Monolithic Membrane 6125®EU (MM6125®EU)

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 17 February 2016 Revision date: 17 November 2022 Supersedes version of: 17 February 2016 Version: 2.0

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

1.1. Product identifier

Product form : Mixture
Trade name : Monolithic Membrane 6125®EU (MM6125®EU)

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Waterproofing Flexible Monolithic Membrane (MM6125®EV) for waterproofing, roofs, terraces, foundation walls, parking decks and bridges.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer:
Hydrotech Membrane Corporation
10951 Parkway, Anjou (Québec)
H1J 1S1 Canada

Main EU Supplier:
Alumasc Exterior Building Products Ltd
White House Works, Bold Road,
Sutton, St Helens
WA9 4JG. England

T 00 44 (0) 1744 648400
lloyda@alumasc-exteriors.co.uk

1.4. Emergency telephone number

Emergency number : Professional Emergency Resource Services (PERS) Domestic/Canada : 1-800-633-8253
International : 1-801-629-0667

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

other hazards which do not result in classification : The product is solid at room temperature and becomes liquid when treated for the application. On heating : This product may liberate toxic and flammable hydrogen sulfide gas.

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not 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]
Asphalt	CAS-No.: 8052-42-4 EC-No.: 232-490-9 REACH-no: 01-2119480172-44	40 – 70	Not classified
Distillates, petroleum, hydrotreated heavy naphthenic	CAS-No.: 64742-52-5 EC-No.: 265-155-0 EC Index-No.: 649-465-00-7 REACH: 01-2119467170-45	15 – 40	Asp. Tox. 1, H304 (liquid)
Styrene-butadiene copolymer	CAS-No.: 9003-55-8 EC-No.: 618-370-2 REACH: 01-2119457861-32	7 – 13	Not classified
Carbon black	CAS-No.: 1333-86-4 EC-No.: 215-609-9 REACH: Exempted	1 - 7	Carc. 2, H351 (dust)
Distillates, petroleum, solvent-refined heavy paraffinic	CAS-No.: 64741-88-4 EC-No.: 265-090-8 EC Index-No.: 649-454-00-7 REACH-no: Exempted	<2	Not classified

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 after inhalation : Move the affected person away from the contaminated area and into the fresh air. Seek medical attention if ill effect or irritation develops.

First-aid measures after skin contact : In case of contact with hot or molten product, cool rapidly with water and seek immediate medical attention. Do not attempt to remove molten product from skin because skin will tear easily. Cuts or abrasions should be treated promptly with thorough cleansing of the affected area.

First-aid measures after eye contact : In case of contact with hot material: Rinse immediately with plenty of water. Seek medical attention immediately.

First-aid measures after ingestion : Seek medical attention immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician.

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

Symptoms/effects after inhalation : At elevated temperatures or in enclosed spaces, product mist or vapors may irritate the mucous membranes of the nose, the throat, bronchi, and lungs. Dizziness, headaches, nausea. May release poisonous hydrogen sulfide.

Symptoms/effects after skin contact : The hot liquid may cause severe skin burns. Prolonged or repeated contact with the skin may cause dermatitis.

Symptoms/effects after eye contact : Hot material can cause burns. Vapor irritates eyes.

Symptoms/effects after ingestion : Severe irritation or burns to the mouth, throat, oesophagus, and stomach.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : May ignite and burn at temperatures exceeding the flash point. On combustion, forms: carbon oxides (CO and CO2). Sulfur oxides. Hydrogen sulfide. Toxic fumes may be released.

Explosion hazard : When the product is in heated, molten form, it may release poisonous hydrogen sulfide. Hydrogen Sulfide (H2S), an extremely flammable and toxic gas, may evolve and collect in the headspace of storage tanks, transport vessels and other enclosed containers.

Reactivity in case of fire : None known.

Hazardous decomposition products in case of fire : carbon oxides. Nitrogen oxides. Sulfur oxides. Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. May release poisonous hydrogen sulfide.

Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate unnecessary personnel.

6.1.1. For non-emergency personnel

Protective equipment : For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate spillage area. Avoid contact with skin, eyes and clothes.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Before cleaning spills, allow material to cool and solidify. Collect spillage. Store away from other materials. Dispose of this material and its container to hazardous or special waste collection point.

6.4. Reference to other sections

For disposal of residues refer to section 13 : "Disposal considerations". For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : When the product is in heated, molten form, it may release poisonous hydrogen sulfide. Hot material can cause burns.

Precautions for safe handling : When heated: . Provide good ventilation in process area to prevent formation of vapour. Avoid breathing vapours. The inherent toxic and olfactory (sense of smell) fatiguing properties of hydrogen sulphide require that air monitoring alarms be used if concentrations are expected to reach harmful levels such as in enclosed spaces, heated transport vessels and spill or leak situations. If the air concentration exceeds 50 ppm, the area should be evacuated unless respiratory protection is in use. Wear protective clothing to prevent burns. Eliminate all sources of ignition, avoid sparks, flames and do not smoke in risk area . Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Wash hands thoroughly after handling. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Incompatible materials. Keep container closed when not in use. Keep away from heat and direct sunlight. Do not re-use empty containers.

Incompatible materials : Strong bases. Pure oxygen. Chlorine. Strong acids. Strong oxidizers.

7.3. Specific end use(s)

For further information see section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Quartz (14808-60-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	RESPIRABLE CRYSTALLINE SILICA DUST
IOEL TWA	0.1 mg/m³ Respirable fraction
Remark	(Year of adoption 2003)
Regulatory reference	Directive 2004/37/EC (CMD), as amended by Directive 2019/983/EU, 20 June 2019
Austria - Occupational Exposure Limits	
Local name	Quarz (Alveolarstaub)
MAK (OEL TWA)	0.15 mg/m³ (A) (gilt als Jahresmittelwert bis 31.12.2013; der Beurteilungszeitraum beträgt ein Jahr)
OEL chemical category	Group C Carcinogen alveolar dust
Regulatory reference	BGBl. II Nr. 238/2018
Belgium - Occupational Exposure Limits	
Local name	Silices cristallines: quartz (poussières alvéolaires) # Siliciumdioxide (kristallijn): kwarts (inadembaar stof)
OEL TWA	0.1 mg/m³

Quartz (14808-60-7)	
Remark	C: la mention “C” signifie que l’agent en question relève du champ d’application du titre 2 relatif aux agents cancérigènes, mutagènes et reprotoiques du livre VI du code de bien-être au travail. # C: de vermelding “C” betekent dat het betrokken agens valt onder het toepassingsgebied van titel 2 betreffende kankerverwekkende, mutagene en reprotoxische agentia van boek VI van de codex over het welzijn op het werk.
OEL chemical category	Carcinogen alveolar dust
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Croatia - Occupational Exposure Limits	
Local name	Kristalni SiO2, kvarc
GVI (OEL TWA) [1]	0.1 mg/m³
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	0.1 mg/m³ (dust)
Denmark - Occupational Exposure Limits	
Local name	Kvarts
OEL TWA [1]	0.3 mg/m³ total 0.1 mg/m³ total, respirabel
Remark	E (betyder, at stoffet har en EF-grænseværdi); K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 1054 af 28/06/2022
Estonia - Occupational Exposure Limits	
Local name	Kvarts
OEL TWA	0.1 mg/m³ peentolm
Remark	1 (Peentolm koosneb alla 2,5-mikromeetrise läbimõõduga osakestest, mis võivad jõuda koos sissehingatava õhuga kopsu alveoolidesse (respireeritav fraktsioon)), C (Kantserogeenne aine)
OEL chemical category	Carcinogenic substance respirable dust
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 15.05.2021, 1)
Finland - Occupational Exposure Limits	
Local name	Kvartsi
HTP (OEL TWA) [1]	0.05 mg/m³ Kvartsi (alveolijae)
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Silice (poussières alvéolaires de quartz)
VME (OEL TWA)	0.1 mg/m³
Remark	Valeurs règlementaires contraignantes
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 984, 2016; Décret n° 2019-1487; Décret n° 2020-1546; Décret n° 2021-434; Décret n° 2021-1849)
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	0.1 mg/m³ (respirable (flying and fibrous powders)

Quartz (14808-60-7)	
Ireland - Occupational Exposure Limits	
Local name	Quartz, respirable dust
OEL TWA [1]	0.1 mg/m³
OEL STEL	0.3 mg/m³
Remark	BOELV (Binding Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
Italy - Occupational Exposure Limits	
OEL TWA	0.025 mg/m³ Silicone, cristallino - α-Quarzo, frazione respirabile
Latvia - Occupational Exposure Limits	
OEL TWA	0.1 mg/m³ Ieelpojamie kristāliskā silīcija dioksīda putekļi
Netherlands - Occupational Exposure Limits	
Local name	Respirabel kristallijn silicastof: – kwarts
TGG-8u (OEL TWA)	0.075 mg/m³ Respirabele fractie
Remark	Kankerverwekkende stof
Regulatory reference	Arbeidsomstandighedenregeling 2022
Poland - Occupational Exposure Limits	
Local name	Krzemionka krystaliczna – kwarc
NDS (OEL TWA)	0.1 mg/m³ frakcja respirabilna
Remark	Frakcja respirabilna – frakcja aerozolu wnikająca do dróg oddechowych, która stwarza zagrożenie dla zdrowia po zdeponowaniu w obszarze wymiany gazowej.
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
Local name	Silica, cristalina α-Quartzo
OEL TWA	0.025 mg/m³ R (Fração respirável)
OEL chemical category	A2 - Suspected Human Carcinogen
Remark	A2 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
OEL TWA	0.1 mg/m³ (dust, respirable fraction)
Slovakia - Occupational Exposure Limits	
Local name	Oxid kremičitý, kryštalický
NPHV (OEL TWA) [1]	0.1 mg/m³ respirabilná frakcia (TSH)
Remark	Kategória karcinogénov 1A – Dokázaný karcinogén pre ľudí
Regulatory reference	Nariadenie vlády č. 356/2006 Z. z. (235/2020 Z. z.)
Spain - Occupational Exposure Limits	
Local name	Sílice Cristalina: Cuarzo
VLA-ED (OEL TWA) [1]	0.05 mg/m³ Fracción respirable

Quartz (14808-60-7)	
Remark	v (Agente cancerígeno con valor límite vinculante recogido en el anexo III del Real Decreto 665/1997 y en sus modificaciones posteriores), d (Véase UNE EN 481: Atmósferas en los puestos de trabajo. Definición de las fracciones por el tamaño de las partículas para la medición de aerosoles), y (Reclasificado, por la International Agency for Research on Cancer (IARC) de grupo 2A (probablemente carcinogénico en humanos) a grupo 1 (carcinogénico en humanos)).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Sweden - Occupational Exposure Limits	
Local name	Kvarts
NGV (OEL TWA)	0.1 mg/m³ respirabel fraktion; Se även: Kristobalit och Tridymit
Remark	C (Ämnet är cancerframkallande. Risk för cancer finns även vid annan exponering än via inandning. För vissa cancerframkallande ämnen som inte har gränsvärden gäller förbud eller tillståndskrav enligt föreskrifterna om kemiska arbetsmiljörisker); M (Medicinska kontroller kan krävas för hantering av ämnet. Se vidare föreskrifterna om medicinska kontroller i arbetslivet. För visa ämnen ska arbetsgivaren erbjuda läkarundersökning och för andra ämnen gäller krav på periodisk läkarundersökning och tjänstbarhetsbedömning); 3 (Den respirabla fraktionen är de inhalerbara partiklar som når längst ner i luftvägarna, till alveolerna i lungorna)
OEL chemical category	Carcinogen
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
Iceland - Occupational Exposure Limits	
Local name	Kvars
OEL TWA	0.3 mg/m³ heildarryk
OEL TWA [ppm]	0.1 ppm örfínt ryk
Remark	K (efnið er krabbameinsvaldandi)
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 531/2020)
Norway - Occupational Exposure Limits	
Local name	Krystallinsk silika (SiO2), α-kvarts
Grenseverdi (OEL TWA) [1]	0.3 mg/m³ Totalstøv 0.1 mg/m³ Respirabelt støv
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)
Remark	K: Kjemikalier som skal betraktes som kreftfremkallende; G: EU har fastsatt en bindende grenseverdi og/eller anmerkning for stoffet; 7) Støv som inneholder α-kvarts, kristobalitt og/eller tridymitt vurderes ut fra summasjonsformel. Samtidig må verdiene for sjenerende støv overholdes.
OEL chemical category	Carcinogen
Regulatory reference	FOR-2021-06-28-2248
USA - ACGIH - Occupational Exposure Limits	
Local name	Silica crystaline - quartz
ACGIH OEL TWA	0.025 mg/m³ (respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
ACGIH chemical category	Suspected Human Carcinogen
Regulatory reference	ACGIH 2022

Mica (12001-26-2)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	10 mg/m³ (inhalable fraction)
Belgium - Occupational Exposure Limits	
Local name	Mica # Mica
OEL TWA	3 mg/m³
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
OEL TWA	3 mg/m³ (containing <2% free Crystalline silicon dioxide in respirable fraction-respirable fraction) 6 mg/m³ (containing <2% free Crystalline silicon dioxide in respirable fraction-inhalable fraction)
Croatia - Occupational Exposure Limits	
Local name	Mika (tinjac, liskum)
GVI (OEL TWA) [1]	10 mg/m³ U (ukupna prašina) 0.8 mg/m³ R (respirabilna prašina)
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Czech Republic - Occupational Exposure Limits	
Local name	Slída
PEL (OEL TWA)	2 mg/m³
Remark	Prachy s převážně fibrogennúm účinkem.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Ireland - Occupational Exposure Limits	
Local name	Mica
OEL TWA [1]	3 mg/m³ R (Respirable Fraction)
OEL STEL	9 mg/m³ (calculated-respirable fraction)
Regulatory reference	Chemical Agents Code of Practice 2021
Portugal - Occupational Exposure Limits	
Local name	Mica
OEL TWA	3 mg/m³ R (Fração respirável)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Mică (fără fibre de azbest și fără cuarț ≥ 1%)
OEL TWA	3 mg/m³ fracție respirabilă
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
Spain - Occupational Exposure Limits	
Local name	Mica
VLA-ED (OEL TWA) [1]	3 mg/m³ Fracción respirable
Remark	d (Véase UNE EN 481: Atmósferas en los puestos de trabajo. Definición de las fracciones por el tamaño de las partículas para la medición de aerosoles), e (Este valor es para la materia particulada que no contenga amianto y menos de un 1% de sílice cristalina).

Mica (12001-26-2)	
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	6 mg/m³ (total dust) 3 mg/m³ (respirable dust)
Korttidsverdi (OEL STEL)	12 mg/m³ (value calculated-total dust) 6 mg/m³ (value calculated-respirable dust)
USA - ACGIH - Occupational Exposure Limits	
Local name	Mica
ACGIH OEL TWA	0.1 mg/m³ (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2022

Titanium dioxide (13463-67-7)	
Austria - Occupational Exposure Limits	
Local name	Titandioxid (Alveolarstaub)
MAK (OEL TWA)	5 mg/m³ (alveolar dust, respirable fraction)
MAK (OEL STEL)	10 mg/m³ (alveolar dust, respirable fraction)
Regulatory reference	BGBl. II Nr. 238/2018 BGBl. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Titane (dioxyde de) # Titaandioxide
OEL TWA	10 mg/m³
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
Local name	Титанов диоксид
OEL TWA	10 mg/m³ (respirable dust)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
Croatia - Occupational Exposure Limits	
Local name	Titanov dioksid
GVI (OEL TWA) [1]	10 mg/m³ (total dust, inhalable particles) 4 mg/m³ (respirable dust)
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Denmark - Occupational Exposure Limits	
Local name	Titandioxid
OEL TWA [1]	6 mg/m³
Remark	K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 1054 af 28/06/2022
Estonia - Occupational Exposure Limits	
Local name	Titaanoksiid

Titanium dioxide (13463-67-7)	
OEL TWA	5 mg/m³
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 15.05.2021, 1)
France - Occupational Exposure Limits	
Local name	Titane (dioxyde de), en Ti
VME (OEL TWA)	10 mg/m³
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
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	
Local name	Τιτανίου διοξείδιο
OEL TWA	10 mg/m³ (inhalable fraction) 5 mg/m³ (respirable fraction)
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Ireland - Occupational Exposure Limits	
Local name	Titanium dioxide
OEL TWA [1]	10 mg/m³ (total inhalable dust) 4 mg/m³ (respirable dust)
OEL STEL	30 mg/m³ (calculated-respirable dust) 12 mg/m³ (calculated)
Regulatory reference	Chemical Agents Code of Practice 2021
Latvia - Occupational Exposure Limits	
Local name	Titāna dioksīds
OEL TWA	10 mg/m³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2011. gada 1. februārī noteikumiem Nr. 92)
Lithuania - Occupational Exposure Limits	
Local name	Titano dioksidas
IPRV (OEL TWA)	5 mg/m³
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Poland - Occupational Exposure Limits	
Local name	Ditlenek tytanu
NDS (OEL TWA)	10 mg/m³ (the concentration of the respirable Crystalline silica fraction is determined simultaneously-inhalable fraction)
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia. Obowiązuje jednoczesne oznaczanie stężeń frakcji respirabilnej krzemionki krystalicznej.
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
Local name	Dióxido de titânio

Titanium dioxide (13463-67-7)	
OEL TWA	10 mg/m³
OEL chemical category	A4 - Not Classifiable as a Human Carcinogen
Remark	A4 (Agente não classificável como carcinogénico no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Dioxid de titan
OEL TWA	10 mg/m³
OEL STEL	15 mg/m³
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
Slovakia - Occupational Exposure Limits	
Local name	Oxid titaničitý
NPHV (OEL TWA) [1]	5 mg/m³
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Spain - Occupational Exposure Limits	
Local name	Dióxido de titanio
VLA-ED (OEL TWA) [1]	10 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Sweden - Occupational Exposure Limits	
Local name	Titandioxid
NGV (OEL TWA)	5 mg/m³ (total dust)
Remark	3 (Med totaldamm menas de partiklar (aerosoler) som fastnar på ett filter i den provtagare som beskrivs i Metodserien, Provtagning av totaldamm och respirabelt damm, Metod nr 1010, Arbetarskyddsstyrelsen, numera Arbetsmiljöverket. Filterdiametern är normalt 37 mm, men kan även vara 25 mm. Trots sitt namn provtas inte den totala mängden luftburna partiklar med denna metod)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
Iceland - Occupational Exposure Limits	
Local name	Títandíoxíð, sem Ti
OEL TWA	6 mg/m³
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	Titandioksid
Grenseverdi (OEL TWA) [1]	5 mg/m³
Korttidsverdi (OEL STEL)	10 mg/m³ (value calculated)
Regulatory reference	FOR-2021-06-28-2248
USA - ACGIH - Occupational Exposure Limits	
Local name	Titanium dioxide
ACGIH OEL TWA	0.2 mg/m³ (nanoscale respirable particulate matter) 2.5 mg/m³ (finescale respirable particulate matter)

Titanium dioxide (13463-67-7)	
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 2022

Carbon black (1333-86-4)	
Austria - Occupational Exposure Limits	
Local name	TEXTILFASERN (LEICHTSTAUBE VON), EINATEMBARE FRAKTION
MAK (OEL TWA)	5 mg/m³
MAK (OEL STEL)	10 mg/m³
Belgium - Occupational Exposure Limits	
Local name	Carbone (noir de) # Koolzwart
OEL TWA	3 mg/m³
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
OEL TWA	3.5 mg/m³ Soot, inhalable fraction
Croatia - Occupational Exposure Limits	
Local name	Ugljik-crni
GVI (OEL TWA) [1]	3.5 mg/m³
KGVI (OEL STEL)	7 mg/m³
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Cyprus - Occupational Exposure Limits	
OEL TWA	3.5 mg/m³
Czech Republic - Occupational Exposure Limits	
Local name	Amorfní uhlík (Carbon Black)
PEL (OEL TWA)	2 mg/m³ (dust)
Remark	Prachy s převážně nespecifickým účinkem.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Carbon black
OEL TWA [1]	3.5 mg/m³
Remark	K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 1054 af 28/06/2022
Estonia - Occupational Exposure Limits	
OEL TWA	3 mg/m³ (dust (Dusts)
Finland - Occupational Exposure Limits	
Local name	Nokimusta
HTP (OEL TWA) [1]	3.5 mg/m³
HTP (OEL STEL)	7 mg/m³

Carbon black (1333-86-4)	
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Noir de carbone
VME (OEL TWA)	3.5 mg/m³
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Greece - Occupational Exposure Limits	
Local name	Αιθάλη
OEL TWA	3.5 mg/m³
OEL STEL	7 mg/m³
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	Ipari korom [„Carbon Black”]
AK (OEL TWA)	3 mg/m³ Industrial carbon black dust
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Carbon black
OEL TWA [1]	3 mg/m³ I (Inhalable Fraction)
Regulatory reference	Chemical Agents Code of Practice 2021
Italy - Occupational Exposure Limits	
OEL TWA	3 mg/m³ (ACGIH OELs)
Latvia - Occupational Exposure Limits	
OEL TWA	4 mg/m³ Carbon dust-coal, anthracite and other coal dust, oil, coke, hard coal, dark industrial soot
Poland - Occupational Exposure Limits	
Local name	Sadza techniczna
NDS (OEL TWA)	4 mg/m³ frakcja wdychalna
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia.
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
Local name	Carbono, preto (Negro de fumo)
OEL TWA	3 mg/m³ I (Fraçao inalável)
OEL chemical category	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Remark	A3 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	2 mg/m³

Carbon black (1333-86-4)	
Spain - Occupational Exposure Limits	
Local name	Negro de humo
VLA-ED (OEL TWA) [1]	3.5 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	3 mg/m³ (inhalable fraction)
Iceland - Occupational Exposure Limits	
Local name	Kolefni
OEL TWA	3.5 mg/m³
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	Carbon Black (lampesot)
Grenseverdi (OEL TWA) [1]	3.5 mg/m³
Regulatory reference	FOR-2021-06-28-2248
USA - ACGIH - Occupational Exposure Limits	
Local name	Carbon black
ACGIH OEL TWA	3 mg/m³ (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: Bronchitis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2022

Kaolin (1332-58-7)	
Belgium - Occupational Exposure Limits	
Local name	Kaolin (fraction alvéolaire) # Kaolien (inadembare fractie)
OEL TWA	2 mg/m³
Remark	(fraction alvéolaire
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
Local name	Каолин, съдържащ под 2 % свободен кристален силициев диоксид в респирабилната фракция
OEL TWA	6 mg/m³ (Инхалабилна фракция) 3 mg/m³ (Респирабилна фракция)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	2 mg/m³ (respirable dust)
Denmark - Occupational Exposure Limits	
Local name	Kaolin
OEL TWA [1]	2 mg/m³ respirabel

Kaolin (1332-58-7)	
OEL STEL	4 mg/m³
Regulatory reference	BEK nr 1054 af 28/06/2022
Finland - Occupational Exposure Limits	
Local name	Kaoliini
HTP (OEL TWA) [1]	2 mg/m³ alveolijae
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
VME (OEL TWA)	10 mg/m³
Remark	respirable aerosol
Ireland - Occupational Exposure Limits	
Local name	Kaolin, respirable dust
OEL TWA [1]	2 mg/m³
Regulatory reference	Chemical Agents Code of Practice 2021
Poland - Occupational Exposure Limits	
Local name	Kaolin
NDS (OEL TWA)	10 mg/m³ frakcja wdychalna
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia. Obowiązuje jednoczesne oznaczanie stężeń frakcji respirabilnej krzemionki krystalicznej.
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
Local name	Caulino
OEL TWA	2 mg/m³ E (O valor aplica-se a partículas sem amianto e contendo menos de 1 % de sílica cristalina), R (Fração respirável)
OEL chemical category	A4 - Not Classifiable as a Human Carcinogen
Remark	A4 (Agente não classificável como carcinogénico no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	2 mg/m³
Remark	d,e
Iceland - Occupational Exposure Limits	
Local name	Kaolín, örfínt ryk
OEL TWA	2 mg/m³
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
USA - ACGIH - Occupational Exposure Limits	
Local name	Kaolin
ACGIH OEL TWA	2 mg/m³ (E - The value is for particulate matter containing no asbestos and < 1 % crystalline silica, R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH chemical category	Not Classifiable as a Human Carcinogen

Kaolin (1332-58-7)	
Regulatory reference	ACGIH 2022
Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)	
Belgium - Occupational Exposure Limits	
OEL TWA	5 mg/m³
OEL STEL	10 mg/m³
Bulgaria - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	5 mg/m³
NPK-P (OEL C)	10 mg/m³
Denmark - Occupational Exposure Limits	
OEL TWA [1]	1 mg/m³
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	5 mg/m³
Germany - Occupational Exposure Limits (TRGS 552)	
Concentration limits	5 mg/m³ DFG MAK List
Greece - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	5 mg/m³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	1 mg/m³
TPRV (OEL STEL)	3 mg/m³
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	5 mg/m³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	5 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Romania - Occupational Exposure Limits	
OEL TWA	5 mg/m³
OEL STEL	10 mg/m³
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	1 mg/m³
NPHV (OEL TWA) [2]	5 ppm
NPHV (OEL STEL)	3 mg/m³
NPHV (OEL STEL) [ppm]	15 ppm
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	5 mg/m³

Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)	
VLA-EC (OEL STEL)	10 mg/m³
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	1
KTV (OEL STEL)	3
Iceland - Occupational Exposure Limits	
OEL TWA	1 mg/m³
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	5 mg/m³

Silica, cristobalite (14464-46-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Silica crystaline (Cristobalite)
IOEL TWA	0.05 mg/m³ (respirable dust)
Remark	(Year of adoption 2003)
Regulatory reference	SCOEL Recommendations
Austria - Occupational Exposure Limits	
Local name	Quarzfeinstaub: Cristobalit (alveolengängiges kristallines Siliziumdioxid)
MAK (OEL TWA)	0.05 mg/m³ (alveolar dust, respirable fraction (Quartz)
Remark	Krebserzeugend: III C
OEL chemical category	Group C Carcinogen alveolar dust
Regulatory reference	BGBl. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Silices cristallines: cristobalite (poussières alvéolaires) # Siliciumdioxide (kristallijn): cristobaliet (inadembaar stof)
OEL TWA	0.05 mg/m³ (alveolar dust)
Remark	C: la mention “C” signifie que l’agent en question relève du champ d’application du titre 2 relatif aux agents cancérigènes, mutagènes et reprotoiques du livre VI du code de bien-être au travail. # C: de vermelding “C” betekent dat het betrokken agens valt onder het toepassingsgebied van titel 2 betreffende kankerverwekkende, mutagene en reprotoxische agentia van boek VI van de codex over het welzijn op het werk.
OEL chemical category	Carcinogen alveolar dust
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Croatia - Occupational Exposure Limits	
Local name	Kristalni SiO2 (kristobalit)
GVI (OEL TWA) [1]	0.05 mg/m³
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Czech Republic - Occupational Exposure Limits	
Local name	Kristobalit
PEL (OEL TWA)	0.1 mg/m³ (respirable fraction)
Remark	Prachy s převážně fibrogennúm účinkem.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)

Silica, cristobalite (14464-46-1)	
Denmark - Occupational Exposure Limits	
Local name	Christobalit
OEL TWA [1]	0.15 mg/m³ (total) 0.05 mg/m³ (respirable)
Remark	K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 1054 af 28/06/2022
Estonia - Occupational Exposure Limits	
Local name	Kristobaliit
OEL TWA	0.05 mg/m³ (respirable dust)
Remark	1 (Peentolm koosneb alla 2,5-mikromeetrise läbimõõduga osakestest, mis võivad jõuda koos sissehingatava õhuga kopsu alveoolidesse (respireeritav fraktsioon)), C (Kantserogeenne aine)
OEL chemical category	Carcinogenic substance respirable dust
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 15.05.2021, 1)
Finland - Occupational Exposure Limits	
Local name	Kristobaliitti
HTP (OEL TWA) [1]	0.05 mg/m³ (respirable dust (Silicon dioxide, crystalline)
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Silice (poussières alvéolaires de cristobalite)
VME (OEL TWA)	0.05 mg/m³ (restrictive limit-alveolar fraction)
Remark	Valeurs règlementaires contraignantes
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 984, 2016; Décret n° 2019-1487; Décret n° 2020-1546; Décret n° 2021-434; Décret n° 2021-1849)
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	0.1 mg/m³ (respirable (flying and fibrous powders)
Ireland - Occupational Exposure Limits	
Local name	Cristobalite, respirable dust
OEL TWA [1]	0.1 mg/m³ (respirable dust)
OEL STEL	0.3 mg/m³ (calculated-respirable dust)
Remark	BOELV (Binding Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
Lithuania - Occupational Exposure Limits	
Local name	Kristobalitas (silicio dioksido atmaina)
IPRV (OEL TWA)	0.05 mg/m³ (respirable fraction)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Netherlands - Occupational Exposure Limits	
Local name	Respirabel kristallijn silicastof: – cristoballiet
TGG-8u (OEL TWA)	0.075 mg/m³ (respirable fraction (Silica, crystalline)
Remark	Kankerverwekkende stof

Silica, cristobalite (14464-46-1)	
Regulatory reference	Arbeidsomstandighedenregeling 2022
Poland - Occupational Exposure Limits	
Local name	Krzemionka krystaliczna – krystobalit
NDS (OEL TWA)	0.1 mg/m³ (respirable fraction)
Remark	Frakcja respirabilna – frakcja aerozolu wnikająca do dróg oddechowych, która stwarza zagrożenie dla zdrowia po zdeponowaniu w obszarze wymiany gazowej.
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
OEL TWA	0.025 mg/m³ (respirable fraction)
OEL chemical category	A2 - Suspected Human Carcinogen
Spain - Occupational Exposure Limits	
Local name	Sílice Cristalina: Cristobalita
VLA-ED (OEL TWA) [1]	0.05 mg/m³ (reclassified IARC group 2A to group 1-respirable fraction)
Remark	v (Agente cancerígeno con valor límite vinculante recogido en el anexo III del Real Decreto 665/1997 y en sus modificaciones posteriores), d (Véase UNE EN 481: Atmósferas en los puestos de trabajo. Definición de las fracciones por el tamaño de las partículas para la medición de aerosoles), y (Reclasificado, por la International Agency for Research on Cancer (IARC) de grupo 2A (probablemente carcinogénico en humanos) a grupo 1 (carcinogénico en humanos)).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Sweden - Occupational Exposure Limits	
Local name	Kristobalit
NGV (OEL TWA)	0.05 mg/m³ (respirable fraction)
Remark	C (Ämnet är cancerframkallande. Risk för cancer finns även vid annan exponering än via inandning. För vissa cancerframkallande ämnen som inte har gränsvärden gäller förbud eller tillståndskrav enligt föreskrifterna om kemiska arbetsmiljörisker); M (Medicinska kontroller kan krävas för hantering av ämnet. Se vidare föreskrifterna om medicinska kontroller i arbetslivet. För visa ämnen ska arbetsgivaren erbjuda läkarundersökning och för andra ämnen gäller krav på periodisk läkarundersökning och tjänstbarhetsbedömning); 3 (Den respirabla fraktionen är de inhalerbara partiklar som når längst ner i luftvägarna, till alveolerna i lungorna)
OEL chemical category	Carcinogen
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
Norway - Occupational Exposure Limits	
Local name	Kristobalitt
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) 0.15 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)	0.15 mg/m³ (value calculated-respirable dust) 0.45 mg/m³ (value calculated-total dust) 0.3 mg/m³ (value calculated-respirable dust)

Silica, cristobalite (14464-46-1)	
Remark	Totalstøv: K: Kjemikalier som skal betraktes som kreftfremkallende; 7) Støv som inneholder α-kvarts, kristobalitt og/eller tridymitt vurderes ut fra summasjonsformel. Samtidig må verdiene for sjenerende støv overholdes. Respirabelt støv: K: Kjemikalier som skal betraktes som kreftfremkallende; G: EU har fastsatt en bindende grenseverdi og/eller anmerkning for stoffet; 7) Støv som inneholder α-kvarts, kristobalitt og/eller tridymitt vurderes ut fra summasjonsformel. Samtidig må verdiene for sjenerende støv overholdes.
OEL chemical category	Carcinogen
Regulatory reference	FOR-2021-06-28-2248
USA - ACGIH - Occupational Exposure Limits	
Local name	Silica crystaline - cristobalite
ACGIH OEL TWA	0.025 mg/m³ (respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
ACGIH chemical category	Suspected Human Carcinogen
Regulatory reference	ACGIH 2022

Asphalt (8052-42-4)	
Belgium - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Bulgaria - Occupational Exposure Limits	
OEL TWA	5 mg/m³
OEL STEL	10 mg/m³
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	5 mg/m³
KGVI (OEL STEL)	10 mg/m³
Estonia - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Greece - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	0.5 mg/m³ inhalable fraction
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	5 mg/m³ frakcja wdychalna
NDSCh (OEL STEL)	10 mg/m³ frakcja wdychalna
Portugal - Occupational Exposure Limits	
OEL TWA	0.5 mg/m³ I (Fraçao inalável)
Romania - Occupational Exposure Limits	
OEL TWA	5 mg/m³ (Fumuri)
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	0.5 mg/m³ humos, aerosoles solubles en benceno
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	5 mg/m³

Asphalt (8052-42-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.5 mg/m³ (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	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:
When heated: . Provide adequate ventilation. Provide local exhaust or general room ventilation to minimize vapour concentrations. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. When the product is used outdoors, stay well away from building air intakes or close and seal the intake to prevent product from entering building.

8.2.2. Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure. For certain operations, additional Personal Protection Equipment (PPE) may be required. Personal protective equipment should be selected based upon the conditions under which this product is handled or used.

8.2.2.1. Eye and face protection

Eye protection:
Chemical goggles or face shield. EN 166

8.2.2.2. Skin protection

Skin and body protection:
Long sleeved protective clothing. Chemical resistant protective apron / clothing (tested to EN 14605 or equivalent).

Hand protection:
Insulating protective gloves. Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Impervious gloves e.g. PVC, nitrile rubber, butyl rubber

8.2.2.3. Respiratory protection

Respiratory protection:
NIOSH/MSHA approved air purifying respirator should be used if operating conditions produce airborne concentrations that exceed exposure limits for any individual components. If conditions immediately dangerous to life or health exist, use NIOSH/MSHA self contained breathing apparatus (SCBA). EN 140

8.2.2.4. Thermal hazards

Thermal hazard protection:
When the product is in heated, molten form, it may release poisonous hydrogen sulfide. Eliminate all sources of ignition, avoid sparks, flames and do not smoke in risk area. When handling molten material, thermally-protective long sleeved clothing, boots and gloves should be worn. Face shield and eye protection.

8.2.3. Environmental exposure controls

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	Black.
Appearance	:	Room temperature : Semi-solid (25 °C). Application : Liquid (205 °C).
Odour	:	Characteristic.
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not available
Explosive limits	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	240 °C (464 °F) (Liquid)
Auto-ignition temperature	:	400 °C (752 °F) (Liquid)
Decomposition temperature	:	Not available
pH	:	Not available
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Solubility	:	Water: 50 ppm
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	1.15 kg/l (Liquid)
Relative density	:	Not available
Relative vapour density at 20°C	:	Not applicable
Particle size	:	Not available
Particle size distribution	:	Not available
Particle shape	:	Not available
Particle aspect ratio	:	Not available
Particle aggregation state	:	Not available
Particle agglomeration state	:	Not available
Particle specific surface area	:	Not available
Particle dustiness	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling and storage conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

None known under normal conditions of use.

10.4. Conditions to avoid

Excessive heat.

10.5. Incompatible materials

strong bases. Pure oxygen. Chlorine. Strong acids. Strong oxidizers.

10.6. Hazardous decomposition products

nitrogen oxides (NOx) and sulphur oxides. carbon oxides. Toxic fumes may be released.

SECTION 11: Toxicological information

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

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)

Carbon black (1333-86-4)	
LD50 oral rat	> 8000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 8000 mg/kg Source: ECHA
LC50 Inhalation - Rat (Dust/Mist)	> 4.6 mg/l/4h (Exposure time: 4 h)

Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)	
LD50 oral rat	> 5000 mg/kg

Asphalt (8052-42-4)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg No mortality.There were minimal treatment related clinical signs and no significant treatment related necropsy findings or changes in body weight.
LC50 Inhalation - Rat	> 94.4 mg/m³ (Exposure time: 4.5 h)

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 Inhalation - Rat	2.18 mg/l/4h Whole body

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
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)

Styrene-butadiene copolymer (9003-55-8)	
IARC group	3 - Not classifiable

Carbon black (1333-86-4)	
IARC group	2B - Possibly carcinogenic to humans

Asphalt (8052-42-4)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)
STOT-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)

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : No additional information available

11.2.2. Other information

Potential Adverse human health effects and symptoms : Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness,The hot liquid may cause severe skin burns

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

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

Carbon black (1333-86-4)	
LC50 - Fish [1]	> 1000 mg/l Source: NITE
EC50 72h - Algae [1]	> 10000 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	> 10000 mg/l Source: EHCA

Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)	
LC50 - Fish [1]	> 100 mg/l

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)	
LC50 - Fish [1]	> 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

Monolithic Membrane 6125®EU (MM6125®EU)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Monolithic Membrane 6125®EU (MM6125®EU)	
Bioaccumulative potential	Not established.

Asphalt (8052-42-4)	
BCF - Fish [1]	(no bioaccumulation expected)
Partition coefficient n-octanol/water (Log Pow)	> 6

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : No information available.

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with applicable local, national and international regulation..

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

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

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

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

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

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

POP Regulation (Persistent Organic Pollutants)

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

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

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, solvent-refined heavy paraffinic,Asphalt,Distillates, petroleum, hydrotreated heavy naphthenic are listed

SZW-lijst van mutagene stoffen : Distillates, petroleum, solvent-refined heavy paraffinic,Asphalt,Distillates, petroleum, hydrotreated heavy naphthenic are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Change	Comments
1.3	Details of the supplier of the safety data sheet	Modified	
2.2	Label elements	Modified	
2.3	Other hazards	Modified	

Indication of changes			
Section	**Changed item**	**Change**	**Comments**
4.2	Most important symptoms and effects, both acute and delayed	Modified	
5.2	Special hazards arising from the substance or mixture	Modified	
6	Accidental release measures	Modified	
7.1	Precautions for safe handling	Modified	
7.2	Conditions for safe storage, including any incompatibilities	Modified	
8	Exposure controls / Personal protection equipment	Modified	
9	Physical and chemical properties	Modified	
11.1	Information on toxicological effects	Modified	
11.2.	Information on other hazards	Added	
12.	Ecological information	Modified	
15	Regulatory information	Modified	

Other information : None.

Full text of H- and EUH-statements:	
Asp. Tox. 1	Aspiration hazard, Category 1
EUH210	Safety data sheet available on request.
H304	May be fatal if swallowed and enters airways.

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.