Ecoteria 3100

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Revision Date: 07/09/2023 Date of Issue: 25/01/2019 Supersedes Date: 20/02/2019 Version: 3.0

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

1.1. Product Identifier

Product Form : Mixture

Product Name : Ecoteria 3100

Synonyms : Malonic Acid Dimethyl Ester and Propanedioic Acid, Dimethyl Ester

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 : Manufacture of Substances.

1.2.2. Uses Advised Against

No additional information available

1.3. Details of the Supplier of the Safety Data Sheet

Company

Lygos, Inc.
1249 Eighth St
Berkeley, CA 94710
United States
+1 (510) 356-0555
https://lygos.com/

1.4. Emergency Telephone Number

Emergency Number : VelocityEHS
(800)255-3924 (North America)
+1 (813)248-0585 (International)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification According to Regulation (EC) No. 1272/2008

Eye Irrit. 2	H319
Aquatic Chronic 3	H412

Full text of hazard classes, H-statements: see section 16

2.2. Label Elements

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

Hazard Pictograms (CLP) :

GHS07

Signal Word (CLP) : Warning

Hazard Statements (CLP) : H319 - Causes serious eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements (CLP) : P264 - Wash hands, forearms and face thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other Hazards

Other Hazards Not Contributing to the Classification : Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

This substance/mixture does not meet the PBT/vPvB criteria of REACH regulation, annex XIII

The mixture contains substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or 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

Component	
Toluene(108-88-3)	The substance is included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or 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

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
Dimethyl Malonate	(CAS-No.) 108-59-8 (EC-No.) 203-597-8	≥ 98	Eye Irrit. 2, H319 Aquatic Chronic 3, H412
Butanedioic acid, dimethyl ester substance with national workplace exposure limit(s) (DE, SE, SI)	(CAS-No.) 106-65-0 (EC-No.) 203-419-9	≤ 0,3	Aquatic Chronic 3, H412
Methyl acetate substance with national workplace exposure limit(s) (AT, BE, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, LT, LV, PL, PT, RO, SE, SI, SK, NO, CH)	(CAS-No.) 79-20-9 (EC-No.) 201-185-2 (EC Index-No.) 607-021-00-X	≤ 0,2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Toluene substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH, TR); substance with a Community workplace exposure limit; substance identified as having endocrine disrupting properties	(CAS-No.) 108-88-3 (EC-No.) 203-625-9 (EC Index-No.) 601-021-00-3	≤ 0,2	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Propanoic acid, 3-methoxy-, methyl ester	(CAS-No.) 3852-09-3 (EC-No.) 223-358-1	≤ 0,1	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:dust,mist), H332 Eye Irrit. 2, H319 Repr. 2, H361 STOT SE 3, H335
Methanol substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH, TR); substance with a Community workplace exposure limit	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X	≤ 0,1	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
Dimethyl sulfate substance listed as REACH Candidate (Dimethyl sulphate) substance with national workplace exposure limit(s) (AT, BE, BG, CZ, DK, ES, FI, FR, GB, GR, HR, HU, IE, LV, PL, PT, RO, SI, NO, CH)	(CAS-No.) 77-78-1 (EC-No.) 201-058-1 (EC Index-No.) 016-023-00-4	≤ 0,002	Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Inhalation), H330 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1B, H314 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 Aquatic Chronic 2, H411

Specific Concentration Limits:

Name	Product Identifier	Specific Concentration Limits
Methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X	(3 ≤C < 10) STOT SE 2, H371 (10 ≤C < 100) STOT SE 1, H370
Dimethyl sulfate	(CAS-No.) 77-78-1 (EC-No.) 201-058-1 (EC Index-No.) 016-023-00-4	(0,01 ≤C < 100) Muta. 2, H341 (0,01 ≤C < 100) Carc. 1B, H350 (5 ≤C < 100) STOT SE 3, H335

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 : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-Aid Measures After Inhalation : When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-Aid Measures After Skin Contact : Immediately drench affected area with water for at least 15 minutes. Remove contaminated clothing. Obtain medical attention if irritation develops or persists.

First-Aid Measures After Eye Contact : Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

First-Aid Measures After Ingestion : Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Effects : Causes serious eye irritation.

Symptoms/Effects After Inhalation : Prolonged exposure may cause irritation.

Symptoms/Effects After Skin Contact : Prolonged exposure may cause skin irritation.

Symptoms/Effects After Eye Contact : Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Effects After Ingestion : Ingestion may cause adverse effects.

Chronic Symptoms : None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media : Water spray, fog, carbon dioxide (CO_2), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media : Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard : Combustible liquid.

Explosion Hazard : Product is not explosive.

Reactivity : Hazardous reactions will not occur under normal conditions.

Hazardous Combustion Products : Carbon oxides (CO, CO_2). Nitrogen oxides.

5.3. Advice for Firefighters

Precautionary Measures Fire : Exercise caution when fighting any chemical fire.

Firefighting Instructions : Use water spray or fog for cooling exposed containers.

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

Other Information : Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures : Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapour, mist, spray).

6.1.1. For Non-Emergency Personnel

Protective Equipment : Use appropriate personal protective equipment (PPE).

Emergency Procedures : Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment : Equip cleanup crew with proper protection.

Emergency Procedures : Upon arrival at the scene, a first responder is expected to recognise the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up : Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed : Handle in accordance with standard industrial practices, and ensure appropriate usage. Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained.

Precautions for Safe Handling : Avoid contact with skin, eyes and clothing. Avoid breathing (vapour, mist, spray). Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene Measures : Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures : Comply with applicable regulations.

Storage Conditions : Store in accordance with applicable national storage class systems. Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials : Strong acids, strong bases, strong oxidisers.

7.3. Specific End Use(s)

Manufacture of Substances.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

Please see section 16 for the legal basis of limit value information in section 8.1, including the national legislation or provision which gives rise to a given limit.

Butanedioic acid, dimethyl ester (106-65-0)		
Germany	OEL TWA (Legal Basis:TRGS 900)	8 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed (Dibasic esters)
Germany	OEL TWA (Legal Basis:TRGS 900)	1,2 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed (Dibasic esters)
Slovenia	OEL TWA (Legal Basis:No. 79/19)	8 mg/m³
Slovenia	OEL TWA (Legal Basis:No. 79/19)	1,2 ppm
Slovenia	OEL STEL (Legal Basis:No. 79/19)	16 mg/m³
Slovenia	OEL STEL (Legal Basis:No. 79/19)	2,4 ppm
Sweden	OEL TLV (Legal Basis:AFS 2018:1)	30 mg/m³
Sweden	OEL TLV (Legal Basis:AFS 2018:1)	5 ppm

Methyl acetate (79-20-9)		
Austria	OEL TWA (Legal Basis:BGBl. II Nr. 254/2018)	610 mg/m³
Austria	OEL TWA (Legal Basis:BGBl. II Nr. 254/2018)	200 ppm
Austria	OEL STEL (Legal Basis:BGBl. II Nr. 254/2018)	1220 mg/m³
Austria	OEL STEL (Legal Basis:BGBl. II Nr. 254/2018)	400 ppm
Belgium	OEL TWA (Legal Basis:Royal Decree 21/01/2020)	615 mg/m³
Belgium	OEL TWA (Legal Basis:Royal Decree 21/01/2020)	200 ppm
Belgium	OEL STEL (Legal Basis:Royal Decree 21/01/2020)	768 mg/m³
Belgium	OEL STEL (Legal Basis:Royal Decree 21/01/2020)	250 ppm
Croatia	OEL TWA (Legal Basis:OG No. 91/2018)	616 mg/m³
Croatia	OEL TWA (Legal Basis:OG No. 91/2018)	200 ppm
Croatia	OEL STEL (Legal Basis:OG No. 91/2018)	770 mg/m³
Croatia	OEL STEL (Legal Basis:OG No. 91/2018)	250 ppm
Czech Republic	OEL TWA (Legal Basis:Reg. 41/2020)	600 mg/m³
Denmark	OEL TWA (Legal Basis:BEK No. 698 of 28/05/2020)	455 mg/m³
Denmark	OEL TWA (Legal Basis:BEK No. 698 of 28/05/2020)	150 ppm
Estonia	OEL TWA (Legal Basis:Regulation No. 105)	450 mg/m³
Estonia	OEL TWA (Legal Basis:Regulation No. 105)	150 ppm
Estonia	OEL STEL (Legal Basis:Regulation No. 105)	900 mg/m³
Estonia	OEL STEL (Legal Basis:Regulation No. 105)	300 ppm
Finland	OEL TWA (Legal Basis:HTP-ARVOT 2020)	610 mg/m³
Finland	OEL TWA (Legal Basis:HTP-ARVOT 2020)	200 ppm

Methyl acetate (79-20-9)		
Finland	OEL STEL (Legal Basis:HTP-ARVOT 2020)	770 mg/m³
Finland	OEL STEL (Legal Basis:HTP-ARVOT 2020)	250 ppm
France	OEL STEL (Legal Basis:INRS ED 984)	760 mg/m³
France	OEL STEL (Legal Basis:INRS ED 984)	250 ppm
France	OEL TWA (Legal Basis:INRS ED 984)	610 mg/m³
France	OEL TWA (Legal Basis:INRS ED 984)	200 ppm
France	OEL Chemical Category (Legal Basis:INRS ED 984)	Risk of cutaneous absorption
Germany	OEL TWA (Legal Basis:TRGS 900)	620 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	OEL TWA (Legal Basis:TRGS 900)	200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Greece	OEL TWA (Legal Basis:PWHSE)	610 mg/m³
Greece	OEL TWA (Legal Basis:PWHSE)	200 ppm
Greece	OEL STEL (Legal Basis:PWHSE)	760 mg/m³
Greece	OEL STEL (Legal Basis:PWHSE)	250 ppm
Hungary	OEL TWA (Legal Basis:Decree No. 05/2020)	310 mg/m³
Hungary	OEL STEL (Legal Basis:Decree No. 05/2020)	1240 mg/m³
Hungary	OEL Chemical Category (Legal Basis:Decree No. 05/2020)	Sensitizer, Potential for cutaneous absorption
Ireland	OEL TWA (Legal Basis:2020 COP)	610 mg/m³
Ireland	OEL TWA (Legal Basis:2020 COP)	200 ppm
Ireland	OEL STEL (Legal Basis:2020 COP)	760 mg/m³
Ireland	OEL STEL (Legal Basis:2020 COP)	250 ppm
USA ACGIH	OEL TWA (Legal Basis:IMDFN1)	200 ppm
USA ACGIH	OEL STEL (Legal Basis:IMDFN1)	250 ppm
Latvia	OEL TWA (Legal Basis:Reg. No. 325)	100 mg/m³
Lithuania	OEL TWA (Legal Basis:HN 23:2011)	450 mg/m³
Lithuania	OEL TWA (Legal Basis:HN 23:2011)	150 ppm
Lithuania	OEL STEL (Legal Basis:HN 23:2011)	900 mg/m³
Lithuania	OEL STEL (Legal Basis:A-N 684)	300 ppm
Norway	OEL TWA (Legal Basis:FOR-2020-04-06-695)	305 mg/m³
Norway	OEL TWA (Legal Basis:FOR-2020-04-06-695)	100 ppm
Norway	OEL STEL (Legal Basis:FOR-2020-04-06-695)	381,25 mg/m³ (value calculated)
Norway	OEL STEL (Legal Basis:FOR-2020-04-06-695)	150 ppm (value calculated)
Poland	OEL TWA (Legal Basis:Dz. U. 2020 Nr. 61)	250 mg/m³
Poland	OEL TWA (Legal Basis:Dz. U. 2020 Nr. 61)	600 mg/m³
Portugal	OEL TWA (Legal Basis:Portuguese Norm NP 1796:2014)	200 ppm
Portugal	OEL STEL (Legal Basis:Portuguese Norm NP 1796:2014)	250 ppm
Romania	OEL TWA (Legal Basis:Gov. Dec. No 1.218)	200 mg/m³
Romania	OEL TWA (Legal Basis:Gov. Dec. No 1.218)	63 ppm
Romania	OEL STEL (Legal Basis:Gov. Dec. No 1.218)	600 mg/m³
Romania	OEL STEL (Legal Basis:Gov. Dec. No 1.218)	188 ppm
Slovakia	OEL TWA (Legal Basis:Gov. Decree 33/2018)	310 mg/m³
Slovakia	OEL TWA (Legal Basis:Gov. Decree 33/2018)	100 ppm
Slovakia	OEL STEL (Legal Basis:Gov. Decree 33/2018)	770 mg/m³
Slovenia	OEL TWA (Legal Basis:No. 79/19)	620 mg/m³
Slovenia	OEL TWA (Legal Basis:No. 79/19)	200 ppm
Slovenia	OEL STEL (Legal Basis:No. 79/19)	1240 mg/m³
Slovenia	OEL STEL (Legal Basis:No. 79/19)	400 ppm
Spain	OEL TWA (Legal Basis:OELCAIS)	616 mg/m³
Spain	OEL TWA (Legal Basis:OELCAIS)	200 ppm
Spain	OEL STEL (Legal Basis:OELCAIS)	770 mg/m³
Spain	OEL STEL (Legal Basis:OELCAIS)	250 ppm
Sweden	OEL TLV (Legal Basis:AFS 2018:1)	450 mg/m³
Sweden	OEL TLV (Legal Basis:AFS 2018:1)	150 ppm
Sweden	OEL STEL (Legal Basis:AFS 2018:1)	900 mg/m³
Sweden	OEL STEL (Legal Basis:AFS 2018:1)	300 ppm

Methyl acetate (79-20-9)		
Switzerland	OEL STEL (Legal Basis:OLVSNAIF)	1240 mg/m³
Switzerland	OEL STEL (Legal Basis:OLVSNAIF)	400 ppm
Switzerland	OEL TWA (Legal Basis:OLVSNAIF)	310 mg/m³
Switzerland	OEL TWA (Legal Basis:OLVSNAIF)	100 ppm

Methanol (67-56-1)		
EU	IOELV TWA (Legal Basis:2019/1831 EU in accor. with 98/24/EC)	260 mg/m³
EU	IOELV TWA (Legal Basis:2019/1831 EU in accor. with 98/24/EC)	200 ppm
EU	Remark	Possibility of significant uptake through the skin
Austria	OEL TWA (Legal Basis:BGBl. II Nr. 254/2018)	260 mg/m³
Austria	OEL TWA (Legal Basis:BGBl. II Nr. 254/2018)	200 ppm
Austria	OEL STEL (Legal Basis:BGBl. II Nr. 254/2018)	1040 mg/m³
Austria	OEL STEL (Legal Basis:BGBl. II Nr. 254/2018)	800 ppm
Austria	OEL Chemical Category (Legal Basis:BGBl. II Nr. 254/2018)	Skin notation
Belgium	OEL TWA (Legal Basis:Royal Decree 21/01/2020)	266 mg/m³
Belgium	OEL TWA (Legal Basis:Royal Decree 21/01/2020)	200 ppm
Belgium	OEL STEL (Legal Basis:Royal Decree 21/01/2020)	333 mg/m³
Belgium	OEL STEL (Legal Basis:Royal Decree 21/01/2020)	250 ppm
Belgium	OEL Chemical Category (Legal Basis:Royal Decree 21/01/2020)	Skin, Skin notation
Bulgaria	OEL TWA (Legal Basis:Reg. No. 13/10)	260 mg/m³
Bulgaria	OEL TWA (Legal Basis:Reg. No. 13/10)	200 ppm
Croatia	OEL TWA (Legal Basis:OG No. 91/2018)	260 mg/m³
Croatia	OEL TWA (Legal Basis:OG No. 91/2018)	200 ppm
Croatia	OEL Chemical Category (Legal Basis:OG No. 91/2018)	Skin notation
Croatia	OEL BLV (Legal Basis:OG No. 91/2018)	7 mg/g creatinine Parameter: Methanol - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine)
Cyprus	OEL TWA (Legal Basis:KDP 16/2019)	260 mg/m³
Cyprus	OEL TWA (Legal Basis:KDP 16/2019)	200 ppm
Cyprus	OEL Chemical Category (Legal Basis:KDP 16/2019)	Skin-potential for cutaneous absorption
Czech Republic	OEL TWA (Legal Basis:Reg. 41/2020)	250 mg/m³
Czech Republic	OEL Chemical Category (Legal Basis:Decree No. 107/2013)	Potential for cutaneous absorption
Czech Republic	OEL BLV (Legal Basis:Reg. 41/2020)	Parameter: Methanol - Medium: urine - Sampling time: end of shift 15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift
Denmark	OEL TWA (Legal Basis:BEK No. 698 of 28/05/2020)	260 mg/m³
Denmark	OEL TWA (Legal Basis:BEK No. 698 of 28/05/2020)	200 ppm
Denmark	OEL Chemical Category (Legal Basis:BEK No. 698 of 28/05/2020)	Potential for cutaneous absorption
Estonia	OEL TWA (Legal Basis:Regulation No. 105)	250 mg/m³
Estonia	OEL TWA (Legal Basis:Regulation No. 105)	200 ppm
Estonia	OEL STEL (Legal Basis:Regulation No. 105)	350 mg/m³
Estonia	OEL STEL (Legal Basis:Regulation No. 105)	250 ppm
Estonia	OEL Chemical Category (Legal Basis:Regulation No. 105)	Skin notation
Finland	OEL TWA (Legal Basis:HTP-ARVOT 2020)	270 mg/m³
Finland	OEL TWA (Legal Basis:HTP-ARVOT 2020)	200 ppm
Finland	OEL STEL (Legal Basis:HTP-ARVOT 2020)	330 mg/m³
Finland	OEL STEL (Legal Basis:HTP-ARVOT 2020)	250 ppm
Finland	OEL Chemical Category HTP-ARVOT 2020)	Potential for cutaneous absorption
France	OEL STEL (Legal Basis:INRS ED 984)	1300 mg/m³
France	OEL STEL (Legal Basis:INRS ED 984)	1000 ppm
France	OEL TWA (Legal Basis:INRS ED 984)	260 mg/m³ (restrictive limit)
France	OEL TWA (Legal Basis:INRS ED 984)	200 ppm (restrictive limit)
France	OEL Chemical Category (Legal Basis:INRS ED 984)	Risk of cutaneous absorption
France	OEL BLV (Legal Basis:Decree 2009-1570)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift (Background noise on non-exposed subjects)
Germany	OEL TWA (Legal Basis:TRGS 900)	130 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)

Methanol (67-56-1)		
Germany	OEL TWA (Legal Basis:TRGS 900)	100 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	OEL BLV (Legal Basis:TRGS 903)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift 15 mg/l Parameter: Methanol - Medium: urine - Sampling time: for long-term exposures: at the end of the shift after several shifts
Germany	OEL Chemical Category (Legal Basis:TRGS 900)	Skin notation
Gibraltar	OEL TWA (Legal Basis:LN. 2018/181)	260 mg/m³
Gibraltar	OEL TWA (Legal Basis:LN. 2018/181)	200 ppm
Gibraltar	OEL Chemical Category (Legal Basis:LN. 2018/181)	Skin notation
Greece	OEL TWA (Legal Basis:PWHSE)	260 mg/m³
Greece	OEL TWA (Legal Basis:PWHSE)	200 ppm
Greece	OEL STEL (Legal Basis:PWHSE)	325 mg/m³
Greece	OEL STEL (Legal Basis:PWHSE)	250 ppm
Greece	OEL Chemical Category (Legal Basis:PWHSE)	skin - potential for cutaneous absorption
Hungary	OEL TWA (Legal Basis:Decree No. 05/2020)	260 mg/m³
Hungary	OEL Chemical Category (Legal Basis:Decree No. 05/2020)	Potential for cutaneous absorption
Ireland	OEL TWA (Legal Basis:2020 COP)	260 mg/m³
Ireland	OEL TWA (Legal Basis:2020 COP)	200 ppm
Ireland	OEL STEL (Legal Basis:2020 COP)	780 mg/m³ (calculated)
Ireland	OEL STEL (Legal Basis:2020 COP)	600 ppm (calculated)
Ireland	OEL Chemical Category (Legal Basis:Decree No. 05/2020)	Potential for cutaneous absorption
USA ACGIH	OEL TWA (Legal Basis:IMDFN1)	200 ppm
USA ACGIH	OEL STEL (Legal Basis:IMDFN1)	250 ppm
USA ACGIH	BEI Value (Legal Basis:IMDFN1)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift (background, nonspecific)
Italy	OEL TWA (Legal Basis:Decree 81)	260 mg/m³
Italy	OEL TWA (Legal Basis:Decree 81)	200 ppm
Italy	OEL Chemical Category (Legal Basis:Decree 81)	skin - potential for cutaneous absorption
Latvia	OEL TWA (Legal Basis:Reg. No. 325)	260 mg/m³
Latvia	OEL TWA (Legal Basis:Reg. No. 325)	200 ppm
Latvia	OEL Chemical Category (Legal Basis:Reg. No. 325)	skin - potential for cutaneous exposure
Lithuania	OEL TWA (Legal Basis:HN 23:2011)	260 mg/m³
Lithuania	OEL TWA (Legal Basis:HN 23:2011)	200 ppm
Lithuania	OEL Chemical Category (Legal Basis:HN 23:2011)	Skin notation
Luxembourg	OEL TWA (Legal Basis:A-N 684)	260 mg/m³
Luxembourg	OEL TWA (Legal Basis:A-N 684)	200 ppm
Luxembourg	OEL Chemical Category (Legal Basis:A-N 684)	Possibility of significant uptake through the skin
Malta	OEL TWA (Legal Basis:MOHSAA Ch. 424)	260 mg/m³
Malta	OEL TWA (Legal Basis:MOHSAA Ch. 424)	200 ppm
Malta	OEL Chemical Category (Legal Basis:MOHSAA Ch. 424)	Possibility of significant uptake through the skin
Netherlands	OEL TWA (Legal Basis:OWCRLV)	133 mg/m³
Netherlands	OEL Chemical Category (Legal Basis:OWCRLV)	Skin notation
Norway	OEL TWA (Legal Basis:FOR-2020-04-06-695)	130 mg/m³
Norway	OEL TWA (Legal Basis:FOR-2020-04-06-695)	100 ppm
Norway	OEL STEL (Legal Basis:FOR-2020-04-06-695)	162,5 mg/m³ (value calculated)
Norway	OEL STEL (Legal Basis:FOR-2020-04-06-695)	150 ppm (value calculated)
Norway	OEL Chemical Category (Legal Basis:FOR-2020-04-06-695)	Skin notation
Poland	OEL TWA (Legal Basis:Dz. U. 2020 Nr. 61)	100 mg/m³
Poland	OEL TWA (Legal Basis:Dz. U. 2020 Nr. 61)	300 mg/m³
Portugal	OEL TWA (Legal Basis:Portuguese Norm NP 1796:2014)	260 mg/m³ (indicative limit value)
Portugal	OEL TWA (Legal Basis:Portuguese Norm NP 1796:2014)	200 ppm (indicative limit value)
Portugal	OEL STEL (Legal Basis:Portuguese Norm NP 1796:2014)	250 ppm
Portugal	OEL Chemical Category (Legal Basis:Portuguese Norm NP 1796:2014)	skin - potential for cutaneous exposure indicative limit value
Romania	OEL TWA (Legal Basis:Gov. Dec. No 1.218)	260 mg/m³
Romania	OEL TWA (Legal Basis:Gov. Dec. No 1.218)	200 ppm

Methanol (67-56-1)		
Romania	OEL Chemical Category (Legal Basis:Gov. Dec. No 1.218)	Skin notation
Romania	OEL BLV (Legal Basis:Gov. Dec. No 1.218)	6 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift
Slovakia	OEL TWA (Legal Basis:Gov. Decree 33/2018)	260 mg/m³
Slovakia	OEL TWA (Legal Basis:Gov. Decree 33/2018)	200 ppm
Slovakia	OEL Chemical Category (Legal Basis:Gov. Decree 33/2018)	Potential for cutaneous absorption
Slovakia	OEL BLV (Legal Basis:Gov. Decree 33/2018)	30 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of exposure or work shift 30 mg/l Parameter: Methanol - Medium: urine - Sampling time: after all work shifts (for long-term exposure)
Slovenia	OEL TWA (Legal Basis:No. 79/19)	260 mg/m³
Slovenia	OEL TWA (Legal Basis:No. 79/19)	200 ppm
Slovenia	OEL STEL (Legal Basis:No. 79/19)	1040 mg/m³
Slovenia	OEL STEL (Legal Basis:No. 79/19)	800 ppm
Slovenia	OEL Chemical Category (Legal Basis:No. 79/19)	Potential for cutaneous absorption
Spain	OEL TWA (Legal Basis:OELCAIS)	266 mg/m³ (indicative limit value)
Spain	OEL TWA (Legal Basis:OELCAIS)	200 ppm (indicative limit value)
Spain	OEL Chemical Category (Legal Basis:OELCAIS)	skin - potential for cutaneous absorption
Spain	OEL BLV (Legal Basis:OELCAIS)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift
Sweden	OEL TLV (Legal Basis:AFS 2018:1)	250 mg/m³
Sweden	OEL TLV (Legal Basis:AFS 2018:1)	200 ppm
Sweden	OEL STEL (Legal Basis:AFS 2018:1)	350 mg/m³
Sweden	OEL STEL (Legal Basis:AFS 2018:1)	250 ppm
Sweden	OEL Chemical Category (Legal Basis:AFS 2018:1)	Skin notation
Switzerland	OEL STEL (Legal Basis:OLVSNAIF)	520 mg/m³
Switzerland	OEL STEL (Legal Basis:OLVSNAIF)	400 ppm
Switzerland	OEL TWA (Legal Basis:OLVSNAIF)	260 mg/m³
Switzerland	OEL TWA (Legal Basis:OLVSNAIF)	200 ppm
Switzerland	OEL Chemical Category (Legal Basis:OLVSNAIF)	Skin notation
Switzerland	OEL BLV (Legal Basis:OLVSNAIF)	30 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures)

Toluene (108-88-3)		
EU	IOELV TWA (Legal Basis:2019/1831 EU in accor. with 98/24/EC)	192 mg/m³
EU	IOELV TWA (Legal Basis:2019/1831 EU in accor. with 98/24/EC)	50 ppm
EU	IOELV STEL (Legal Basis:2019/1831 EU in accor. with 98/24/EC)	384 mg/m³
EU	IOELV STEL (Legal Basis:2019/1831 EU in accor. with 98/24/EC)	100 ppm
EU	Remark	Possibility of significant uptake through the skin
Austria	OEL TWA (Legal Basis:BGBl. II Nr. 254/2018)	190 mg/m³
Austria	OEL TWA (Legal Basis:BGBl. II Nr. 254/2018)	50 ppm
Austria	OEL STEL (Legal Basis:BGBl. II Nr. 254/2018)	380 mg/m³
Austria	OEL STEL (Legal Basis:BGBl. II Nr. 254/2018)	100 ppm
Austria	OEL Chemical Category (Legal Basis:BGBl. II Nr. 254/2018)	Skin notation
Belgium	OEL TWA (Legal Basis:Royal Decree 21/01/2020)	77 mg/m³
Belgium	OEL TWA (Legal Basis:Royal Decree 21/01/2020)	20 ppm
Belgium	OEL STEL (Legal Basis:Royal Decree 21/01/2020)	384 mg/m³
Belgium	OEL STEL (Legal Basis:Royal Decree 21/01/2020)	100 ppm
Belgium	OEL Chemical Category (Legal Basis:Royal Decree 21/01/2020)	Skin, Skin notation
Bulgaria	OEL TWA (Legal Basis:Reg. No. 13/10)	192 mg/m³
Bulgaria	OEL TWA (Legal Basis:Reg. No. 13/10)	50 ppm
Bulgaria	OEL STEL (Legal Basis:Reg. No. 13/10)	384 mg/m³
Bulgaria	OEL STEL (Legal Basis:Reg. No. 13/10)	100 ppm
Bulgaria	OEL BLV (Legal Basis:Reg. No. 13/10)	1,6 mmol/mmol Creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: at the end of exposure or end of work shift
Croatia	OEL TWA (Legal Basis:OG No. 91/2018)	192 mg/m³
Croatia	OEL TWA (Legal Basis:OG No. 91/2018)	50 ppm
Croatia	OEL STEL (Legal Basis:OG No. 91/2018)	384 mg/m³

Toluene (108-88-3)		
Croatia	OEL STEL (Legal Basis:OG No. 91/2018)	100 ppm
Croatia	OEL Chemical Category (Legal Basis:OG No. 91/2018)	Skin notation
Croatia	OEL BLV (Legal Basis:OG No. 91/2018)	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	OEL TWA (Legal Basis:KDP 16/2019)	192 mg/m³
Cyprus	OEL TWA (Legal Basis:KDP 16/2019)	50 ppm
Cyprus	OEL STEL (Legal Basis:KDP 16/2019)	384 mg/m³
Cyprus	OEL STEL (Legal Basis:KDP 16/2019)	100 ppm
Cyprus	OEL Chemical Category (Legal Basis:KDP 16/2019)	Skin-potential for cutaneous absorption
Czech Republic	OEL TWA (Legal Basis:Reg. 41/2020)	200 mg/m³
Czech Republic	OEL Chemical Category (Legal Basis:Decree No. 107/2013)	Potential for cutaneous absorption
Czech Republic	OEL BLV (Legal Basis:Reg. 41/2020)	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	OEL TWA (Legal Basis:BEK No. 698 of 28/05/2020)	94 mg/m³
Denmark	OEL TWA (Legal Basis:BEK No. 698 of 28/05/2020)	25 ppm
Denmark	OEL Chemical Category (Legal Basis:BEK No. 698 of 28/05/2020)	Potential for cutaneous absorption
Estonia	OEL TWA (Legal Basis:Regulation No. 105)	192 mg/m³
Estonia	OEL TWA (Legal Basis:Regulation No. 105)	50 ppm
Estonia	OEL STEL (Legal Basis:Regulation No. 105)	384 mg/m³
Estonia	OEL STEL (Legal Basis:Regulation No. 105)	100 ppm
Estonia	OEL Chemical Category (Legal Basis:Regulation No. 105)	Skin notation
Finland	OEL TWA (Legal Basis:HTP-ARVOT 2020)	81 mg/m³
Finland	OEL TWA (Legal Basis:HTP-ARVOT 2020)	25 ppm
Finland	OEL STEL (Legal Basis:HTP-ARVOT 2020)	380 mg/m³
Finland	OEL STEL (Legal Basis:HTP-ARVOT 2020)	100 ppm
Finland	OEL Chemical Category HTP-ARVOT 2020)	Potential for cutaneous absorption
Finland	OEL BLV (Legal Basis:HTP-ARVOT 2020)	500 nmol/L Parameter: Toluene - Medium: blood - Sampling time: in the morning after a working day
France	OEL STEL (Legal Basis:INRS ED 984)	384 mg/m³ (restrictive limit)
France	OEL STEL (Legal Basis:INRS ED 984)	100 ppm (restrictive limit)
France	OEL TWA (Legal Basis:INRS ED 984)	76,8 mg/m³ (restrictive limit)
France	OEL TWA (Legal Basis:INRS ED 984)	20 ppm (restrictive limit)
France	OEL Chemical Category (Legal Basis:INRS ED 984)	Reproductive Toxin category 2, Risk of cutaneous absorption
France	OEL BLV (Legal Basis:Decree 2009-1570)	1 mg/l Parameter: Toluene - Medium: venous blood - Sampling time: end of shift (Semi-quantitative (ambiguous interpretation)) 2500 mg/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (Background noise on non-exposed subjects)

Toluene (108-88-3)		
Germany	OEL TWA (Legal Basis:TRGS 900)	190 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	OEL TWA (Legal Basis:TRGS 900)	50 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	OEL BLV (Legal Basis:TRGS 903)	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
Germany	OEL Chemical Category (Legal Basis:TRGS 900)	Skin notation
Gibraltar	OEL TWA (Legal Basis:LN. 2018/181)	192 mg/m³
Gibraltar	OEL TWA (Legal Basis:LN. 2018/181)	50 ppm
Gibraltar	OEL STEL (Legal Basis:LN. 2018/181)	384 mg/m³
Gibraltar	OEL STEL (Legal Basis:LN. 2018/181)	100 ppm
Gibraltar	OEL Chemical Category (Legal Basis:LN. 2018/181)	Skin notation
Greece	OEL TWA (Legal Basis:PWHSE)	192 mg/m³
Greece	OEL TWA (Legal Basis:PWHSE)	50 ppm
Greece	OEL STEL (Legal Basis:PWHSE)	384 mg/m³
Greece	OEL STEL (Legal Basis:PWHSE)	100 ppm
Greece	OEL Chemical Category (Legal Basis:PWHSE)	skin - potential for cutaneous absorption
Hungary	OEL TWA (Legal Basis:Decree No. 05/2020)	190 mg/m³
Hungary	OEL STEL (Legal Basis:Decree No. 05/2020)	380 mg/m³
Hungary	OEL Chemical Category (Legal Basis:Decree No. 05/2020)	Potential for cutaneous absorption
Ireland	OEL TWA (Legal Basis:2020 COP)	192 mg/m³
Ireland	OEL TWA (Legal Basis:2020 COP)	50 ppm
Ireland	OEL STEL (Legal Basis:2020 COP)	384 mg/m³
Ireland	OEL STEL (Legal Basis:2020 COP)	100 ppm
Ireland	OEL Chemical Category (Legal Basis:Decree No. 05/2020)	Potential for cutaneous absorption
USA ACGIH	OEL TWA (Legal Basis:IMDFN1)	20 ppm
USA ACGIH	BEI Value (Legal Basis:IMDFN1)	0,02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of work week 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)
Italy	OEL TWA (Legal Basis:Decree 81)	192 mg/m³
Italy	OEL TWA (Legal Basis:Decree 81)	50 ppm
Italy	OEL Chemical Category (Legal Basis:Decree 81)	skin - potential for cutaneous absorption
Latvia	OEL TWA (Legal Basis:Reg. No. 325)	50 mg/m³
Latvia	OEL TWA (Legal Basis:Reg. No. 325)	14 ppm
Latvia	OEL Chemical Category (Legal Basis:Reg. No. 325)	skin - potential for cutaneous exposure
Latvia	OEL BLV (Legal Basis:Reg. No. 325)	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	OEL TWA (Legal Basis:HN 23:2011)	192 mg/m³
Lithuania	OEL TWA (Legal Basis:HN 23:2011)	50 ppm
Lithuania	OEL STEL (Legal Basis:HN 23:2011)	384 mg/m³
Lithuania	OEL STEL (Legal Basis:A-N 684)	100 ppm
Lithuania	OEL Chemical Category (Legal Basis:HN 23:2011)	Reproductive toxin, Skin notation
Luxembourg	OEL TWA (Legal Basis:A-N 684)	192 mg/m³
Luxembourg	OEL TWA (Legal Basis:A-N 684)	50 ppm
Luxembourg	OEL STEL (Legal Basis:A-N 684)	384 mg/m³
Luxembourg	OEL STEL (Legal Basis:A-N 684)	100 ppm
Luxembourg	OEL Chemical Category (Legal Basis:A-N 684)	Possibility of significant uptake through the skin

Toluene (108-88-3)		
Malta	OEL TWA (Legal Basis:MOHSAA Ch. 424)	192 mg/m³
Malta	OEL TWA (Legal Basis:MOHSAA Ch. 424)	50 ppm
Malta	OEL STEL (Legal Basis:MOHSAA Ch. 424)	384 mg/m³
Malta	OEL STEL (Legal Basis:MOHSAA Ch. 424)	100 ppm
Malta	OEL Chemical Category (Legal Basis:MOHSAA Ch. 424)	Possibility of significant uptake through the skin
Netherlands	OEL TWA (Legal Basis:OWCRLV)	150 mg/m³
Netherlands	OEL STEL (Legal Basis:OWCRLV)	384 mg/m³
Norway	OEL TWA (Legal Basis:FOR-2020-04-06-695)	94 mg/m³
Norway	OEL TWA (Legal Basis:FOR-2020-04-06-695)	25 ppm
Norway	OEL STEL (Legal Basis:FOR-2020-04-06-695)	141 mg/m³ (value calculated)
Norway	OEL STEL (Legal Basis:FOR-2020-04-06-695)	37,5 ppm (value calculated)
Norway	OEL Chemical Category (Legal Basis:FOR-2020-04-06-695)	Skin notation
Poland	OEL TWA (Legal Basis:Dz. U. 2020 Nr. 61)	100 mg/m³
Poland	OEL TWA (Legal Basis:Dz. U. 2020 Nr. 61)	200 mg/m³
Portugal	OEL TWA (Legal Basis:Portuguese Norm NP 1796:2014)	192 mg/m³ (indicative limit value)
Portugal	OEL TWA (Legal Basis:Portuguese Norm NP 1796:2014)	50 ppm (indicative limit value)
Portugal	OEL STEL (Legal Basis:Portuguese Norm NP 1796:2014)	384 mg/m³ (indicative limit value)
Portugal	OEL STEL (Legal Basis:Portuguese Norm NP 1796:2014)	100 ppm (indicative limit value)
Portugal	OEL Chemical Category (Legal Basis:Portuguese Norm NP 1796:2014)	A4 - Not Classifiable as a Human Carcinogen,skin - potential for cutaneous exposure indicative limit value
Romania	OEL TWA (Legal Basis:Gov. Dec. No 1.218)	192 mg/m³
Romania	OEL TWA (Legal Basis:Gov. Dec. No 1.218)	50 ppm
Romania	OEL STEL (Legal Basis:Gov. Dec. No 1.218)	384 mg/m³
Romania	OEL STEL (Legal Basis:Gov. Dec. No 1.218)	100 ppm
Romania	OEL Chemical Category (Legal Basis:Gov. Dec. No 1.218)	Skin notation
Romania	OEL BLV (Legal Basis:Gov. Dec. No 1.218)	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	OEL TWA (Legal Basis:Gov. Decree 33/2018)	192 mg/m³
Slovakia	OEL TWA (Legal Basis:Gov. Decree 33/2018)	50 ppm
Slovakia	OEL STEL (Legal Basis:Gov. Decree 33/2018)	384 mg/m³
Slovakia	OEL Chemical Category (Legal Basis:Gov. Decree 33/2018)	Potential for cutaneous absorption
Slovakia	OEL BLV (Legal Basis:Gov. Decree 33/2018)	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	OEL TWA (Legal Basis:No. 79/19)	192 mg/m³
Slovenia	OEL TWA (Legal Basis:No. 79/19)	50 ppm
Slovenia	OEL STEL (Legal Basis:No. 79/19)	384 mg/m³
Slovenia	OEL STEL (Legal Basis:No. 79/19)	100 ppm
Slovenia	OEL Chemical Category (Legal Basis:No. 79/19)	Category 2, Potential for cutaneous absorption
Spain	OEL TWA (Legal Basis:OELCAIS)	192 mg/m³ (indicative limit value)
Spain	OEL TWA (Legal Basis:OELCAIS)	50 ppm (indicative limit value)
Spain	OEL STEL (Legal Basis:OELCAIS)	384 mg/m³
Spain	OEL STEL (Legal Basis:OELCAIS)	100 ppm
Spain	OEL Chemical Category (Legal Basis:OELCAIS)	skin - potential for cutaneous absorption
Spain	OEL BLV (Legal Basis:OELCAIS)	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 work week 0,08 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift
Sweden	OEL TLV (Legal Basis:AFS 2018:1)	192 mg/m³
Sweden	OEL TLV (Legal Basis:AFS 2018:1)	50 ppm

Toluene (108-88-3)		
Sweden	OEL STEL (Legal Basis:AFS 2018:1)	384 mg/m³
Sweden	OEL STEL (Legal Basis:AFS 2018:1)	100 ppm
Sweden	OEL Chemical Category (Legal Basis:AFS 2018:1)	Skin notation
Switzerland	OEL STEL (Legal Basis:OLVSNAIF)	760 mg/m³
Switzerland	OEL STEL (Legal Basis:OLVSNAIF)	200 ppm
Switzerland	OEL TWA (Legal Basis:OLVSNAIF)	190 mg/m³
Switzerland	OEL TWA (Legal Basis:OLVSNAIF)	50 ppm
Switzerland	OEL Chemical Category (Legal Basis:OLVSNAIF)	Skin notation, Category 2 developmental toxin, Category 2 reproductive toxin
Switzerland	OEL BLV (Legal Basis:OLVSNAIF)	600 µg/l Parameter: Toluol - 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) 0,5 mg/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

Dimethyl sulfate (77-78-1)		
Austria	TRK OEL TWA (Legal Basis:BGBl. II Nr. 254/2018)	0,1 mg/m³ (manufacturing) 0,2 mg/m³ (other applications)
Austria	TRK OEL TWA (Legal Basis:BGBl. II Nr. 254/2018)	0,02 ppm (manufacturing) 0,04 ppm (other applications)
Austria	OEL Chemical Category (Legal Basis:BGBl. II Nr. 254/2018)	Skin notation, Group A2 Carcinogen
Belgium	OEL TWA (Legal Basis:Royal Decree 21/01/2020)	0,53 mg/m³
Belgium	OEL TWA (Legal Basis:Royal Decree 21/01/2020)	0,1 ppm
Belgium	OEL Chemical Category (Legal Basis:Royal Decree 21/01/2020)	Skin, Carcinogen
Bulgaria	OEL TWA (Legal Basis:Reg. No. 13/10)	0,5 mg/m³
Croatia	OEL TWA (Legal Basis:OG No. 91/2018)	0,26 mg/m³
Croatia	OEL TWA (Legal Basis:OG No. 91/2018)	0,05 ppm
Croatia	OEL Chemical Category (Legal Basis:OG No. 91/2018)	Carcinogen Category 1B
Czech Republic	OEL TWA (Legal Basis:Reg. 41/2020)	0,1 mg/m³ (150)
Czech Republic	OEL Chemical Category (Legal Basis:Decree No. 107/2013)	Potential for cutaneous absorption, Sensitizer
Denmark	OEL TWA (Legal Basis:BEK No. 698 of 28/05/2020)	0,05 mg/m³
Denmark	OEL TWA (Legal Basis:BEK No. 698 of 28/05/2020)	0,01 ppm
Denmark	OEL Chemical Category (Legal Basis:BEK No. 698 of 28/05/2020)	Potential for cutaneous absorption
Finland	OEL STEL (Legal Basis:HTP-ARVOT 2020)	0,052 mg/m³
Finland	OEL STEL (Legal Basis:HTP-ARVOT 2020)	0,01 ppm
Finland	OEL Chemical Category HTP-ARVOT 2020)	Potential for cutaneous absorption
France	OEL TWA (Legal Basis:INRS ED 984)	0,5 mg/m³
France	OEL TWA (Legal Basis:INRS ED 984)	0,1 ppm
France	OEL Chemical Category (Legal Basis:INRS ED 984)	Carcinogen category 1B, Mutagen category 2
Greece	OEL TWA (Legal Basis:PWHSE)	0,5 mg/m³
Greece	OEL TWA (Legal Basis:PWHSE)	0,1 ppm
Greece	OEL STEL (Legal Basis:PWHSE)	0,5 mg/m³
Greece	OEL STEL (Legal Basis:PWHSE)	0,1 ppm
Greece	OEL Chemical Category (Legal Basis:PWHSE)	skin - potential for cutaneous absorption
Hungary	OEL TWA (Legal Basis:Decree No. 05/2020)	0,1 mg/m³
Hungary	OEL Chemical Category (Legal Basis:Decree No. 05/2020)	Potential for cutaneous absorption, Carc. 1B - Presumed Carcinogen
Ireland	OEL TWA (Legal Basis:2020 COP)	0,5 mg/m³
Ireland	OEL TWA (Legal Basis:2020 COP)	0,1 ppm
Ireland	OEL STEL (Legal Basis:2020 COP)	0,5 mg/m³
Ireland	OEL STEL (Legal Basis:2020 COP)	0,1 ppm
Ireland	OEL Chemical Category (Legal Basis:Decree No. 05/2020)	Carc1B, Sensitizer, Potential for cutaneous absorption
USA ACGIH	OEL TWA (Legal Basis:IMDFN1)	0,1 ppm
Latvia	OEL TWA (Legal Basis:Reg. No. 325)	0,1 mg/m³
Norway	OEL TWA (Legal Basis:FOR-2020-04-06-695)	0,05 mg/m³
Norway	OEL TWA (Legal Basis:FOR-2020-04-06-695)	0,01 ppm

Dimethyl sulfate (77-78-1)		
Norway	OEL STEL (Legal Basis:FOR-2020-04-06-695)	0,15 mg/m³ (value calculated)
Norway	OEL STEL (Legal Basis:FOR-2020-04-06-695)	0,03 ppm (value calculated)
Norway	OEL Chemical Category (Legal Basis:FOR-2020-04-06-695)	Skin notation, Carcinogen
Poland	OEL TWA (Legal Basis:Dz. U. 2020 Nr. 61)	0,5 mg/m³
Poland	OEL TWA (Legal Basis:Dz. U. 2020 Nr. 61)	1 mg/m³
Portugal	OEL TWA (Legal Basis:Portuguese Norm NP 1796:2014)	0,1 ppm
Portugal	OEL Chemical Category (Legal Basis:Portuguese Norm NP 1796:2014)	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans,skin - potential for cutaneous exposure
Romania	OEL TWA (Legal Basis:Gov. Dec. No 1.218)	0,5 mg/m³
Romania	OEL TWA (Legal Basis:Gov. Dec. No 1.218)	0,1 ppm
Romania	OEL Chemical Category (Legal Basis:Gov. Dec. No 1.218)	C1B, Skin notation
Slovenia	OEL TWA (Legal Basis:No. 79/19)	0,1 mg/m³ 0,2 mg/m³ (application)
Slovenia	OEL TWA (Legal Basis:No. 79/19)	0,02 ppm 0,04 ppm (application)
Slovenia	OEL STEL (Legal Basis:No. 79/19)	0,4 mg/m³ (manufacture) 0,8 mg/m³ (application)
Slovenia	OEL STEL (Legal Basis:No. 79/19)	0,08 ppm (manufacture) 0,16 ppm (application)
Slovenia	OEL Chemical Category (Legal Basis:No. 79/19)	Category 2 manufacture, Category 1B manufacture and application, Potential for cutaneous absorption manufacture and application
Spain	OEL TWA (Legal Basis:OELCAIS)	0,26 mg/m³ (manufacturing, commercialization and use restrictions according to REACH)
Spain	OEL TWA (Legal Basis:OELCAIS)	0,05 ppm (manufacturing, commercialization and use restrictions according to REACH)
Spain	OEL Chemical Category (Legal Basis:OELCAIS)	C1B, Sensitizer, skin - potential for cutaneous absorption
Sweden	OEL Chemical Category (Legal Basis:AFS 2018:1)	Carcinogen
Switzerland	OEL TWA (Legal Basis:OLVSNAIF)	0,1 mg/m³
Switzerland	OEL TWA (Legal Basis:OLVSNAIF)	0,02 ppm
Switzerland	OEL Chemical Category (Legal Basis:OLVSNAIF)	Skin notation, Category C1B carcinogen, Category 2 mutagen

8.2. Exposure Controls

Appropriate Engineering Controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment : Gloves. Protective clothing. Protective goggles. Personal protective equipment should be chosen in accordance with Regulation (EU) 2016/425, CEN standards, and in discussion with the supplier of the protective equipment.

Materials for Protective Clothing : Chemically resistant materials and fabrics.

Hand Protection : Wear protective gloves.

Eye Protection : Chemical safety goggles.

Skin and Body Protection : Wear suitable protective clothing.

Respiratory Protection : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information : When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State : Liquid

Colour, Appearance : Colourless

Colour : Colourless

Odour	:	No data available
Odour Threshold	:	No data available
pH	:	Not available
Evaporation Rate	:	No data available
Melting Point	:	-62 °C (-79,6 °F)
Freezing Point	:	Not available
Boiling Point	:	181 °C (357,8 °F)
Flash Point	:	≈ 90 °C (194 °F) (Closed Cup)
Auto-Ignition Temperature	:	454 °C (849 °F) [Methyl acetate]
Decomposition Temperature	:	No data available
Flammability	:	Not applicable
Vapour Pressure	:	No data available
Relative Vapour Density At 20°C	:	No data available
Relative Density	:	No data available
Solubility	:	Water: ≈ 99 g/l
Partition Coefficient n-Octanol/Water	:	No data available
Viscosity	:	No data available
Explosive Properties	:	No data available
Oxidising Properties	:	No data available
Explosive Limits	:	Not available
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

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability

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

10.3. Possibility of Hazardous Reactions

Hazardous polymerisation will not occur.

10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible Materials

Strong acids, strong bases, strong oxidisers.

10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Carbon oxides (CO, CO_2). Nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Hazard Classes As Defined In Regulation (EC) No 1272/2008

Likely Routes of Exposure	:	Dermal, Eye Contact, Inhalation, Oral
Acute Toxicity (Oral)	:	Not classified (Based on available data, the classification criteria are not met)
Acute Toxicity (Dermal)	:	Not classified (Based on available data, the classification criteria are not met)
Acute Toxicity (Inhalation)	:	Not classified (Based on available data, the classification criteria are not met)

Dimethyl malonate (108-59-8)	
LD50 Oral Rat	4577 mg/kg
LD50 Dermal Rabbit	> 5 g/kg

Butanedioic acid, dimethyl ester (106-65-0)	
LD50 Oral Rat	> 5 g/kg
LD50 Dermal Rabbit	> 5 g/kg

Methyl acetate (79-20-9)	
LD50 Oral Rat	> 5 g/kg
LD50 Dermal Rabbit	> 5 g/kg
LC50 Inhalation Rat	> 49000 mg/m³ (Exposure time: 4 h)

Propanoic acid, 3-methoxy-, methyl ester (3852-09-3)	
ATE CLP (dust,mist)	1,50 mg/l/4h

Methanol (67-56-1)	
LD50 Oral Rat	6200 mg/kg
LD50 Oral	1400 mg/kg
LD50 Dermal Rabbit	15840 mg/kg
LC50 Inhalation Rat	22500 ppm (Exposure time: 8 h)

Toluene (108-88-3)	
LD50 Oral Rat	2600 mg/kg
LD50 Oral	5000 mg/kg
LD50 Dermal Rabbit	12000 mg/kg
LC50 Inhalation Rat	12,5 mg/l/4h
LC50 Inhalation Rat	25,7 mg/l/4h

Dimethyl sulfate (77-78-1)	
LD50 Oral Rat	106 mg/kg
LD50 Oral	188 mg/kg
LC50 Inhalation Rat	45 mg/m³ (Exposure time: 4 h)
LC50 Inhalation Rat	0,0748 mg/l/4h

Skin Corrosion/Irritation : Not classified (Based on available data, the classification criteria are not met)
Eye Damage/Irritation : Causes serious eye irritation.
Respiratory or Skin Sensitisation : Not classified (Based on available data, the classification criteria are not met)
Germ Cell Mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Toluene (108-88-3)	
IARC Group	3

Dimethyl sulfate (77-78-1)	
IARC Group	2A
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.

Reproductive Toxicity : Not classified (Based on available data, the classification criteria are not met)
Specific Target Organ Toxicity (Single Exposure) : Not classified (Based on available data, the classification criteria are not met)

Specific Target Organ Toxicity (Repeated Exposure) : Not classified (Based on available data, the classification criteria are not met)

Aspiration Hazard : Not classified (Based on available data, the classification criteria are not met)

Symptoms/Injuries After Inhalation : Prolonged exposure may cause irritation.
Symptoms/Injuries After Skin Contact : Prolonged exposure may cause skin irritation.
Symptoms/Injuries After Eye Contact : Contact causes severe irritation with redness and swelling of the conjunctiva.
Symptoms/Injuries After Ingestion : Ingestion may cause adverse effects.
Chronic Symptoms : None expected under normal conditions of use.

11.2. Information On Other Hazards

Based on available data this substance/the substances in this mixture not listed below do(es) not have endocrine disrupting properties with respect to humans as it does not meet the criteria set out in section A of Regulation (EU) No 2017/2100 and/or the criteria set out in Regulation (EU) 2018/605, or the substance(s) are not required to be disclosed.

Component

Toluene (108-88-3)	This chemical is considered to have endocrine-disrupting properties with respect to animals in the unborn child, nervous system, producing changes to morphology, development, physiology, growth, life span as it meets the criteria set out in section A of Regulation (EU) 2017/2100, and/or the criteria set out in Regulation (EU) 2018/605. This conclusion is based on evidence from studies and data obtained from a literature search conducted on this chemical, and shows a link between the effects above and endocrine activity, which is relevant for humans.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Hazardous To The Aquatic Environment, Short–Term (Acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous To The Aquatic Environment, Long–Term (Chronic) : Harmful to aquatic life with long lasting effects.

Dimethyl malonate (108-59-8)	
LC50 - Fish [1]	21 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [flow-through])
EC50 - Crustacea [1]	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	16,71 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

Butanedioic acid, dimethyl ester (106-65-0)	
LC50 - Fish [1]	50 – 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

Methyl acetate (79-20-9)	
LC50 - Fish [1]	295 – 348 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	1026,7 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	250 – 350 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

Methanol (67-56-1)	
LC50 - Fish [1]	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	1340 mg/l
LC50 - Fish [2]	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Toluene (108-88-3)	
LC50 - Fish [1]	15,22 (15,22 – 19,05) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	5,46 (5,46 – 9,83) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	12,6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [2]	11,5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
NOEC chronic fish	1,4 mg/l (Oncorhynchus kisutch)
NOEC chronic crustacea	0,74 mg/l (Ceriodaphnia dubia)

Dimethyl sulfate (77-78-1)	
LC50 - Fish [1]	7,5 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

12.2. Persistence and Degradability

Dimethyl Malonate	
Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

Dimethyl Malonate	
Bioaccumulative Potential	Not established.

Dimethyl malonate (108-59-8)	
Partition coefficient n-octanol/water (Log Pow)	-0,05 at 20 °C (at pH 6.4)

Butanedioic acid, dimethyl ester (106-65-0)	
Partition coefficient n-octanol/water (Log Pow)	0,33 at 40 °C (at pH 7.1)

Methyl acetate (79-20-9)	
Partition coefficient n-octanol/water (Log Pow)	0,18

Methanol (67-56-1)	
BCF Fish 1	(10 dimensionless)
Partition coefficient n-octanol/water (Log Pow)	-0,77

Toluene (108-88-3)	
Partition coefficient n-octanol/water (Log Pow)	2,73 at 20 °C (at pH 7)

12.4. Mobility in Soil

No additional information available

12.5. Results of PBT and vPvB Assessment

Does not contain any PBT/vPvB substances >= 0.1% assessed in accordance with REACH Annex XVIII

12.6. Endocrine Disrupting Properties

Based on available data this substance/the substances in this mixture not listed below do(es) not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100 and/or the criteria set out in Regulation (EU) 2018/605, or the substance(s) are not required to be disclosed.

Component	
Toluene (108-88-3)	This chemical is considered to have endocrine-disrupting properties with respect to in the, producing changes to as it meets the criteria set out in section B of Regulation (EU) 2017/2100, and/or the criteria set out in Regulation (EU) 2018/605. This conclusion is based on evidence from studies and data obtained from a literature search conducted on this chemical, and shows a link between the effects above and endocrine activity, which is relevant for non-target organisms.

12.7. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Product/Packaging Disposal Recommendations : Destroy and dispose of in accordance with applicable local, state, provincial, territorial, federal and international regulations. . Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Additional Information : Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials : Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

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

14.1. UN Number or ID Number

Not regulated for transport

14.2. UN Proper Shipping Name

Not regulated for transport

14.3. Transport Hazard Class

Not regulated for transport

14.4. Packing Group

Not regulated for transport

14.5. Environmental Hazards

Not regulated for transport

14.6. Special Precautions For User

No additional information available

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

15.1.1.1. REACH Annex XVII Information

Listed on REACH Annex XVII (Restriction Conditions). The following restrictions are applicable:

3(a) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F	Methyl acetate ; Propanoic acid, 3-methoxy-, methyl ester ; Methanol ; Toluene

40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	Methyl acetate ; Propanoic acid, 3-methoxy-, methyl ester ; Methanol ; Toluene
28. Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.	Dimethyl sulfate
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	Dimethyl Malonate ; Dimethyl malonate ; Methyl acetate ; Propanoic acid, 3-methoxy-, methyl ester ; Methanol ; Toluene ; Dimethyl sulfate
3(c) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1	Dimethyl Malonate ; Dimethyl malonate ; Butanedioic acid, dimethyl ester ; Toluene ; Dimethyl sulfate
48. Toluene	Toluene
69. Methanol	Methanol

15.1.1.2. REACH Candidate List Information

Contains substance(s) listed on the REACH Candidate List in concentrations ≥ 0.1 % or SCL: Dimethyl sulphate (EC 201-058-1, CAS 77-78-1)

15.1.1.3. POP (2019/1021) - Persistent Organic Pollutants Information

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

15.1.1.4. PIC Regulation EU (649/2012) - Export and Import of Hazardous Chemicals Information

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

15.1.1.5. REACH Annex XIV Information

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

15.1.1.6. Substances Depleting the Ozone layer (1005/2009) Information

No additional information available

15.1.1.7. EC Inventory Information

Dimethyl malonate (108-59-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Butanedioic acid, dimethyl ester (106-65-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Methyl acetate (79-20-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Propanoic acid, 3-methoxy-, methyl ester (3852-09-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Methanol (67-56-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Toluene (108-88-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Dimethyl sulfate (77-78-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.1.1.8. Other Information

No additional information available

15.1.2. National Regulations

No additional information available

15.1.3. International Inventory Lists

Dimethyl malonate (108-59-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on the Canadian DSL (Domestic Substances List) Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECL/KECI (Korean Existing Chemicals Inventory) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Butanedioic acid, dimethyl ester (106-65-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the Canadian DSL (Domestic Substances List)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Methyl acetate (79-20-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the Canadian DSL (Domestic Substances List)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Propanoic acid, 3-methoxy-, methyl ester (3852-09-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the Canadian NDSL (Non-Domestic Substances List)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Methanol (67-56-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the Canadian DSL (Domestic Substances List)
Listed on the Canadian IDL (Ingredient Disclosure List)
Subject to reporting requirements of United States SARA Section 313
Listed on EPA Hazardous Air Pollutant (HAPS)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Japanese Poisonous and Deleterious Substances Control Law
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Toluene (108-88-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the Canadian DSL (Domestic Substances List)
Listed on the Canadian IDL (Ingredient Disclosure List)
Subject to reporting requirements of United States SARA Section 313
Listed on EPA Hazardous Air Pollutant (HAPS)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Japanese Poisonous and Deleterious Substances Control Law

Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Dimethyl sulfate (77-78-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the Canadian DSL (Domestic Substances List)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on the United States SARA Section 302
Subject to reporting requirements of United States SARA Section 313
Listed on EPA Hazardous Air Pollutant (HAPS)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Japanese Poisonous and Deleterious Substances Control Law
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out

SECTION 16: OTHER INFORMATION

Date of Preparation or Latest Revision : 07/09/2023

Data Sources : Information and data obtained and used in the authoring of this safety data sheet could come from database subscriptions, official government regulatory body websites, product/ingredient manufacturer or supplier specific information, and/or resources that include substance specific data and classifications according to GHS or their subsequent adoption of GHS.

Other Information : According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Full Text of H- and EUH-statements:

Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1B	Carcinogenicity, Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.

H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H370	Causes damage to organs.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 1	Specific target organ toxicity – single exposure, Category 1
STOT SE 2	Specific target organ toxicity – Single exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

Classification and Procedure Used to Derive the Classification for Mixtures According to Regulation (EC) 1272/2008 [CLP]:

Eye Irrit. 2	Calculation method
Aquatic Chronic 3	Calculation method

Indication of Changes

No additional information available

Abbreviations and Acronyms

ACGIH – American Conference of Governmental 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
ATE - Acute Toxicity Estimate
BCF - Bioconcentration Factor
BEI - Biological Exposure Indices (BEI)
BOD – Biochemical Oxygen Demand
CAS No. - Chemical Abstracts Service Number
CLP – Classification, Labelling and Packaging Regulation (EC) No 1272/2008
COD – Chemical Oxygen Demand
EC – European Community
EC50 - Median Effective Concentration
EEC – European Economic Community
EINECS – European Inventory of Existing Commercial Chemical Substances
EmS-No. (Fire) - IMDG Emergency Schedule Fire
EmS-No. (Spillage) - IMDG Emergency Schedule Spillage
EU – European Union
ErC50 - EC50 in Terms of Reduction Growth Rate
GHS – Globally Harmonized System of Classification and Labelling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC Code - International Bulk Chemical Code
IMDG - International Maritime Dangerous Goods
IPRV - Ilgalaikio Poveikio Ribinis Dydis
IOELV – Indicative Occupational Exposure Limit Value
LC50 - Median Lethal Concentration
LD50 - Median Lethal Dose
LOAEL - Lowest Observed Adverse Effect Level
LOEC - Lowest-Observed-Effect Concentration
Log Koc - Soil Organic Carbon-water Partitioning Coefficient
Log Kow - Octanol/water Partition Coefficient
Log Pow - Ratio of the equilibrium concentration (C) of a dissolved substance in a two-phase system consisting of two largely immiscible solvents, in this case octanol and water
MAK – Maximum Workplace Concentration/Maximum Permissible
NDS - Najwyzsze Dopuszczalne Stezenie
NDSCh - Najwyzsze Dopuszczalne Stezenie Chwilowe
NDSP - Najwyzsze Dopuszczalne Stezenie Pulapowe
NOAEL - No-Observed Adverse Effect Level
NOEC - No-Observed Effect Concentration
NRD - Nevirsytinas Ribinis Dydis
NTP – National Toxicology Program
OEL - Occupational Exposure Limits
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
pH – Potential Hydrogen
REACH – Registration, Evaluation, Authorisation, and Restriction of Chemicals
RID – Regulations Concerning the International Carriage of Dangerous Goods by Rail
SADT - Self Accelerating Decomposition Temperature
SDS - Safety Data Sheet
STEL - Short Term Exposure Limit
STOT - Specific Target Organ Toxicity
TA-Luft - Technische Anleitung zur Reinhaltung der Luft
TEL TRK – Technical Guidance Concentrations
ThOD – Theoretical Oxygen Demand
TLM - Median Tolerance Limit
TLV - Threshold Limit Value
TPRD - Trumpalaikio Poveikio Ribinis Dydis
TRGS 510 - Technische Regel für Gefahrstoffe 510 - Lagerung von Gefahrstoffen in ortsbeweglichen Behältern
TRGS 552 – Technische Regeln für Gefahrstoffe - N-Nitrosamine
TRGS 900 - Technische Regel für Gefahrstoffe 900 – Arbeitsplatzgrenzwerte
TRGS 903 - Technische Regel für Gefahrstoffe 903 - Biologische Grenzwerte
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
VOC – Volatile Organic Compounds
VLA-EC - Valor Límite Ambiental Exposición de Corta Duración
VLA-ED - Valor Límite Ambiental Exposición Diaria
VLE – Valeur Limite D'exposition
VME – Valeur Limite De Moyenne Exposition
vPvB - Very Persistent and Very Bioaccumulative
WEL – Workplace Exposure Limit
WGK - Wassergefährdungsklasse

Concentration
MARPOL - International Convention for the Prevention of Pollution

Limit Value Legal Basis*

*Includes the below and any related regulations/provisions, and subsequent amendments

EU - 2019/1831 EU in accor. with 98/24/EC - Directive 2019/1831/EU of October 24, 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 2000/39/EC.

EU - 2019/1243/EU, and 98/24/EC) - Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work and amendment Regulation (EU) 2019/1243.

Austria - BGBl. II Nr. 254/2018 - Ordinance on Limit Values for Workplace Substances and on Carcinogens from the Federal Ministry of Economics and Labour, Published in 2003, Appendix 1: Substance List, Published through: Ministry of Economics and Labour of the Republic of Austria amended through the Government Gazette II (BGBL. II) No 119/2004) & BGBI. II No. 242/2006, BGBI. II No. 243/2007, lastly changed through BGBl. I Nr. 51/2011), BGBl. II Nr. 186/2015, BGBl. II Nr. 288/2017 amended by BGBl. II Nr. 254/2018.

Austria - BLV BGBl. II Nr. 254/2018 - Ordinance on health monitoring at the workplace 2008, published through BGBl. II Nr. 224/2007 by Austria Minister for Labor and Social Affairs, Lastly changed through BGBl. II Nr. 254/2018

Belgium - Royal Decree 21/01/2020 - Royal decree amending title 1 relating to chemical agents in Book VI of the code of well-being at work, with regard to the list of limit values of exposure to chemical agents and title 2 relating to carcinogens, mutagens and reprotoxics of Book VI of the code of well-being at work (1)

Bulgaria - Reg. No. 13/10 -
Regulation No. 13 of December 30, 2003 on the Protection of Workers from Hazards Related to Exposure to Chemical Agents at Work Labor Code, Annex No.1 Limit values of chemical agents in the air of the working environment, and Annex № 2 Biological limit values of chemical agents and their metabolites (bio markers of exposure) or bio markers of effect Amended by: 71/2006, 67/2007, 2/2012, 46/2015, 73/2018, 5/2020), and Regulation No.10 of September 26, 2003 on the Protection of Workers from the Risks Associated with Exposure to Carcinogens and Mutagens at Work Annex No.1 Occupational Exposure Limits, Amended by: 8/2004, 46/2015, 5/2020

Croatia - OG No. 91/2018 - Regulation on the Protection of Workers from Exposure to Hazardous Chemicals at Work, the Limit Values of Exposure and the Biological Limit Values. Official Gazette No. 91 of October 12, 2018

Cyprus - KDP 16/2019 - Government of Cyprus Cabinet of Ministers Regulation 268/2001 - Safety and Health in the Working Environment (Chemical Substances) Article 38, As amended by Regulation 16/2019 and Cabinet of Ministers Regulation 153/2001 - Safety and Health in the Working Environment (Chemical Substances-Carcinogens), as amended by Regulation 493/2004 - Safety and Health in the Working Environment (Chemical Substances - Carcinogens) AND Law 47(I) 2000 - Occupational Health and Safety (Asbestos), as amended by Decree 316/2006.

Czech Republic - Reg. 41/2020 - Regulation 41/2020 amending Regulation 361/2007 of Coll. establishing Occupation Exposure Limits as amended

Czech Republic - Decree No. 107/2013 - Decree No. 107/2013 Coll., amending Decree No. 432/2003 Coll., laying down the conditions for the application of the work into categories, limit values for the parameters of biological exposure tests, collection of biological material conditions for the implementation of biological exposure tests and requirements for reporting work with asbestos and biological agents

Denmark - BEK No. 698 of 28/05/2020 - Order on Limit Values for Substances and Materials, The Statutory Order No. 507 of May 17, 2011, Appendix 1 - Limits for air pollution, etc. and Appendix 3 - Biological Exposure Values, Amended by: No. 986 of October 11, 2012, No. 655 of May 31, 2018, No. 1458 December 13, 2019, No. 698 of May 28, 2020

Estonia - Regulation No. 105 - Health and Safety Requirements for the Use of Dangerous Chemicals and Materials Containing Them and Occupational Exposure Limits to Chemical Agents
Government of the Republic, Regulation No. 105 of 20 March 2001, Amended 17 October 2019, and 17 January, 2020.

Finland - HTP-ARVOT 2020 - Concentrations Known to be Hazardous, 654/2020 OEL values 2020 Publications of Ministry of Social Affairs and Health 2020:24 Annexes 1, 2 and 3.

France - INRS ED 984 - Occupational Exposure Limit Values to Chemical

Greece - PWHSE - Occupational Exposure Limits - Protection of workers' health and safety from exposure to certain chemical substances during the workday, (latest amendment 82/2018) and Occupation Exposure Limits - Protection of workers' health and safety from exposure to certain carcinogenic and mutagenic chemical substances (latest amendment 26/2020), and Presidential Decree 212/2006 - Protection of workers that are exposed to asbestos.

Hungary - Decree 05/2020 - 5/2020. (II. 6.) ITM decree on the protection of the health and safety of workers from the risks related to chemical agents

Ireland - 2020 COP - 2020 Code of Practice for the Chemical Agents Regulations, Schedule 1

Italy - Decree 81 - Title IX, Annex XLIII and XXXVIII, Professional Exposure Limits and Annex XXXIX Mandatory Biological Limit Values and Health Monitoring, Article 1, Law 123 of August 3, 2007, Legislative Decree 81 of April 9, 2008, Last amended: January 2020

Italy - IMDFN1 - Ministerial Decree of August 20, 1999 Final Note (1)

Latvia - Reg. No. 325 - Cabinet of Ministers Regulation No. 325 - Labour Protection Requirements when Coming in Contact with Chemical Substances at Workplaces, Amended by Cabinet of Ministers Regulation No. 92, 163, 407 and No. 11.

Lithuania - HN 23:2011 - Lithuanian Hygiene Standard HN 23:2011 Occupational Exposure Limit Values, Amended by Order V-695/A1-272.

Luxembourg - A-N 684 - Grand-Ducal Regulation of 20 July 2018 amending the Grand-Ducal Regulation of 14 November 2016 concerning the protection of the safety and health of employees against the risks associated with chemical agents in the workplace. Official journal of the Grand-Duke of Luxembourg, A-N°684 of 2018

Malta - MOSHAA Ch. 424 - Malta Occupational Health and Safety Authority Act: Chapter 424 as amended by: Legal Notice 353, 53, 198, and 57.

Netherlands- OWCRLV - Occupational Working Conditions Regulation, Limit Values for substances harmful to health, Annex XVIII, Updated from August 1, 2020.

Norway - FOR-2020-04-060695 - Regulations concerning action and limit values for physical and chemical agents in the working environment and classified biological agents, FOR-2011-12-06-1358, Updated by: FOR-2020-04-06-695, FOR-2020-03-23-402, FOR-2018-12-20-2186, FOR-2018-08-21-1255, FOR-2017-12-20-2353.

Poland - Dz. U. 2020 Nr. 61 - Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the Highest Allowable Concentrations and Intensities of Factors Harmful to Health in the Work Environment Dz.U. 2018 Nr. 1286 of June 12, 2018, Annex 1 - List of values of the highest permissible chemical concentrations and dust factors harmful to health in the work environment, amended by: Dz. U. 2020 Nr. 61.

Portugal - Portuguese Norm NP 1796:2014 - Occupational exposure limits and biological exposure indices to chemical agents. Table 1 - Occupational exposure limits and biological exposure indices to chemical agents (OELs), Law Decree 35/2020.

Romania - Gov. Dec. No 1.218 - Governmental Decision No. 1.218 from 06/09/2006 on the minimum health and safety requirements for protection of workers from the risks related to exposure to chemical agents, Annex No. 1 Mandatory National Occupational Exposure Limit Values for Chemical Agents. Amended by Decision no. 157, 584, 359, and 1.

Slovakia - Gov. Decree 33/2018 - Government Decree of Slovak Republic 33/2018 on January 17, 2018 amending Government Decree of Slovak Republic 355/2006 about protection of health of employees when working with chemical agents

Slovenia - No. 79/19 - Regulation for protection of workers against risks related to carcinogenic or mutagenic substances exposure. Annex III - Classification and binding levels of carcinogenic or mutagenic substances for occupational exposure. The Official Journal of the Republic of Slovenia, No. 101/2005. Amended by 38/15, 79/19. Regulation for protection of workers against risks related to exposure to chemical substances at the workplace. Republic of Slovenia, No. 100/2001 . Annex I - List of Binding Occupational Exposure Limit Values. Amended by 39/05, 53/07, 102/10, 38/15, 78/18, 78/19

Spain - AFS 2018:1 - NATIONAL INSTITUTE FOR HEALTH AND SAFETY AT

Agents in France Published 2016 by the INRS National Institute of Research and Safety Health and safety of work, revised, updated by: Decree 2016-344, JORF No 0119, and Decree 2019-1487.
France - Decree 2009-1570 - Decree 2009-1570 of December 15, 2009, relative to the control of chemical risk on workplaces.
Germany - TRGS 900 - Occupational Exposure Limits, Technical Rules for Dangerous Substances, latest amendment March, 2020
Germany - TRGS 903 - Biological Threshold Limits (BGW-Values), Technical Rules for Dangerous Substances, latest amendment March, 2020
Gibraltar - LN. 2018/131 - Factories (Control of Chemical Agents at Work) Regulations 2003 LN. 2003/035, amended by LN. 2008/035, LN. 2008/050, LN. 2012/021, LN. 2015/143, LN. 2018/181.
WORK. Occupational exposure limits for chemical agents in Spain. Tables 1 and 3. Latest edition Feb. 2019
Sweden - AFS 2018:1 - Statute Book of the Swedish Work Environment Authority, AFS 2018:1
The Swedish Work Environment Authority's Ordinance and General Guidance on Hygienic Limit Values
Switzerland - OLVSNAIF - Occupational Limit Values 2020 Swiss National Accident Insurance Fund. List of Biological Limit Values (BAT-Werte) and List of MAK Values.

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