (OEL TWA) [2]	10 ppm
Korttidsverdi (OEL STEL)	75 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	20 ppm (value calculated)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	50 mg/m³ (aerosol, vapour)
MAK (OEL TWA) [2]	10 ppm (aerosol, vapour)
Chemical category	Skin notation, Category C2 carcinogen
Turkey - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
USA - ACGIH - Occupational Exposure Limits	
Local name	Naphthalene
ACGIH OEL TWA [ppm]	10 ppm
ACGIH OEL STEL [ppm]	15 ppm
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans, Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	NAPHTHALENE
BEI	Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis - Sampling time: end of shift (nonquantitative, nonspecific)
Regulatory reference	ACGIH 2023

Xylene (1330-20-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	221 mg/m³
IOEL TWA [ppm]	50 ppm
IOEL STEL	442 mg/m³
IOEL STEL [ppm]	100 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	221 mg/m³
MAK (OEL TWA) [ppm]	50 ppm
MAK (OEL STEL)	442
MAK (OEL STEL) [ppm]	100 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	221
OEL TWA	50 ppm
OEL STEL	442 mg/m³

Xylene (1330-20-7)	
OEL STEL	100 ppm
Denmark - Occupational Exposure Limits	
OEL TWA [1]	109 mg/m³
OEL TWA [2]	25 ppm
OEL STEL	218 mg/m³
OEL STEL	50 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	220 mg/m³
HTP (OEL TWA) [2]	50 ppm
HTP (OEL STEL)	440 mg/m³
HTP (OEL STEL) [ppm]	100 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	221 mg/m³ [VME] (restrictive limit)
VME (OEL TWA) [ppm]	50 ppm [VME] (restrictive limit)
VLE (OEL C/STEL)	442 mg/m³ [VLCT] (restrictive limit)
VLE (OEL C/STEL) [ppm]	100 ppm [VLCT] (restrictive limit)
Chemical category	Risk of cutaneous absorption
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	440 mg/m³
AGW (OEL TWA) [2]	100 ppm
AGW (OEL C)	880 mg/m³
AGW (OEL C) [ppm]	200 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	221 mg/m³
CK (OEL STEL)	442 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	221 mg/m³
OEL TWA [2]	50 ppm
OEL STEL	442 mg/m³
OEL STEL	100 ppm
Italy - Occupational Exposure Limits	
OEL TWA	50 ppm TWA (pure)
OEL STEL	100 ppm STEL (pure)
Chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	221 mg/m³
OEL TWA	50 ppm
OEL STEL	442 mg/m³
OEL STEL	100 ppm

Xylene (1330-20-7)	
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	100 mg/m³
Romania - Occupational Exposure Limits	
OEL TWA	221 mg/m³
OEL TWA	50 ppm
OEL STEL	422 mg/m³
OEL STEL	100 ppm
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	221 mg/m³
VLA-ED (OEL TWA) [2]	50 ppm
VLA-EC (OEL STEL)	442 mg/m³
VLA-EC (OEL STEL) [ppm]	100 ppm
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	221 mg/m³
NGV (OEL TWA) [ppm]	50 ppm
KTV (OEL STEL)	442 mg/m³
KTV (OEL STEL) [ppm]	100 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	221 mg/m³
WEL TWA (OEL TWA) [2]	50 ppm
WEL STEL (OEL STEL)	442 mg/m³
WEL STEL (OEL STEL) [ppm]	100 ppm
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	435 mg/m³
MAK (OEL TWA) [2]	100 ppm
KZGW (OEL STEL)	870 mg/m³
KZGW (OEL STEL) [ppm]	200 ppm
USA - ACGIH - Occupational Exposure Limits	
Local name	Xylene, mixed isomers (Dimethylbenzene)
ACGIH OEL TWA	221 mg/m³
ACGIH OEL TWA [ppm]	50 ppm
ACGIH OEL STEL	442 mg/m³
ACGIH OEL STEL [ppm]	100 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; hematologic eff; ototoxycity (for mixtures containing p-xylene); CNS impair. Notations: OTO (for mixtures containing p-xylene); A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	XYLENES (Technical or commercial grade)

Xylene (1330-20-7)	
BEI	1.5 g/g creatinine Parameter: Methylhippuric acids - Medium: urine - Sampling time: End of shift
Regulatory reference	ACGIH 2023

Cumene (98-82-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	100 mg/m³
IOEL TWA [ppm]	20 ppm
IOEL STEL	250 mg/m³
IOEL STEL [ppm]	50 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	100 mg/m³
MAK (OEL TWA) [ppm]	20 ppm
MAK (OEL STEL)	250 mg/m³
MAK (OEL STEL) [ppm]	50 ppm
Chemical category	Skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	100 mg/m³
OEL TWA	20 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Skin, Skin notation
Bulgaria - Occupational Exposure Limits	
OEL TWA	50 mg/m³ (exposure monitoring should take into account the relevant biological monitoring methods of the Scientific Committee on Occupational Exposure Limits (SCOEL) under Annex 2)
OEL TWA	10 ppm (exposure monitoring should take into account the relevant biological monitoring methods of the Scientific Committee on Occupational Exposure Limits (SCOEL) under Annex 2)
OEL STEL	250 mg/m³ (exposure monitoring should take into account the relevant biological monitoring methods of the Scientific Committee on Occupational Exposure Limits (SCOEL) under Annex 2)
OEL STEL	50 ppm (exposure monitoring should take into account the relevant biological monitoring methods of the Scientific Committee on Occupational Exposure Limits (SCOEL) under Annex 2)
Bulgaria - Biological limit values	
BLV	7 mg/g creatinine Parameter: 2-Phenol-2 propanol - Medium: urine - Sampling time: up to two hours after the end of work shift (possible significant absorption through the skin)
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	50 mg/m³ (during the monitoring of exposure the relevant value of biological monitoring shall be taken into account as suggested by the Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL) (Cumene)
GVI (OEL TWA) [2]	10 ppm (during the monitoring of exposure the relevant value of biological monitoring shall be taken into account as suggested by the Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL) (Cumene)

Cumene (98-82-8)	
KGVI (OEL STEL)	250 mg/m³ (during the monitoring of exposure the relevant value of biological monitoring shall be taken into account as suggested by the Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL) (Cumene)
KGVI (OEL STEL) [ppm]	50 ppm
Chemical category	Skin notation during the monitoring of exposure the relevant value of biological monitoring shall be taken into account as suggested by the Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL)
Cyprus - Occupational Exposure Limits	
OEL TWA	50 mg/m³ (inhalable fraction)
OEL TWA	10 ppm (inhalable fraction)
OEL STEL	250 mg/m³ (inhalable fraction)
OEL STEL	50 ppm (inhalable fraction)
Chemical category	Skin-potential for cutaneous absorption
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	100 mg/m³
Chemical category	Potential for cutaneous absorption
Denmark - Occupational Exposure Limits	
OEL TWA [1]	100 mg/m³
OEL TWA [2]	20 ppm
OEL STEL	200 mg/m³
OEL STEL	40 ppm
Chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Skin notation
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	100 mg/m³
HTP (OEL TWA) [2]	20 ppm
HTP (OEL STEL)	250 mg/m³
HTP (OEL STEL) [ppm]	50 ppm
Chemical category	Potential for cutaneous absorption
France - Occupational Exposure Limits	
VME (OEL TWA)	100 mg/m³
VME (OEL TWA) [ppm]	20 ppm
VLE (OEL C/STEL)	250 mg/m³
VLE (OEL C/STEL) [ppm]	50 ppm
Chemical category	Risk of cutaneous absorption

Cumene (98-82-8)	
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	50 mg/m³
AGW (OEL TWA) [2]	10 ppm
AGW (OEL C)	200 mg/m³
AGW (OEL C) [ppm]	40 ppm
Chemical category	Skin notation
Germany - Biological limit values (TRGS 903)	
BLV	10 mg/g creatinine Parameter: 2-Phenyl-2-propanol (after hydrolysis) - Medium: urine - Sampling time: end of shift
Gibraltar - Occupational Exposure Limits	
OEL TWA	100 mg/m³
OEL TWA	20 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Skin notation
Greece - Occupational Exposure Limits	
OEL TWA	50 mg/m³ (during the monitoring of the exposure, the relevant biological monitoring values recommended by the Scientific Committee on Occupational Exposure Limit Values (SCOEL) should be taken under consideration)
OEL TWA	10 ppm (during the monitoring of the exposure, the relevant biological monitoring values recommended by the Scientific Committee on Occupational Exposure Limit Values (SCOEL) should be taken under consideration)
OEL STEL	250 mg/m³ (during the monitoring of the exposure, the relevant biological monitoring values recommended by the Scientific Committee on Occupational Exposure Limit Values (SCOEL) should be taken under consideration)
OEL STEL	50 ppm (during the monitoring of the exposure, the relevant biological monitoring values recommended by the Scientific Committee on Occupational Exposure Limit Values (SCOEL) should be taken under consideration)
Chemical category	skin - potential for cutaneous absorption during the monitoring of the exposure, the relevant biological monitoring values recommended by the Scientific Committee on Occupational Exposure Limit Values (SCOEL) should be taken under consideration
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	100 mg/m³
CK (OEL STEL)	250 mg/m³
Chemical category	Potential for cutaneous absorption
Ireland - Occupational Exposure Limits	
OEL TWA [1]	100 mg/m³
OEL TWA [2]	20 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	100 mg/m³

Cumene (98-82-8)	
OEL TWA	20 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	100 mg/m³
OEL TWA	20 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	skin - potential for cutaneous exposure
Latvia - Biological limit values	
BEI	7 µg/g creatinine Parameter: Cumene - Medium: urine - Sampling time: no later than two hours after the end of the shift
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	50 mg/m³ (in addition to the indicative occupational exposure limit values, biological monitoring values must be taken into account when monitoring exposure)
IPRV (OEL TWA) [ppm]	10 ppm (in addition to the indicative occupational exposure limit values, biological monitoring values must be taken into account when monitoring exposure)
TPRV (OEL STEL)	170 mg/m³ (in addition to the indicative occupational exposure limit values, biological monitoring values must be taken into account when monitoring exposure)
TPRV (OEL STEL) [ppm]	35 ppm (in addition to the indicative occupational exposure limit values, biological monitoring values must be taken into account when monitoring exposure)
Chemical category	Skin notation
Luxembourg - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Possibility of significant uptake through the skin
Malta - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Possibility of significant uptake through the skin
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	100 mg/m³
TGG-8u (OEL TWA) [ppm]	10 ppm
TGG-15min (OEL STEL)	250 mg/m³
TGG-15min (OEL STEL) [ppm]	50 ppm
MAC chemical category	Skin notation

Cumene (98-82-8)	
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	100 mg/m³
NDSCh (OEL STEL)	250 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	50 mg/m³ (indicative limit value)
OEL TWA	10 ppm (indicative limit value)
OEL STEL	250 mg/m³ (indicative limit value)
OEL STEL	50 ppm (indicative limit value)
Chemical category	skin - potential for cutaneous exposure indicative limit value
Romania - Occupational Exposure Limits	
OEL TWA	100 mg/m³
OEL TWA	20 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Skin notation
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	500 mg/m³
NPHV (OEL TWA) [2]	20 ppm
NPHV (OEL C)	250 mg/m³
Chemical category	Potential for cutaneous absorption
Slovakia - Biological limit values	
BLV	10.6 mg/l Parameter: 2-Phenylpropane - Medium: urine - Sampling time: end of exposure or work shift
Slovenia - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA	10 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	100 mg/m³
VLA-ED (OEL TWA) [2]	20 ppm
VLA-EC (OEL STEL)	250 mg/m³
VLA-EC (OEL STEL) [ppm]	50 ppm
Chemical category	C1B, skin - potential for cutaneous absorption
Spain - Biological limit values	
BLV	7 mg/g creatinine Parameter: 2-Phenyl-2-propanol - Medium: urine - Sampling time: end of shift (with hydrolysis)
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	120 mg/m³

Cumene (98-82-8)	
NGV (OEL TWA) [ppm]	25 ppm
KTV (OEL STEL)	250 mg/m³
KTV (OEL STEL) [ppm]	50 ppm
Chemical category	Skin notation
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	125 mg/m³
WEL TWA (OEL TWA) [2]	25 ppm
WEL STEL (OEL STEL)	375 mg/m³
WEL STEL (OEL STEL) [ppm]	75 ppm
WEL chemical category	Potential for cutaneous absorption
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	50 mg/m³
Grenseverdi (OEL TWA) [2]	10 ppm
Korttidsverdi (OEL STEL)	250 mg/m³ (value from the regulation)
Korttidsverdi (OEL STEL) [ppm]	50 ppm (value from the regulation)
Chemical category	Skin notation, Carcinogen
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	100 mg/m³
MAK (OEL TWA) [2]	20 ppm
KZGW (OEL STEL)	400 mg/m³
KZGW (OEL STEL) [ppm]	80 ppm
Chemical category	Skin notation, Category C2 carcinogen
Switzerland - Biological limit values	
BAT	20 mg/g creatinine Parameter: 2-Phenyl-2-propanol after hydrolysis - Medium: urine - Sampling time: end of shift Parameter: 2-Phenyl-2-propanol after hydrolysis - Medium: urine - Sampling time: end of shift
Turkey - Occupational Exposure Limits	
OEL TWA	100 mg/m³
OEL TWA	20 ppm
OEL STEL	250 mg/m³
OEL STEL	50 ppm
Chemical category	Skin notation
USA - ACGIH - Occupational Exposure Limits	
Local name	Cumene
ACGIH OEL TWA [ppm]	50 ppm
Remark (ACGIH)	TLV® Basis: URT adenoma; neurological eff. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2023

Limestone (1317-65-3)	
Belgium - Occupational Exposure Limits	
OEL TWA	10 mg/m³
Bulgaria - Occupational Exposure Limits	
OEL TWA	1 fibers/cm³ (containing <2% free Crystalline silicon dioxide in respirable fibrous particles fraction-respirable fraction, fibers) 10 mg/m³ (containing <2% free Crystalline silicon dioxide in respirable fibrous particles fraction-inhalable fraction)
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	10 mg/m³ (dust)
Estonia - Occupational Exposure Limits	
OEL TWA	10 mg/m³ 5 mg/m³ (respirable dust)
Greece - Occupational Exposure Limits	
OEL TWA	10 mg/m³ (inhalable fraction) 5 mg/m³ (respirable fraction)
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	10 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	10 mg/m³ (respirable dust) 4 mg/m³
OEL STEL	30 mg/m³ (calculated) 12 mg/m³ (calculated-total inhalable dust)
Romania - Occupational Exposure Limits	
OEL TWA	10 mg/m³ (Quartz <=1%-dust, inhalable fraction)
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	10 mg/m³
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m³ (inhalable aerosol); 4 mg/m³ (respirable aerosol)
WEL STEL (OEL STEL)	30 mg/m³ (calculated-inhalable dust) 12 mg/m³ (calculated-respirable dust)

Silica: Crystalline, quartz (14808-60-7)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	0.15 mg/m³
Chemical category	Group C Carcinogen alveolar dust
Belgium - Occupational Exposure Limits	
OEL TWA	0.1 mg/m³
Chemical category	Carcinogen alveolar dust
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	0.1 mg/m³ (regulated under Quartz sand-respirable dust; respirable particle)
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	0.1 mg/m³ (dust)

Silica: Crystalline, quartz (14808-60-7)	
Denmark - Occupational Exposure Limits	
OEL TWA [1]	0.3 mg/m³
OEL STEL	0.6 mg/m³
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	0.5 mg/m³
France - Occupational Exposure Limits	
VME (OEL TWA)	0.1 mg/m³
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	0.15 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	0.1 mg/m³ (respirable dust)
OEL STEL	0.3 mg/m³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA) [ppm]	0.1 ppm (Silicon dioxide variation-respirable fraction)
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	0.075 mg/m³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	0.1 mg/m³ (respirable fraction)
Portugal - Occupational Exposure Limits	
OEL TWA	0.025 mg/m³ (respirable fraction)
Chemical category	A2 - Suspected Human Carcinogen
Romania - Occupational Exposure Limits	
OEL TWA	0.1 mg/m³ (dust, respirable fraction)
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	0.1 mg/m³
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	0.1 mg/m³
Chemical category	Carcinogen
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	0.05 mg/m³ (dust containing .alpha.-Quartz, Cristobalite and/or Tridymite is evaluated by summation formula. At the same time, the values for Nuisance dust must be observed-respirable dust) 0.1 mg/m³ (the Other mining and quarrying (industry code 08) and Civil engineering (industry code 42) valid until February 1, 2022-respirable dust) 0.3 mg/m³ (dust containing .alpha.-Quartz, Cristobalite and/or Tridymite is evaluated by summation formula. At the same time, the values for Nuisance dust must be observed-total dust)
Korttidsverdi (OEL STEL)	0.9 mg/m³ (value calculated-total dust) 0.15 mg/m³ (value calculated-respirable dust) 0.3 mg/m³ (value calculated-respirable dust)
Chemical category	Carcinogen

Silica: Crystalline, quartz (14808-60-7)	
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	0.15 mg/m³ (respirable dust)
Chemical category	Category C1A carcinogen
USA - ACGIH - Occupational Exposure Limits	
Local name	Silica crystaline - quartz
ACGIH OEL TWA	0.025 mg/m³ (respirable fraction)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
ACGIH chemical category	Suspected Human Carcinogen
Regulatory reference	ACGIH 2023

Barium sulfate (7727-43-7)	
EU - Biological Limit Value (BLV)	
Remark	OELs not established
Belgium - Occupational Exposure Limits	
OEL TWA	5 mg/m³ (without asbestos fibers and <1% Crystallized silicon dioxide)
Bulgaria - Occupational Exposure Limits	
OEL TWA	10 mg/m³
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	10 mg/m³ (total dust, inhalable particles) 4 mg/m³ (respirable dust)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	1.25 mg/m³ (respirable fraction (dust) 10 mg/m³ (inhalable fraction (dust)
Ireland - Occupational Exposure Limits	
OEL TWA [1]	5 mg/m³ (respirable dust)
OEL STEL	15 mg/m³ (calculated-respirable dust)
Portugal - Occupational Exposure Limits	
OEL TWA	5 mg/m³ (inhalable fraction)
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	4 mg/m³ (inhalable fraction) 1.5 mg/m³ (respirable fraction)
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	10 mg/m³ (this value is for the particulate matter that is free from Asbestos and contains less than 1% of crystalline Silica)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m³ inhalable aerosol 4 mg/m³ respirable aerosol
WEL STEL (OEL STEL)	30 mg/m³ (calculated-inhalable dust) 12 mg/m³ (calculated-respirable dust)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	3 mg/m³ (respirable dust) 3 mg/m³ (total dust limit values-respirable fraction) 10 mg/m³ (total dust limit values-inhalable fraction)

Barium sulfate (7727-43-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Barium sulfate
ACGIH OEL TWA	5 mg/m³ (I - Inhalable particulate matter, E - The value is for particulate matter containing no asbestos and < 1 % crystalline silica)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2023

C.I. Pigment Red 3 (2425-85-6)	
EU - Biological Limit Value (BLV)	
Remark	OELs not established
United Kingdom - Occupational Exposure Limits	
Remark (WEL)	OELs not established

Stoddard solvent (8052-41-3)	
Belgium - Occupational Exposure Limits	
OEL TWA	533 mg/m³
OEL TWA	100 ppm
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	200 mg/m³
Denmark - Occupational Exposure Limits	
OEL TWA [1]	145 mg/m³ (=<20% Aromatic compounds)
OEL TWA [2]	25 ppm (=<20% Aromatic compounds)
OEL STEL	290 mg/m³ (=<20% Aromatic compounds)
OEL STEL	50 ppm (=<20% Aromatic compounds)
Estonia - Occupational Exposure Limits	
OEL TWA	300 mg/m³
OEL TWA	50 ppm
OEL STEL	600 mg/m³
OEL STEL	100 ppm
Greece - Occupational Exposure Limits	
OEL TWA	575 mg/m³
OEL TWA	100 ppm
OEL STEL	720 mg/m³
OEL STEL	125 ppm
Hungary - Occupational Exposure Limits	
Chemical category	Muta1B
Ireland - Occupational Exposure Limits	
OEL TWA [1]	573 mg/m³
OEL TWA [2]	100 ppm
Chemical category	Carc1B

Stoddard solvent (8052-41-3)	
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	300 mg/m³
IPRV (OEL TWA) [ppm]	50 ppm (approximate value)
TPRV (OEL STEL)	600 mg/m³ (used as paint solvents and thinners, Ligroine containing 17-22% of Aromatic compounds (about 15-20% by volume) and the boiling range is approximately 150-200°C, the approximate size of the ppm calculated as White spirit containing 22% of Aromatic substances)
TPRV (OEL STEL) [ppm]	100 ppm (approximate value)
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	300 mg/m³ (varnish)
NDSCh (OEL STEL)	900 mg/m³ (varnish (Benzin)
Portugal - Occupational Exposure Limits	
OEL TWA	100 ppm
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	300 mg/m³ (<2% aromatics) 175 mg/m³ (2-25% aromatics)
NGV (OEL TWA) [ppm]	50 ppm (<2% aromatics) 30 ppm (2-25% aromatics)
KTV (OEL STEL)	600 mg/m³ (<2% aromatics) 350 mg/m³ (2-25% aromatics)
KTV (OEL STEL) [ppm]	100 ppm (<2% aromatics) 60 ppm (2-25% aromatics)
Chemical category	Skin notation 2-25% aromatics, Skin notation 2-25% aromatics
USA - ACGIH - Occupational Exposure Limits	
Local name	Stoddard solvent
ACGIH OEL TWA [ppm]	100 ppm
Remark (ACGIH)	TLV® Basis: Eye, skin, & kidney dam; nausea; CNS impair
Regulatory reference	ACGIH 2023

Titanium dioxide (13463-67-7)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	5 mg/m³ (alveolar dust, respirable fraction)
MAK (OEL STEL)	10 mg/m³ (alveolar dust, respirable fraction)
Belgium - Occupational Exposure Limits	
OEL TWA	10 mg/m³
Bulgaria - Occupational Exposure Limits	
OEL TWA	10 mg/m³ (respirable dust)
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	10 mg/m³ (total dust, inhalable particles) 4 mg/m³ (respirable dust)
Denmark - Occupational Exposure Limits	
OEL TWA [1]	6 mg/m³
OEL STEL	12 mg/m³

Titanium dioxide (13463-67-7)	
Estonia - Occupational Exposure Limits	
OEL TWA	5 mg/m³
France - Occupational Exposure Limits	
VME (OEL TWA)	11 mg/m³
Chemical category	Carcinogen category 2
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	0.3 mg/m³
AGW (OEL C)	2.4 mg/m³
Greece - Occupational Exposure Limits	
OEL TWA	10 mg/m³ (inhalable fraction) 5 mg/m³ (respirable fraction)
Ireland - Occupational Exposure Limits	
OEL TWA [1]	10 mg/m³
OEL STEL	30 mg/m³ (calculated-respirable dust) 12 mg/m³ (calculated)
Latvia - Occupational Exposure Limits	
OEL TWA	10 mg/m³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	10 mg/m³
NDSP (OEL C)	30 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	10 mg/m³
Chemical category	A4 - Not Classifiable as a Human Carcinogen
Romania - Occupational Exposure Limits	
OEL TWA	10 mg/m³
OEL STEL	15 mg/m³
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	5 mg/m³
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	10 mg/m³
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	5 mg/m³
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m³ inhalable aerosol 4 mg/m³ respirable aerosol
WEL STEL (OEL STEL)	30 mg/m³ (calculated-total inhalable) 12 mg/m³ (calculated-respirable)
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	5 mg/m³

Titanium dioxide (13463-67-7)	
Korttidsverdi (OEL STEL)	10 mg/m³ (value calculated)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	3 mg/m³ (respirable dust) 3 mg/m³ (total dust limit values) 10 mg/m³ (total dust limit values)
USA - ACGIH - Occupational Exposure Limits	
Local name	Titanium dioxide
ACGIH OEL TWA	10 mg/m³
Remark (ACGIH)	TLV® Basis: LRT irr; pneumoconiosis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2023

Methyl ethyl ketoxime (96-29-7)	
Austria - Occupational Exposure Limits	
Chemical category	Group B Carcinogen, Skin sensitizer
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	1 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
AGW (OEL TWA) [2]	0.3 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Chemical category	Skin notation, Skin sensitization
Ireland - Occupational Exposure Limits	
OEL TWA [1]	10 mg/m³
OEL TWA [2]	3 ppm
OEL STEL	33 mg/m³
OEL STEL	10 ppm
Chemical category	Sensitizer
Portugal - Occupational Exposure Limits	
Chemical category	A4 - Not Classifiable as a Human Carcinogen
Slovenia - Occupational Exposure Limits	
OEL TWA	1 mg/m³
OEL TWA	0.3 ppm
OEL STEL	8 mg/m³
OEL STEL	2.4 ppm
Chemical category	Category 2, Potential for cutaneous absorption
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m³ (inhalable aerosol) 4 mg/m³ (respirable aerosol)

Silica, amorphous, fumed, crystalline-free (112945-52-5)	
EU - Biological Limit Value (BLV)	
Remark	OELs not established

Silica, amorphous, fumed, crystalline-free (112945-52-5)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	4 mg/m³ (inhalable fraction (Silica, amorphous)
France - Biological limit values	
Remark	OELs not established
Germany - Occupational Exposure Limits (TRGS 900)	
Remark	OELs not established
Poland - Occupational Exposure Limits	
Remark (PL)	OELs not established
Spain - Biological limit values	
Remark	OELs not established
United Kingdom - Occupational Exposure Limits	
Remark (WEL)	OELs not established

Methyl ethyl ketone (78-93-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	600 mg/m³
IOEL TWA [ppm]	200 ppm
IOEL STEL	900 mg/m³
IOEL STEL [ppm]	300 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	295 mg/m³
MAK (OEL TWA) [ppm]	100 ppm
MAK (OEL STEL)	590 mg/m³
MAK (OEL STEL) [ppm]	200 ppm
Chemical category	Skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Bulgaria - Occupational Exposure Limits	
OEL TWA	590 mg/m³
OEL STEL	885 mg/m³
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	600 mg/m³
GVI (OEL TWA) [2]	200 ppm
KGVI (OEL STEL)	900 mg/m³
KGVI (OEL STEL) [ppm]	300 ppm

Methyl ethyl ketone (78-93-3)	
Croatia - Biological limit values	
BLV	2.6 mg/g creatinine Parameter: Ethyl methyl ketone - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine)
Cyprus - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	600 mg/m³
Denmark - Occupational Exposure Limits	
OEL TWA [1]	145 mg/m³
OEL TWA [2]	50 ppm
OEL STEL	290 mg/m³
OEL STEL	100 ppm
Chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	60 mg/m³
HTP (OEL TWA) [2]	20 ppm
HTP (OEL STEL)	300 mg/m³
HTP (OEL STEL) [ppm]	100 ppm
Chemical category	Potential for cutaneous absorption
France - Occupational Exposure Limits	
VME (OEL TWA)	600 mg/m³
VME (OEL TWA) [ppm]	200 ppm
VLE (OEL C/STEL)	900 mg/m³
VLE (OEL C/STEL) [ppm]	300 ppm
Chemical category	Risk of cutaneous absorption
France - Biological limit values	
BLV	Parameter: Methylethylketone - Medium: urine - Sampling time: end of shift (per the Authority, the values for this substance must be decided and/or determined on a case by case basis. Guidance for the calculation of and interpretation of values is provided in the source)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	600 mg/m³

Methyl ethyl ketone (78-93-3)	
AGW (OEL TWA) [2]	200 ppm
AGW (OEL C)	600 mg/m³
AGW (OEL C) [ppm]	200 ppm
Chemical category	Skin notation
Germany - Biological limit values (TRGS 903)	
BLV	2 mg/l Parameter: 2-Butanone - Medium: urine - Sampling time: end of shift
Gibraltar - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Greece - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	600 mg/m³
CK (OEL STEL)	900 mg/m³
Chemical category	Potential for cutaneous absorption
Ireland - Occupational Exposure Limits	
OEL TWA [1]	600 mg/m³
OEL TWA [2]	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Latvia - Occupational Exposure Limits	
OEL TWA	200 mg/m³
OEL TWA	67 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Luxembourg - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm

Methyl ethyl ketone (78-93-3)	
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Malta - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	590 mg/m³
TGG-8u (OEL TWA) [ppm]	197 ppm
TGG-15min (OEL STEL)	900 mg/m³
TGG-15min (OEL STEL) [ppm]	300 ppm
MAC chemical category	Skin notation
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	590
NDSCh (OEL STEL)	900
Portugal - Occupational Exposure Limits	
OEL TWA	600 mg/m³ (indicative limit value)
OEL TWA	200 ppm (indicative limit value)
OEL STEL	900 mg/m³ (indicative limit value)
OEL STEL	300 ppm (indicative limit value)
Romania - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Romania - Biological limit values	
BLV	2 mg/l Parameter: Methylethylketone - Medium: urine - Sampling time: end of shift
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	600 mg/m³
NPHV (OEL TWA) [2]	200 ppm
NPHV (OEL C)	900 mg/m³
Slovenia - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm
Chemical category	Potential for cutaneous absorption

Methyl ethyl ketone (78-93-3)	
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	600 mg/m³
VLA-ED (OEL TWA) [2]	200 ppm
VLA-EC (OEL STEL)	900 mg/m³
VLA-EC (OEL STEL) [ppm]	300 ppm
Spain - Biological limit values	
BLV	2 mg/l Parameter: Methyl ethyl ketone - Medium: urine - Sampling time: end of shift
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	150 mg/m³
NGV (OEL TWA) [ppm]	50 ppm
KTV (OEL STEL)	900 mg/m³
KTV (OEL STEL) [ppm]	600 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	600 mg/m³
WEL TWA (OEL TWA) [2]	200 ppm
WEL STEL (OEL STEL)	899 mg/m³
WEL STEL (OEL STEL) [ppm]	300 ppm
WEL chemical category	Potential for cutaneous absorption
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	220 mg/m³
Grenseverdi (OEL TWA) [2]	75 ppm
Korttidsverdi (OEL STEL)	275 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	112.5 ppm (value calculated)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	590 mg/m³
MAK (OEL TWA) [2]	200 ppm
KZGW (OEL STEL)	590 mg/m³
KZGW (OEL STEL) [ppm]	200 ppm
Chemical category	Skin notation
Switzerland - Biological limit values	
BAT	2 mg/l Parameter: 2-Butanone - Medium: urine - Sampling time: end of shift, before subsequent shift or 16 hour 27.7 µmol/l Parameter: 2-Butanone - Medium: urine - Sampling time: end of shift, before subsequent shift or 16 hour
Turkey - Occupational Exposure Limits	
OEL TWA	600 mg/m³
OEL TWA	200 ppm
OEL STEL	900 mg/m³
OEL STEL	300 ppm

Methyl ethyl ketone (78-93-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Methyl ethyl ketone (MEK)
ACGIH OEL TWA [ppm]	200 ppm
ACGIH OEL STEL [ppm]	300 ppm
Remark (ACGIH)	TLV® Basis: URT irr; CNS & PNS impair. Notations: BEI
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	METHYL ETHYL KETONE
BEI	2 mg/l Parameter: MEK - Medium: urine - Sampling time: end of shift (nonspecific)
Regulatory reference	ACGIH 2023

Propylene glycol monomethyl ether acetate (108-65-6)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	275 mg/m³
IOEL TWA [ppm]	50 ppm
IOEL STEL	550 mg/m³
IOEL STEL [ppm]	100 ppm
Notes	Possibility of significant uptake through the skin
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	275 mg/m³
MAK (OEL TWA) [ppm]	50 ppm
MAK (OEL STEL)	550 mg/m³
MAK (OEL STEL) [ppm]	100 ppm
Chemical category	Skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Skin, Skin notation
Bulgaria - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	275 mg/m³
GVI (OEL TWA) [2]	50 ppm
KGVI (OEL STEL)	550 mg/m³
KGVI (OEL STEL) [ppm]	100 ppm

Propylene glycol monomethyl ether acetate (108-65-6)	
Chemical category	Skin notation
Cyprus - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Skin-potential for cutaneous absorption
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	270 mg/m³
Chemical category	Potential for cutaneous absorption
Denmark - Occupational Exposure Limits	
OEL TWA [1]	275 mg/m³
OEL TWA [2]	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Skin notation, Sensitizer
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	270 mg/m³
HTP (OEL TWA) [2]	50 ppm
HTP (OEL STEL)	550 mg/m³
HTP (OEL STEL) [ppm]	100 ppm
Chemical category	Potential for cutaneous absorption
France - Occupational Exposure Limits	
VME (OEL TWA)	275 mg/m³ (restrictive limit)
VME (OEL TWA) [ppm]	50 ppm (restrictive limit)
VLE (OEL C/STEL)	550 mg/m³ (restrictive limit)
VLE (OEL C/STEL) [ppm]	100 ppm (restrictive limit)
Chemical category	Risk of cutaneous absorption
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	270 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
AGW (OEL TWA) [2]	50 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)

Propylene glycol monomethyl ether acetate (108-65-6)	
Gibraltar - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Skin notation
Greece - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	skin - potential for cutaneous absorption
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	275 mg/m³
CK (OEL STEL)	550 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	275 mg/m³
OEL TWA [2]	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
Chemical category	skin - potential for cutaneous exposure
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	250 mg/m³
IPRV (OEL TWA) [ppm]	50 ppm
TPRV (OEL STEL)	400 mg/m³
TPRV (OEL STEL) [ppm]	75 ppm
Chemical category	Skin notation
Luxembourg - Occupational Exposure Limits	
OEL TWA	275 mg/m³

Propylene glycol monomethyl ether acetate (108-65-6)	
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Possibility of significant uptake through the skin
Malta - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Possibility of significant uptake through the skin
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	550 mg/m³
TGG-8u (OEL TWA) [ppm]	100 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	260 mg/m³
NDSCh (OEL STEL)	520 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	275 mg/m³ (indicative limit value)
OEL TWA	50 ppm (indicative limit value)
OEL STEL	550 mg/m³ (indicative limit value)
OEL STEL	100 ppm (indicative limit value)
Chemical category	skin - potential for cutaneous exposure indicative limit value
Romania - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Skin notation
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	275 mg/m³
NPHV (OEL TWA) [2]	50 ppm
NPHV (OEL C)	550 mg/m³
Chemical category	Potential for cutaneous absorption
Slovenia - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Potential for cutaneous absorption

Propylene glycol monomethyl ether acetate (108-65-6)	
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	275 mg/m³ (indicative limit value)
VLA-ED (OEL TWA) [2]	50 ppm (indicative limit value)
VLA-EC (OEL STEL)	550 mg/m³
VLA-EC (OEL STEL) [ppm]	100 ppm
Chemical category	skin - potential for cutaneous absorption
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	275 mg/m³
NGV (OEL TWA) [ppm]	50 ppm
KTV (OEL STEL)	550 mg/m³
KTV (OEL STEL) [ppm]	100 ppm
Chemical category	Skin notation
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	274 mg/m³
WEL TWA (OEL TWA) [2]	50 ppm
WEL STEL (OEL STEL)	548 mg/m³
WEL STEL (OEL STEL) [ppm]	100 ppm
WEL chemical category	Potential for cutaneous absorption
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	270 mg/m³
Grenseverdi (OEL TWA) [2]	50 ppm
Korttidsverdi (OEL STEL)	337.5 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	75 ppm (value calculated)
Chemical category	Skin notation
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	275 mg/m³
MAK (OEL TWA) [2]	50 ppm
KZGW (OEL STEL)	275 mg/m³
KZGW (OEL STEL) [ppm]	50 ppm
Turkey - Occupational Exposure Limits	
OEL TWA	275 mg/m³
OEL TWA	50 ppm
OEL STEL	550 mg/m³
OEL STEL	100 ppm
Chemical category	Skin notation

Talc (14807-96-6)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	2 mg/m³ (Asbestos-free fibers-respirable fraction)

Talc (14807-96-6)	
Belgium - Occupational Exposure Limits	
OEL TWA	2 mg/m³ (alveolar dust)
Bulgaria - Occupational Exposure Limits	
OEL TWA	1 fibers/cm³ (containing <2% free Crystalline silicon dioxide in respirable fraction, fibrous fine particles-respirable fraction, fibers) 6 mg/m³ (containing <2% free Crystalline silicon dioxide in respirable fraction, fibrous fine particles-inhalable fraction) 3 mg/m³ (containing <2% free Crystalline silicon dioxide in respirable fraction, fibrous fine particles-respirable fraction)
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	1 mg/m³ (Mg3H2(SiO3)4-respirable dust)
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	2 mg/m³
Denmark - Occupational Exposure Limits	
OEL TWA [1]	0.003 fibers/cm³ (with asbestos in the form of fibers)
OEL STEL	0.006 fibers/cm³ (with asbestos in the form of fibers)
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	0.5 fibers/cm³ 2 mg/m³ (granular-inhalable dust) 1 mg/m³ (granular-respirable dust)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	1.25 mg/m³ (respirable fraction (dust) 10 mg/m³ (inhalable fraction (dust)
Greece - Occupational Exposure Limits	
OEL TWA	10 mg/m³ (inhalable fraction) 2 mg/m³ (respirable fraction)
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	2 mg/m³ (without asbestos-respirable concentration (flying and fibrous powders)
Ireland - Occupational Exposure Limits	
OEL TWA [1]	10 mg/m³ (total inhalable dust) 0.8 mg/m³ (respirable dust)
OEL STEL	30 mg/m³ (calculated-respirable dust) 2.4 mg/m³ (calculated)
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	2 mg/m³ (inhalable fraction) 1 mg/m³ (respirable fraction)
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	0.25 mg/m³ (respirable fraction)
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	4 mg/m³ (inhalable fraction) 1 mg/m³ (respirable fraction)
Portugal - Occupational Exposure Limits	
OEL TWA	2 mg/m³ (respirable fraction, particulate matter containing no Asbestos and <1% Crystalline silica)

Talc (14807-96-6)	
Chemical category	A4 - Not Classifiable as a Human Carcinogen
Romania - Occupational Exposure Limits	
OEL TWA	2 mg/m³ (no Asbestos fibers, neither Quartz >=1%-dust, respirable fraction)
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	2 mg/m³ (containing no Asbestos fibers-respirable fraction)
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	2 mg/m³ (total dust) 1 mg/m³ (respirable fraction)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	1 mg/m³ (respirable dust)
WEL STEL (OEL STEL)	3 mg/m³ (calculated-respirable dust)
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	6 mg/m³ (total dust) 2 mg/m³ (respirable dust)
Korttidsverdi (OEL STEL)	12 mg/m³ (value calculated-total dust) 4 mg/m³ (value calculated-respirable dust)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	3 mg/m³ (respirable dust) 3 mg/m³ (total dust limit values) 10 mg/m³ (total dust limit values)
USA - ACGIH - Occupational Exposure Limits	
Local name	Talc
ACGIH OEL TWA	2 mg/m³ particulate matter containing no asbestos and <1% crystalline silica, respirable fraction
ACGIH OEL TWA [ppm]	0.1 fibers/cm³ (Containing asbestos fibers. F - Respirable fibers)
Remark (ACGIH)	Containing no asbestos fibers = TLV® Basis: Pulm fibrosis; pulm func. Notations: A4 Containing asbestos fibers = TLV® Basis: Pneumoconiosis; lung cancer; mesothelioma. Notations: A1 (Confirmed Human Carcinogen)
ACGIH chemical category	Not Classifiable as a Human Carcinogen containing no asbestos fibers
Regulatory reference	ACGIH 2023

Heptane, branched, cyclic and linear (426260-76-6)	
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	1000 mg/m³

Cyclohexane (110-82-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	700 mg/m³
IOEL TWA [ppm]	200 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	700 mg/m³
MAK (OEL TWA) [ppm]	200 ppm
MAK (OEL STEL)	2800 mg/m³

Cyclohexane (110-82-7)	
MAK (OEL STEL) [ppm]	800 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	350 mg/m³
OEL TWA	100 ppm
Bulgaria - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	700 mg/m³
GVI (OEL TWA) [2]	200 ppm
Chemical category	Skin notation
Croatia - Biological limit values	
BLV	150 mg/g creatinine Parameter: 1,2-Cyclohexanediol - Medium: urine - Sampling time: at the end of the work shift; at chronic exposure after several successive shifts (calculated on the average Creatinine value of 1.2 g/L urine) 450 µg/l Parameter: Cyclohexanol - Medium: blood - Sampling time: during exposure 3.2 mg/g creatinine Parameter: Cyclohexanol - Medium: urine - Sampling time: during the second half of the work shift (calculated on the average Creatinine value of 1.2 g/L urine)
Cyprus - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	700 mg/m³
Denmark - Occupational Exposure Limits	
OEL TWA [1]	172 mg/m³
OEL TWA [2]	50 ppm
OEL STEL	344 mg/m³
OEL STEL	100 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	350 mg/m³
HTP (OEL TWA) [2]	100 ppm
HTP (OEL STEL)	875 mg/m³
HTP (OEL STEL) [ppm]	250 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	700 mg/m³
VME (OEL TWA) [ppm]	200 ppm
VLE (OEL C/STEL)	1300 mg/m³ (restrictive limit)
VLE (OEL C/STEL) [ppm]	375 ppm (restrictive limit)

Cyclohexane (110-82-7)	
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	700 mg/m³
AGW (OEL TWA) [2]	200 ppm
AGW (OEL C)	2800 mg/m³
AGW (OEL C) [ppm]	800 ppm
Germany - Biological limit values (TRGS 903)	
BLV	150 mg/g creatinine Parameter: total 1,2-Cyclohexanediol (after hydrolysis) - Medium: urine - Sampling time: end of shift 150 mg/g creatinine Parameter: total 1,2-Cyclohexanediol (after hydrolysis) - Medium: urine - Sampling time: for long-term exposures: at the end of the shift after several shifts
Gibraltar - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
Greece - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	700 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	700 mg/m³
OEL TWA [2]	200 ppm
OEL STEL	2100 mg/m³ (calculated)
OEL STEL	600 ppm (calculated)
Italy - Occupational Exposure Limits	
OEL TWA	350 mg/m³
OEL TWA	100 ppm
Latvia - Occupational Exposure Limits	
OEL TWA	80 mg/m³
OEL TWA	23 ppm
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	700 mg/m³
IPRV (OEL TWA) [ppm]	200 ppm
Luxembourg - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
Malta - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	700 mg/m³

Cyclohexane (110-82-7)	
TGG-8u (OEL TWA) [ppm]	200 ppm
TGG-15min (OEL STEL)	1400 mg/m³
TGG-15min (OEL STEL) [ppm]	400 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	300 mg/m³
NDSCh (OEL STEL)	1000 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	700 mg/m³ (indicative limit value)
OEL TWA	200 ppm (indicative limit value)
Romania - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	700 mg/m³
NPHV (OEL TWA) [2]	200 ppm
Slovenia - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
OEL STEL	2800 mg/m³
OEL STEL	800 ppm
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	700 mg/m³
VLA-ED (OEL TWA) [2]	200 ppm
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	700 mg/m³
NGV (OEL TWA) [ppm]	200 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	350 mg/m³
WEL TWA (OEL TWA) [2]	100 ppm
WEL STEL (OEL STEL)	1050 mg/m³
WEL STEL (OEL STEL) [ppm]	300 ppm
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	525 mg/m³
Grenseverdi (OEL TWA) [2]	150 ppm
Korttidsverdi (OEL STEL)	656.25 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	187.5 ppm (value calculated)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	700 mg/m³
MAK (OEL TWA) [2]	200 ppm

Cyclohexane (110-82-7)	
KZGW (OEL STEL)	2800 mg/m³
KZGW (OEL STEL) [ppm]	800 ppm
Switzerland - Biological limit values	
BAT	150 mg/g creatinine Parameter: total 1,2-Cyclohexanediol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) Parameter: total 1,2-Cyclohexanediol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures)
Turkey - Occupational Exposure Limits	
OEL TWA	700 mg/m³
OEL TWA	200 ppm
USA - ACGIH - Occupational Exposure Limits	
Local name	Cyclohexane
ACGIH OEL TWA [ppm]	100 ppm
Remark (ACGIH)	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	CYCLOHEXANE
BEI	50 mg/g creatinine Parameter: 1,2-Cyclohexanediol - Medium: urine - Sampling time: End of shift, end of workweek - Notations: Ns
Regulatory reference	ACGIH 2023

Hexane (110-54-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	72 mg/m³
IOEL TWA [ppm]	20 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	72
MAK (OEL TWA) [ppm]	20 ppm
MAK (OEL STEL)	288
MAK (OEL STEL) [ppm]	80 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Bulgaria - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	72 mg/m³
GVI (OEL TWA) [2]	20 ppm
Chemical category	Skin notation

Hexane (110-54-3)	
Croatia - Biological limit values	
BLV	150 µg/l Parameter: n-Hexane - Medium: blood - Sampling time: during exposure 40 ppm Parameter: n-Hexane - Medium: final exhaled air - Sampling time: during exposure 0.2 mg/g creatinine Parameter: 2-Hexanol - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine) 5.3 mg/g creatinine Parameter: 2,5-Hexanedione - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine)
Cyprus - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	70 mg/m³
Chemical category	Potential for cutaneous absorption
Denmark - Occupational Exposure Limits	
OEL TWA [1]	90 mg/m³
OEL TWA [2]	25 ppm
OEL STEL	180 mg/m³
OEL STEL	50 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	72 mg/m³
HTP (OEL TWA) [2]	20 ppm
Chemical category	Potential for cutaneous absorption
France - Occupational Exposure Limits	
VME (OEL TWA)	72 mg/m³
VME (OEL TWA) [ppm]	20 ppm
Chemical category	Reproductive Toxin category 2
France - Biological limit values	
BLV	Parameter: 2,5-Hexanedione - Medium: urine - Sampling time: end of shift (per the Authority, the values for this substance must be decided and/or determined on a case by case basis. Guidance for the calculation of and interpretation of values is provided in the source)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	180 mg/m³
AGW (OEL TWA) [2]	50 ppm
AGW (OEL C)	1440 mg/m³
AGW (OEL C) [ppm]	400 ppm

Hexane (110-54-3)	
Germany - Biological limit values (TRGS 903)	
BLV	5 mg/l Parameter: 2,5-Hexandione plus 4,5-Dihydroxy-2-hexanone (after hydrolysis) - Medium: urine - Sampling time: end of shift
Gibraltar - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Greece - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	72 mg/m³
Chemical category	Potential for cutaneous absorption
Ireland - Occupational Exposure Limits	
OEL TWA [1]	72 mg/m³
OEL TWA [2]	20 ppm
OEL STEL	216 mg/m³ (calculated)
OEL STEL	60 ppm (calculated)
Chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Latvia - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	72 mg/m³
IPRV (OEL TWA) [ppm]	20 ppm
Chemical category	Reproductive toxin
Luxembourg - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Malta - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	72 mg/m³
TGG-8u (OEL TWA) [ppm]	20 ppm
TGG-15min (OEL STEL)	144 mg/m³
TGG-15min (OEL STEL) [ppm]	40 ppm

Hexane (110-54-3)	
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	72 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	72 mg/m³ (indicative limit value)
OEL TWA	20 ppm (indicative limit value)
Chemical category	skin - potential for cutaneous exposure
Romania - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
Romania - Biological limit values	
BLV	5 mg/g creatinine Parameter: 2,5-Hexandion - Medium: urine - Sampling time: end of shift
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	20 mg/m³ 72 mg/m³
NPHV (OEL C)	140 mg/m³
Slovakia - Biological limit values	
BLV	5 mg/l Parameter: 2,5-Hexanedione - Medium: urine - Sampling time: end of exposure or work shift 5 mg/l Parameter: 4,5-Dihydroxy-2-hexanone - Medium: urine - Sampling time: end of exposure or work shift
Slovenia - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
OEL STEL	576 mg/m³
OEL STEL	160 ppm
Chemical category	Category 2
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	72 mg/m³
VLA-ED (OEL TWA) [2]	20 ppm
Spain - Biological limit values	
BLV	0.2 mg/l Parameter: 2,5-Hexanedione - Medium: urine - Sampling time: end of workweek (without hydrolysis)
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	72 mg/m³
NGV (OEL TWA) [ppm]	20 ppm
KTV (OEL STEL)	180 mg/m³
KTV (OEL STEL) [ppm]	50 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	72 mg/m³
WEL TWA (OEL TWA) [2]	20 ppm
WEL STEL (OEL STEL)	216 mg/m³ (calculated)

Hexane (110-54-3)	
WEL STEL (OEL STEL) [ppm]	60 ppm (calculated)
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	72 mg/m³
Grenseverdi (OEL TWA) [2]	20 ppm
Korttidsverdi (OEL STEL)	108 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	30 ppm (value calculated)
Chemical category	Potential reproductive hazard
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	180 mg/m³
MAK (OEL TWA) [2]	50 ppm
KZGW (OEL STEL)	1440 mg/m³
KZGW (OEL STEL) [ppm]	400 ppm
Chemical category	Skin notation, Category 2 reproductive toxin
Switzerland - Biological limit values	
BAT	5 mg/l Parameter: 2,5-Hexanedione plus 4,5-Dihydroxy-2-hexanone - Medium: urine - Sampling time: end of shift
Turkey - Occupational Exposure Limits	
OEL TWA	72 mg/m³
OEL TWA	20 ppm
USA - ACGIH - Occupational Exposure Limits	
Local name	n-Hexane
ACGIH OEL TWA [ppm]	50 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; peripheral neuropathy; eye irr. Notations: Skin; BEI
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	n-HEXANE
BEI	0.5 mg/l Parameter: 2,5-Hexanedione without hydrolysis - Medium: urine - Sampling time: end of shift
Regulatory reference	ACGIH 2023

Isopropyl alcohol (67-63-0)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	500 mg/m³
MAK (OEL TWA) [ppm]	200 ppm
MAK (OEL STEL)	2000 mg/m³
MAK (OEL STEL) [ppm]	800 ppm
Chemical category	Group C Carcinogen by manufacturing of strong Acid process, Group C Carcinogen by manufacturing of strong Acid process
Belgium - Occupational Exposure Limits	
OEL TWA	500 mg/m³

Isopropyl alcohol (67-63-0)	
OEL TWA	200 ppm
OEL STEL	1000 mg/m³
OEL STEL	400 ppm
Bulgaria - Occupational Exposure Limits	
OEL TWA	980 mg/m³
OEL STEL	1225 mg/m³
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	999 mg/m³
GVI (OEL TWA) [2]	400 ppm
KGVI (OEL STEL)	1250 mg/m³
KGVI (OEL STEL) [ppm]	500 ppm
Croatia - Biological limit values	
BLV	50 mg/l Parameter: Acetone - Medium: blood - Sampling time: at the end of the work shift 50 mg/l Parameter: Acetone - Medium: urine - Sampling time: at the end of the work shift
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	500 mg/m³
Chemical category	Potential for cutaneous absorption
Denmark - Occupational Exposure Limits	
OEL TWA [1]	490 mg/m³
OEL TWA [2]	200 ppm
OEL STEL	980 mg/m³
OEL STEL	400 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	350 mg/m³
OEL TWA	150 ppm
OEL STEL	600 mg/m³
OEL STEL	250 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	500 mg/m³
HTP (OEL TWA) [2]	200 ppm
HTP (OEL STEL)	620 mg/m³
HTP (OEL STEL) [ppm]	250 ppm
France - Occupational Exposure Limits	
VLE (OEL C/STEL)	980 mg/m³
VLE (OEL C/STEL) [ppm]	400 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	500 mg/m³
AGW (OEL TWA) [2]	200 ppm
AGW (OEL C)	1000 mg/m³

Isopropyl alcohol (67-63-0)	
AGW (OEL C) [ppm]	400 ppm
Germany - Biological limit values (TRGS 903)	
BLV	25 mg/l Parameter: Acetone - Medium: whole blood - Sampling time: end of shift 25 mg/l Parameter: Acetone - Medium: urine - Sampling time: end of shift
Greece - Occupational Exposure Limits	
OEL TWA	980 mg/m³
OEL TWA	400 ppm
OEL STEL	1225 mg/m³
OEL STEL	500 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	500 mg/m³
CK (OEL STEL)	2000 mg/m³
Chemical category	Potential for cutaneous absorption
Ireland - Occupational Exposure Limits	
OEL TWA [2]	200 ppm
OEL STEL	400 ppm
Chemical category	Potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	350 mg/m³
OEL STEL	600 mg/m³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	350 mg/m³
IPRV (OEL TWA) [ppm]	150 ppm
TPRV (OEL STEL)	600 mg/m³
TPRV (OEL STEL) [ppm]	250 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	900 mg/m³
NDSCh (OEL STEL)	1200 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	200 ppm
OEL STEL	400 ppm
Chemical category	A4 - Not Classifiable as a Human Carcinogen
Romania - Occupational Exposure Limits	
OEL TWA	200
OEL TWA	81 ppm
OEL STEL	500 mg/m³
OEL STEL	203 ppm
Romania - Biological limit values	
BLV	50 mg/l Parameter: Acetone - Medium: urine - Sampling time: end of shift

Isopropyl alcohol (67-63-0)	
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	500 mg/m³
NPHV (OEL TWA) [2]	200 ppm
NPHV (OEL C)	1000 mg/m³
Slovenia - Occupational Exposure Limits	
OEL TWA	500 mg/m³
OEL TWA	200 ppm
OEL STEL	1000 mg/m³
OEL STEL	400 ppm
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	500 mg/m³
VLA-ED (OEL TWA) [2]	200 ppm
VLA-EC (OEL STEL)	1000 mg/m³
VLA-EC (OEL STEL) [ppm]	400 ppm
Spain - Biological limit values	
BLV	40 mg/l Parameter: Acetone - Medium: urine - Sampling time: end of workweek
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	350 mg/m³
NGV (OEL TWA) [ppm]	150 ppm
KTV (OEL STEL)	600 mg/m³
KTV (OEL STEL) [ppm]	250 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	999 mg/m³
WEL TWA (OEL TWA) [2]	400 ppm
WEL STEL (OEL STEL)	1250 mg/m³
WEL STEL (OEL STEL) [ppm]	500 ppm
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	245 mg/m³
Grenseverdi (OEL TWA) [2]	100 ppm
Korttidsverdi (OEL STEL)	306.25 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	150 ppm (value calculated)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	500 mg/m³
MAK (OEL TWA) [2]	200 ppm
KZGW (OEL STEL)	1000 mg/m³
KZGW (OEL STEL) [ppm]	400 ppm

Isopropyl alcohol (67-63-0)	
Switzerland - Biological limit values	
BAT	25 mg/l Parameter: Acetone - Medium: urine - Sampling time: end of shift Parameter: Acetone - Medium: urine - Sampling time: end of shift 25 mg/l Parameter: Acetone - Medium: whole blood - Sampling time: end of shift Parameter: Acetone - Medium: whole blood - Sampling time: end of shift
USA - ACGIH - Occupational Exposure Limits	
Local name	2-Propanol
ACGIH OEL TWA [ppm]	200 ppm
ACGIH OEL STEL [ppm]	400 ppm
Remark (ACGIH)	TLV® Basis: Eye & URT irr; CNS impair. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	2-PROPANOL
BEI	40 mg/l Parameter: Acetone - Medium: urine - Sampling time: end of shift at end of workweek (background, nonspecific)
Regulatory reference	ACGIH 2023

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

8.2.2. Personal protection equipment

Personal protective equipment:
Gloves. Protective goggles. Protective clothing. Insufficient ventilation: wear respiratory protection.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles. [EN 167]

8.2.2.2. Skin protection

Skin and body protection:
Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure. [EN 14605:2005 and EN 13034:2005]

Hand protection:
Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

8.2.2.3. Respiratory protection

Respiratory protection:
Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with gas filter (type A2). Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. [EN 137]

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Red.
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not available
Explosive limits	:	Not available
Lower explosive limit (LEL)	:	Not available
Upper explosive limit (UEL)	:	Not available
Flash point	:	15 °C (59 °F) (Naphtha values)
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	Not available
Solubility	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Particle size	:	Not applicable
Particle size distribution	:	Not applicable
Particle shape	:	Not applicable
Particle aspect ratio	:	Not applicable
Particle aggregation state	:	Not applicable
Particle agglomeration state	:	Not applicable
Particle specific surface area	:	Not applicable
Particle dustiness	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Ignition sources. Heat. Sparks. Open flame. Static electricity.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None known.

SECTION 11: Toxicological information

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

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

Distillates, petroleum, light distillate hydrotreating process, low-boiling (68410-97-9)	
LD50 oral rat	5170 mg/kg (Source: CHEMVIEW)
LD50 dermal rabbit	> 3000 mg/kg (Source: ECHA_API)
LC50 Inhalation - Rat [ppm]	> 12408 ppm/4h

Naphtha, petroleum, hydrotreated light (64742-49-0)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	2800 – 3100 mg/kg bodyweight Animal: rat
LD50 dermal rabbit	> 3160 mg/kg
LC50 Inhalation - Rat	> 23.3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
LC50 Inhalation - Rat [ppm]	73680 ppm/4h

Solvent naphtha, petroleum, light aliphatic (64742-89-8)	
LD50 oral rat	5000 mg/kg mouse; (Source: IUCLID)
LD50 dermal rabbit	3000 mg/kg (Source: IUCLID)

Octane (111-65-9)	
LD50 oral rat	> 5000 mg/kg Source: ECHA
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity)

Octane (111-65-9)	
LC50 Inhalation - Rat	118 g/m³ 4 h
LC50 Inhalation - Rat (Vapours)	> 24.88 mg/l Source: ECHA

n-Heptane (142-82-5)	
LD50 oral rat	5000 mg/kg
LD50 dermal rat	2800 – 3100 mg/kg bodyweight Animal: rat, Remarks on results: other:
LD50 dermal rabbit	3000 mg/kg
LC50 Inhalation - Rat	103 g/m³ 4h

Xylene (1330-20-7)	
LD50 oral rat	3523 mg/kg
LD50 dermal rabbit	12126 mg/kg bodyweight Animal: rabbit, Animal sex: male, Remarks on results: other:
LC50 Inhalation - Rat	27124 mg/m³ (air)
LC50 Inhalation - Rat [ppm]	5922 ppm

Methyl ethyl ketone (78-93-3)	
LD50 oral rat	2483 mg/kg (Source: JAPAN_GHS)
LD50 oral	4000 mg/kg bodyweight
LD50 dermal rabbit	5000 mg/kg (Source: JAPAN_GHS)
LC50 Inhalation - Rat [ppm]	11700 ppm/4h
LC50 Inhalation - Rat (Vapours)	32 mg/l Source: RTECS

Hexane (110-54-3)	
LD50 oral rat	25 g/kg (Source: NLM_CIP)
LD50 dermal rat	> 2000 mg/kg Source: ECHA
LD50 dermal rabbit	3000 mg/kg
LC50 Inhalation - Rat [ppm]	48000 ppm/4h
LC50 Inhalation - Rat (Vapours)	259.354 mg/l Source: ECHA

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Suspected of damaging fertility or the unborn child.
STOT-single exposure : May cause drowsiness or dizziness.
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard : May be fatal if swallowed and enters airways.

11.2. Information on other hazards

11.2.1 Endocrine disrupting properties

The mixture contains Methyl ethyl ketone (CAS#78-93-3), which is identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, at a concentration equal to or greater than 0,1 %

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No information available.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Toxic to aquatic life with long lasting effects.

Distillates, petroleum, light distillate hydrotreating process, low-boiling (68410-97-9)	
LC50 - Fish [1]	0.854 mg/l Source: Ecological Structure Activity Relationships
EC50 96h - Algae [1]	1.323 mg/l Source: Ecological Structure Activity Relationships

Naphtha, petroleum, hydrotreated light (64742-49-0)	
LC50 - Fish [1]	8.41 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static, closed] Source: ECHA)
LC50 - Other aquatic organisms [1]	2.6 mg/l Source: IUCLID
EC50 72h - Algae [1]	32 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
LOEC (chronic)	0.32 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.17 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Solvent naphtha, petroleum, light aliphatic (64742-89-8)	
EC50 72h - Algae [1]	4700 mg/l (Species: Pseudokirchneriella subcapitata)

Octane (111-65-9)	
LC50 - Fish [1]	0.885 mg/l
EC50 - Crustacea [1]	0.38 mg/l (Exposure time: 48 h - Species: water flea)
EC50 72h - Algae [1]	0.9 mg/l Source: ECHA
LOEC (chronic)	0.32 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.17 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

n-Heptane (142-82-5)	
LC50 - Fish [1]	5.738 mg/l Source: QSAR
EC50 - Crustacea [1]	1.5 mg/l
LOEC (chronic)	0.32 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.17 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Ethylbenzene (100-41-4)	
LC50 - Fish [1]	5.1 mg/l Source: ECHA
LC50 - Fish [2]	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static] Source: EPA)
EC50 - Crustacea [1]	1.8 – 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	4.6 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 72h - Algae [2]	2.6 – 11.3 mg/l (Species: Pseudokirchneriella subcapitata [static])
EC50 96h - Algae [1]	2.6 mg/l Source: ECHA
EC50 96h - Algae [2]	1.7 – 7.6 mg/l (Species: Pseudokirchneriella subcapitata [static])
LOEC (chronic)	1.7 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
NOEC (chronic)	0.96 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'

Xylene (1330-20-7)	
LC50 - Fish [1]	2.6 mg/l Source: ECHA

Xylene (1330-20-7)	
EC50 - Crustacea [1]	> 3.4 mg/l Test organisms (species): Ceriodaphnia dubia
LOEC (chronic)	3.16 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 1.3 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '56 d'

Cumene (98-82-8)	
LC50 - Fish [1]	4.7 mg/l Source: ECHA
LC50 - Fish [2]	4.8 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	2.14 mg/l Source: ECHA
EC50 - Crustacea [2]	7.9 – 14.1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 72h - Algae [1]	2.01 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	1.29 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	2.01 mg/l Source: ECHA
NOEC (chronic)	0.35 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.38 mg/l Test organisms (species): other: Duration: '28 d'

Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate (41556-26-7)	
LC50 - Fish [1]	0.97 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 96h - Algae [1]	0.017 mg/l Source: Ecological Structure Activity Relationships

Decanedioic acid, methyl 1,2,2,6,6-pentamethyl-4-piperidinyl ester (82919-37-7)	
LC50 - Fish [1]	0.996 mg/l
EC50 96h - Algae [1]	0.615 mg/l Source: ECOSAR

Stoddard solvent (8052-41-3)	
LC50 - Fish [1]	2.5 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 96h - Algae [1]	0.58 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	0.1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Methyl ethyl ketone (78-93-3)	
LC50 - Fish [1]	3130 – 3320 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
EC50 - Crustacea [1]	> 520 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 - Crustacea [2]	5091 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	1972 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	2029 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

Cyclohexane (110-82-7)	
LC50 - Fish [1]	4.53 mg/l Test organisms (species): Pimephales promelas

Cyclohexane (110-82-7)	
LC50 - Fish [2]	23.03 – 42.07 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: EPA)
EC50 - Crustacea [1]	0.9 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	3.4 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	9.317 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	9.317 mg/l Source: ECHA

Hexane (110-54-3)	
LC50 - Fish [1]	2.1 – 2.98 mg/l 96 Hr LC50 Pimephales promelas [flow-through]

12.2. Persistence and degradability

No information available

12.3. Bioaccumulative potential

No information available

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

The mixture contains Methyl ethyl ketone (CAS#78-93-3), which is identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, at a concentration equal to or greater than 0,1 %

12.7. Other adverse effects

Other adverse effects : No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR) : UN 1139
UN-No. (IMDG) : UN 1139
UN-No. (IATA) : UN 1139
UN-No. (ADN) : UN 1139
UN-No. (RID) : UN 1139

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	COATING SOLUTION
Proper Shipping Name (IMDG)	:	COATING SOLUTION
Proper Shipping Name (IATA)	:	Coating solution
Proper Shipping Name (ADN)	:	COATING SOLUTION
Proper Shipping Name (RID)	:	COATING SOLUTION
Transport document description (ADR)	:	UN 1139 COATING SOLUTION (Contains: Heptane, Methyl Ethyl Ketone, Petroleum Distillates), 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	:	UN 1139 COATING SOLUTION (Contains: Heptane, Methyl Ethyl Ketone, Petroleum Distillates), 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	:	UN 1139 Coating solution (Contains: Heptane, Methyl Ethyl Ketone, Petroleum Distillates), 3, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	:	UN 1139 COATING SOLUTION (Contains: Heptane, Methyl Ethyl Ketone, Petroleum Distillates), 3, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	:	UN 1139 COATING SOLUTION (Contains: Heptane, Methyl Ethyl Ketone, Petroleum Distillates), 3, II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3

Danger labels (ADR) : 3

:

IMDG

Transport hazard class(es) (IMDG) : 3

Danger labels (IMDG) : 3

:

IATA

Transport hazard class(es) (IATA) : 3

Danger labels (IATA) : 3

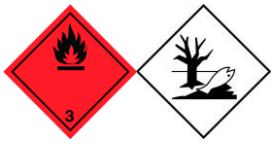
:

ADN

Transport hazard class(es) (ADN) : 3

Danger labels (ADN) : 3

:



RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3

: 

14.4. Packing group

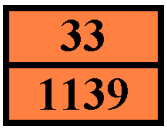
Packing group (ADR)	:	II
Packing group (IMDG)	:	II
Packing group (IATA)	:	II
Packing group (ADN)	:	II
Packing group (RID)	:	II

14.5. Environmental hazards

Dangerous for the environment	:	Yes
Marine pollutant	:	Yes
Other information	:	No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	F1
Special provisions (ADR)	:	640C
Limited quantities (ADR)	:	5l
Excepted quantities (ADR)	:	E2
Packing instructions (ADR)	:	P001
Mixed packing provisions (ADR)	:	MP19
Portable tank and bulk container instructions (ADR)	:	T4
Portable tank and bulk container special provisions (ADR)	:	TP1, TP8
Tank code (ADR)	:	L1.5BN
Vehicle for tank carriage	:	FL
Transport category (ADR)	:	2
Special provisions for carriage - Operation (ADR)	:	S2, S20
Hazard identification number (Kemler No.)	:	33
Orange plates	:	
Tunnel restriction code (ADR)	:	D/E
EAC code	:	•3YE

Transport by sea (IMDG)

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

Air transport (IATA)

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y341
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	353
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	364
CAO max net quantity (IATA)	:	60L

Special provisions (IATA)	:	A3
ERG code (IATA)	:	3L

Inland waterway transport

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

Rail transport

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

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)
Contains no substance(s) listed on the REACH Candidate List
Contains no substance(s) listed on REACH Annex XIV (Authorisation List)
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

All chemical substances in this product are listed as “Active” in the EPA (Environmental Protection Agency) “TSCA Inventory Notification (Active-Inactive) Requirements Rule” (“the Final Rule”) of Feb. 2019, as amended Feb. 2021, or are otherwise exempt or regulated by other agencies such as FDA or FIFRA

Germany

Water hazard class (WGK)	:	WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)
Hazardous Incident Ordinance (12. BImSchV)	:	Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen	:	Distillates, petroleum, light distillate hydrotreating process, low-boiling,Naphtha, petroleum, hydrotreated light,Solvent naphtha, petroleum, light aliphatic,Benzene,Silica: Crystalline, quartz,Cumene,Stoddard solvent,Methyl ethyl ketoxime are listed
SZW-lijst van mutagene stoffen	:	Distillates, petroleum, light distillate hydrotreating process, low-boiling,Naphtha, petroleum, hydrotreated light,Solvent naphtha, petroleum, light aliphatic,Benzene,Stoddard solvent are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	:	Hexane is listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	:	Toluene,Xylene are listed

Denmark

Class for fire hazard	:	Class I-1
Store unit	:	1 liter
Classification remarks	:	F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations	:	Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

Switzerland

Storage class (LK)	:	LK 3 - Flammable liquids

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements	
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Abbreviations and acronyms	
ACGIH	American Conference of Governement Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

Abbreviations and acronyms	
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
ED	Endocrine disrupting properties
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LD50	Median lethal dose
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STOT	Specific target organ toxicity
TRGS	Technical Rules for Hazardous Substances
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Data sources : Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
Classification for the USA in accordance with 29 CFR 1910.1200 (2012).
Classification for the EU in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
ECHA (European Chemicals Agency).

Training advice : Normal use of this product shall imply use in accordance with the instructions for use and corresponding product packaging.

Indication of changes:

Version 1.0: New SDS created

Revision 2.0: Updated EU SDS.

Other information : Author: WJS

SDS prepared for Plasti Dip International, Inc. by:
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Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]		
Flammable liquids, Category 2	H225	Test Data

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]		
Skin corrosion/irritation, Category 2	H315	Specific concentration limit
Serious eye damage/eye irritation, Category 2	H319	Specific concentration limit
Skin sensitisation, Category 1	H317	Specific concentration limit
Reproductive toxicity, Category 2	H361	Specific concentration limit
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336	Specific concentration limit
Specific target organ toxicity – Repeated exposure, Category 2	H373	Specific concentration limit
Aspiration hazard, Category 1	H304	Specific concentration limit
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411	Specific concentration limit

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.