kerakoll

Certified B Corporation

Sassuolo, 04/05/2023

Subject: Restriction 74 on the safe use of diisocyanates

Dear Customer,

Kerakoll would like to inform you that on February 4, 2020, the REACH Committee voted in favor of the European Commission's proposal for a REACH restriction on diisocyanates.

The restriction was published on August 4, 2020 and applies from August 24, 2023 after a 3-year transition period.

The restriction stipulates that from August 24, 2023, the industrial and professional use of diisocyanates will no longer be allowed unless the overall concentration of diisocyanates is less than 0.1 percent by weight or operators have been trained in the safe use of diisocyanates.

As of Feb. 24, 2022, the placing on the market of diisocyanates is also no longer permitted unless the overall concentration of diisocyanates is less than 0.1 percent by weight or the supplier ensures that the recipient is aware of the regulatory requirements regarding the training of employees on the safe use of diisocyanates.

To this end, the supplier shall include the following statement on the packaging:

https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1596534449847&uri=CELEX:32020R1149

Kerakoll has adapted the labels and MSDSs of the products involved as per the regulations.

Training, according to the Diisocyanates Regulation, can also be done online (see points 4 and 5 of restriction 74).

There are many online platforms in this regard that provide this service.

This same communication will be attached to the MSDSs of the finished products involved in this restriction.

We remain at your disposal for any clarification.

Safety Data Sheet
Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878
RESYCOLLE ISO
Date of first edition: 4/19/2021
Safety Data Sheet dated 16/07/2024
version 7

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

1.1. Product identifier

Mixture identification:

Trade name: RESYCOLLE ISO

Trade code: FBIFC412.

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

Recommended use: Adhesives, sealants

Uses advised against: All uses other than recommended ones

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL France
25, avenue de l'Industrie - 69960 Corbas - France
Tel. +33 472 890 684
safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112 Kerakoll Italy - +39-0536-816511 Ireland Poison information centre: 01 809 2166 (Daily 8am-10pm) In case of emergency call 999 or 112 Malta In case of emergency call: +356 2395 2000 (24h)

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Resp. Sens. 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1A	May cause an allergic skin reaction.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) No 1272/2008 (CLP):

Hazard pictograms and Signal Word



Danger

Hazard statements

H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements

P260	Do not breathe vapours.
P280	Wear protective gloves and eye protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a doctor.
P501	Dispose of contents/container in accordance with applicable regulations.

Contains

4,4'-methylenediphenyl diisocyanate

1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-

yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate

Bis(2-(2-(1-methylethyl)-3-oxazolidinyl)ethyl) hexan-1,2-diylbiscarbamate

Hydroxyphenyl benzotriazole derivatives

Special provisions according to Annex XVII of REACH and subsequent amendments:

Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used

As from 24 August 2023 adequate training is required before industrial or professional use.

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: RESYCOLLE ISO

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥3-<5 %	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	EC:918-481-9	Asp. Tox. 1, H304, EUH066	01-2119457273-39
≥0.5-<1 %	4,4'-methylenediphenyl diisocyanate	CAS:101-68-8 EC:202-966-0 Index:615-005-00-9	Carc. 2, H351 STOT RE 2, H373 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317 Acute Tox. 4, H332 Specific Concentration Limits: C ≥ 5%: Eye Irrit. 2 H319 C ≥ 5%: Skin Irrit. 2 H315 C ≥ 0.1%: Resp. Sens. 1 H334 C ≥ 5%: STOT SE 3 H335	01-2119457014-47
≥0.5-<1 %	Bis(2-(2-(1-methylethyl)-3-oxazolidinyl)ethyl) hexan-1,2-diylbiscarbamate	CAS:59719-67-4 EC:261-879-6	Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411	01-2119983487-19
≥0.3-<0.5 %	Hydroxyphenyl benzotriazole derivatives	EC:400-830-7 Index:607-176-00-3	Aquatic Chronic 2, H411; Skin Sens. 1, H317	01-0000015075-76
≥0.3-<0.5 %	xylene	CAS:95-47-6 EC:202-422-2 Index:601-022-00-9	Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315	
≥0.1-<0.3 %	1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	CAS:1065336-91-5 EC:915-687-0	Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Repr. 2, H361; Skin Sens. 1A, H317, M-Chronic:1, M-Acute:1	01-2119491304-40-XXXX

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediatley and dispose off safely.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

N.A.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO_2).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
Limestone CAS: 1317-65-3	NATIONAL	BULGARIA	Long Term: 10 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	ESTONIA	Long Term: 10 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	ESTONIA	Long Term: 5 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	GREECE	Long Term: 10 mg/m3 εισπν Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	GREECE	Long Term: 5 mg/m3 αναπν Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	GREECE	Long Term: 10 mg/m3 εισπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	GREECE	Long Term: 5 mg/m3 αναπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	HUNGARY	Long Term: 10 mg/m3 N Source: 5/2020. (II. 6.) ITM rendelet
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND	Long Term: 4 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)

		NORTHERN IRELAND	
	NATIONAL	BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	IRELAND	Long Term: 10 mg/m3 Source: 2021 Code of Practice
	NATIONAL	IRELAND	Long Term: 4 mg/m3 Source: 2021 Code of Practice
di isononylphthalate CAS: 28553-12-0	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 5 mg/m3 (8h)
	NATIONAL	CROATIA	Long Term: 5 mg/m3 Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 5 mg/m3 Source: 2021 Code of Practice
	NATIONAL	CZECHIA	Long Term: 3 mg/m3; Short Term: Ceiling - 10 mg/m3 Source: Nařízení vlády č. 361-2007 Sb
	NATIONAL	DENMARK	Long Term: 3 mg/m3 Source: BEK nr 2203 af 29/11/2021
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 5 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
4,4'-methylenediphenyl diisocyanate CAS: 101-68-8	ACGIH		Long Term: 0.005 ppm (8h) Resp sens
	NATIONAL	AUSTRALIA	Long Term: 1 ppm (8h)
	NATIONAL	AUSTRIA	Long Term: 0.05 mg/m3 - 0.005 ppm; Short Term: Ceiling - 0.1 mg/m3 - 0.01 ppm 5(Mow), 8x, MAK, III B, Sah Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	CZECHIA	Long Term: 0.05 mg/m3; Short Term: Ceiling - 0.1 mg/m3 I, S Source: Nařízení vlády č. 361-2007 Sb
	NATIONAL	DENMARK	Long Term: 0.05 mg/m3 - 0.005 ppm K Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 0.05 mg/m3 - 0.005 ppm; Short Term: 0.1 mg/m3 - 0.01 ppm S, * Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FRANCE	Long Term: 0.1 mg/m3 - 0.01 ppm; Short Term: 0.2 mg/m3 - 0.02 ppm Risques d'allergie respiratoire, Cancérogène de catégorie 2. La VLEP CT est définie sur une période de référence de 5 minute. Source: INRS outil65, arrêté du 30-06-2004 modifié
	NATIONAL	GREECE	Long Term: 0.2 mg/m3 - 0.02 ppm; Short Term: 0.2 mg/m3 - 0.02 ppm Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	HUNGARY	Long Term: 0.05 mg/m3; Short Term: 0.05 mg/m3 i, sz, BEM, T Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	LITHUANIA	Long Term: 0.05 mg/m3 - 0.005 ppm; Short Term: Ceiling - 0.1 mg/m3 - 0.01 ppm J, Nustatytas 5 min. poveikio trukmės NRD. Tas pats RD, išreikštas ppm, taikomas izocianatams, kurių RD nenustatytas. Ši nuostata taikoma ir dulkių ar lašelių (aerozolių) pavidalo izocianatams, įskaitant prepolimerizuotus izocianatus (aduktus). Skirtingų medžiagų RD, išreikšti mg/m3, yra skirtingi. Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	NORWAY	Long Term: 0.05 mg/m3 - 0.005 ppm A 4

			Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 0.03 mg/m3; Short Term: 0.09 mg/m3 Source: Dz.U. 2018 poz. 1286
	NATIONAL	SLOVAKIA	Long Term: 0.03 mg/m3 - 0.002 ppm S Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	NATIONAL	SWEDEN	Long Term: 0.03 mg/m3 - 0.002 ppm; Short Term: 0.05 mg/m3 - 0.005 ppm M, S, 2 Source: AFS 2021:3
	NATIONAL	BELGIUM	Long Term: 0.052 mg/m3 - 0.005 ppm Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	GERMANY	Long Term: 0.05 mg/m3 DFG, 11, 12, H, Sah, Y, E, 1;=2=(I) Source: TRGS 900
	NATIONAL	IRELAND	Long Term: 0.005 ppm Sens. Source: 2021 Code of Practice
	NATIONAL	ROMANIA	Short Term: 0.15 mg/m3 C2 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SLOVENIA	Long Term: 0.05 mg/m3 - 0.005 ppm; Short Term: 0.05 mg/m3 - 0.005 ppm K, Y, mg/m3: (I), R2 Source: UL št. 72, 11. 5. 2021
	NATIONAL	SPAIN	Long Term: 0.052 mg/m3 - 0.005 ppm Sen, r Source: LEP 2022
xylene CAS: 95-47-6	ACGIH		Long Term: 20 ppm (8h) A4, BEI - URT and eye irr; hematologic eff; CNS impair
	EU		Long Term: 221 mg/m3 - 50 ppm (8h); Short Term: 442 mg/m3 - 100 ppm Skin
	NATIONAL	AUSTRIA	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm 15(Miw), 4x, MAK Source: BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm Кожа Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	DENMARK	Long Term: 109 mg/m3 - 25 ppm EH Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 200 mg/m3 - 50 ppm; Short Term: 450 mg/m3 - 100 ppm A Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FINLAND	Long Term: 220 mg/m3 - 50 ppm; Short Term: 440 mg/m3 - 100 ppm iho Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm Risque de pénétration percutanée Source: INRS outil65, article R. 4412-149 du Code du travail
	NATIONAL	GREECE	Long Term: 435 mg/m3 - 100 ppm; Short Term: 650 mg/m3 - 150 ppm Δ Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	HUNGARY	Long Term: 221 mg/m3; Short Term: 442 mg/m3 b, BEM, EU1, R Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	LITHUANIA	Long Term: 200 mg/m3 - 50 ppm; Short Term: 450 mg/m3 - 100 ppm O Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	NORWAY	Long Term: 108 mg/m3 - 25 ppm H E

			Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 100 mg/m3; Short Term: 200 mg/m3 skóra Source: Dz.U. 2018 poz. 1286
	NATIONAL	SLOVAKIA	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm K Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	NATIONAL	SWEDEN	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm H Source: AFS 2021:3
	NATIONAL	BELGIUM	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm D Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm Source: 2000/39/EZ
	NATIONAL	CYPRUS	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm δέρμα Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
	NATIONAL	GERMANY	Long Term: 220 mg/m3 - 50 ppm DFG, EU, H, 2(II) Source: TRGS 900
	NATIONAL	IRELAND	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm Sk, IOELV Source: 2021 Code of Practice
	NATIONAL	ITALY	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm Cute Source: D.lgs. 81/2008, Allegato XXXVIII
	NATIONAL	LATVIA	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm Āda Source: KN325P1
	NATIONAL	LUXEMBOURG	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm Peau Source: Mémorial A n.226 du 22 mars 2021
	NATIONAL	MALTA	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm skin Source: S.L.424.24
	NATIONAL	PORTUGAL	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm Cutânea Source: Decreto-Lei n.º 1/2021
	NATIONAL	ROMANIA	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm P, Dir. 2000/39 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SLOVENIA	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm K, BAT, EU1 Source: UL št. 72, 11. 5. 2021
	NATIONAL	SPAIN	Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm vía dérmica, VLB®, VLI Source: LEP 2022
Aluminium oxide CAS: 1344-28-1	NATIONAL	AUSTRALIA	Long Term: 10 mg/m3 (8h) Inhalable dust containing no asbestos and < 1% crystalline silica
	NATIONAL	BELGIUM	Long Term: 1 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 10 mg/m3 U Source: NN 1/2021
	NATIONAL	CROATIA	Long Term: 4 mg/m3 R Source: NN 1/2021

NATIONAL	ROMANIA	Long Term: 2 mg/m3; Short Term: 5 mg/m3 (Aerosoli) Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SPAIN	Long Term: 10 mg/m3 véase Capítulo 9 Source: LEP 2022
NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, A Source: GKV, BGBl. II Nr. 156/2021
NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, MAK, A Source: GKV, BGBl. II Nr. 156/2021
NATIONAL	DENMARK	Long Term: 5 mg/m3 Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 4 mg/m3 1 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FRANCE	Long Term: 10 mg/m3 Source: INRS outil65
NATIONAL	GREECE	Long Term: 10 mg/m3 εισπν Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	GREECE	Long Term: 5 mg/m3 αναπν Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	HUNGARY	Long Term: 5 mg/m3 N Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	HUNGARY	Long Term: 2 mg/m3 resp, N Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LATVIA	Long Term: 6 mg/m3 Source: KN325P1
NATIONAL	LATVIA	Long Term: 4 mg/m3 Source: KN325P1
NATIONAL	NORWAY	Long Term: 10 mg/m3 1 Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 2.5 mg/m3 4) Source: Dz.U. 2018 poz. 1286
NATIONAL	POLAND	Long Term: 1.2 mg/m3 6) Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 4 mg/m3 10) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
SUVA	SWITZERLAND	Long Term: 3 mg/m3 TWA mg/m3: (a), B, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites
SUVA	SWITZERLAND	Long Term: 3 mg/m3; Short Term: 24 mg/m3 TWA mg/m3: (a), Fimétal / Metallrauch, NIOSH Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)

	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
dimethyl sulfoxide CAS: 67-68-5	NATIONAL	GERMANY	Long Term: 160 mg/m3 - 50 ppm DFG, Z, H, 2 (I) Source: TRGS 900
	NATIONAL	SLOVENIA	Long Term: 160 mg/m3 - 50 ppm; Short Term: 320 mg/m3 - 100 ppm K Source: UL št. 72, 11. 5. 2021
	NATIONAL	AUSTRIA	Long Term: 160 mg/m3 - 50 ppm MAK, H Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	DENMARK	Long Term: 160 mg/m3 - 50 ppm Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 150 mg/m3 - 50 ppm; Short Term: 500 mg/m3 - 150 ppm A Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FINLAND	Long Term: 50 ppm iho Source: HTP-ARVOT 2020
	NATIONAL	LITHUANIA	Long Term: 150 mg/m3 - 50 ppm; Short Term: 500 mg/m3 - 150 ppm O Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	SWEDEN	Long Term: 150 mg/m3 - 50 ppm; Short Term: 500 mg/m3 - 150 ppm H, V Source: AFS 2021:3
	SUVA	SWITZERLAND	Long Term: 160 mg/m3 - 50 ppm; Short Term: 320 mg/m3 - 100 ppm R/H, VRS / OAW Source: suva.ch/valeurs-limites
Carbon black CAS: 1333-86-4	ACGIH		Long Term: 3 mg/m3 (8h) I, A3 - Bronchitis
	NATIONAL	AUSTRALIA	Long Term: 3 mg/m3
	NATIONAL	SWEDEN	Long Term: 3 mg/m3 Source: AFS 2021:3
	NATIONAL	BELGIUM	Long Term: 3 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 3.5 mg/m3; Short Term: 7 mg/m3 Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 3 mg/m3 I Source: 2021 Code of Practice
	NATIONAL	SPAIN	Long Term: 3.5 mg/m3 Source: LEP 2022
	NATIONAL	DENMARK	Long Term: 3.5 mg/m3 K Source: BEK nr 2203 af 29/11/2021
	NATIONAL	FINLAND	Long Term: 3.5 mg/m3; Short Term: 7 mg/m3 Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 3.5 mg/m3 Source: INRS outil65
	NATIONAL	GREECE	Long Term: 3.5 mg/m3; Short Term: 7 mg/m3 Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	HUNGARY	Long Term: 3 mg/m3 belélegezhető koncentráció Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	NORWAY	Long Term: 3.5 mg/m3

			Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 4 mg/m3 4) Source: Dz.U. 2018 poz. 1286
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 3.5 mg/m3; Short Term: 7 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
Dibutyltin dilaurate CAS: 77-58-7	NATIONAL	AUSTRIA	F, D Source: GKV, BGBl. II Nr. 156/2021
o-(p-isocyanatobenzyl)phenyl isocyanate CAS: 5873-54-1	NATIONAL	AUSTRIA	Long Term: 0.05 mg/m3 - 0.005 ppm; Short Term: Ceiling - 0.1 mg/m3 - 0.01 ppm 5(Mow), 8x, MAK, III B, Sah Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	POLAND	Long Term: 0.03 mg/m3; Short Term: 0.09 mg/m3 Source: Dz.U. 2018 poz. 1286
	NATIONAL	SLOVENIA	Long Term: 0.05 mg/m3; Short Term: 0.05 mg/m3 R2 Source: UL št. 72, 11. 5. 2021
benzoyl chloride CAS: 98-88-4	ACGIH		Short Term: Ceiling - 0.5 ppm A4 - URT and eye irr
	NATIONAL	AUSTRIA	Long Term: 2.8 mg/m3 - 0.5 ppm; Short Term: Ceiling - 2.8 mg/m3 - 0.5 ppm Mow, MAK, siehe auch α-Chlortoluole Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 5 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	DENMARK	Short Term: Ceiling - 2.8 mg/m3 - 0.5 ppm L Source: BEK nr 2203 af 29/11/2021
	NATIONAL	HUNGARY	Long Term: 2.8 mg/m3 i, N Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	LATVIA	Long Term: 5 mg/m3 Source: KN325P1
	NATIONAL	LITHUANIA	Long Term: 5 mg/m3 Ū J Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	POLAND	Short Term: Ceiling - 2.8 mg/m3 Source: Dz.U. 2018 poz. 1286
	NATIONAL	BELGIUM	Short Term: 2.8 mg/m3 - 0.5 ppm M Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	IRELAND	Short Term: 0.5 ppm Source: 2021 Code of Practice
	NATIONAL	ROMANIA	Long Term: 5 mg/m3 - 0.9 ppm; Short Term: 10 mg/m3 - 1.8 ppm Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SPAIN	Short Term: 2.9 mg/m3 - 0.5 ppm Sen Source: LEP 2022
4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate CAS: 584-84-9	NATIONAL	AUSTRALIA	Long Term: 1 ppm (8h)
	ACGIH		Long Term: 0.001 ppm (8h); Short Term: 0.005 ppm IFV, Skin, DSEN, RSEN, A3, BEI - Asthma, pulm func, eye irr
	NATIONAL	AUSTRIA	Long Term: 0.035 mg/m3 - 0.005 ppm; Short Term: 0.14 mg/m3 - 0.02 ppm 15, 4x, MAK, III B, Sah Source: GKV, BGBl. II Nr. 156/2021

NATIONAL	BULGARIA	Long Term: 0.04 mg/m3; Short Term: 0.15 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
NATIONAL	CZECHIA	Long Term: 0.05 mg/m3; Short Term: Ceiling - 0.1 mg/m3 I, S Source: Nařízení vlády č. 361-2007 Sb
NATIONAL	DENMARK	Long Term: 0.035 mg/m3 - 0.005 ppm K Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 0.04 mg/m3 - 0.005 ppm; Short Term: 0.07 mg/m3 - 0.01 ppm C, S, * Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	GREECE	Long Term: 0.07 mg/m3 - 0.01 ppm; Short Term: 0.14 mg/m3 - 0.02 ppm Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	HUNGARY	Long Term: 0.007 mg/m3 k(2), i, sz, T Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LATVIA	Long Term: 0.05 mg/m3 Source: KN325P1
NATIONAL	LITHUANIA	Long Term: 0.04 mg/m3 - 0.005 ppm; Short Term: Ceiling - 0.07 mg/m3 - 0.01 ppm Ū J K, Nustatytas 5 min. poveikio trukmės NRD. Tas pats RD, išreikštas ppm, taikomas izocianatams, kurių RD nenustatytas. Ši nuostata taikoma ir dulkių ar lašelių (aerozolių) pavidalo izocianatams, įskaitant prepolimerizuotus izocianatus (aduktus). Skirtingų medžiagų RD, išreikšti mg/m3, yra skirtingi. Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NORWAY	Long Term: 0.035 mg/m3 - 0.005 ppm A K 4 Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 0.007 mg/m3; Short Term: 0.021 mg/m3 Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 0.014 mg/m3 - 0.002 ppm S Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 0.014 mg/m3 - 0.002 ppm; Short Term: 0.04 mg/m3 - 0.005 ppm C, M, S, 2 Source: AFS 2021:3
NATIONAL	BELGIUM	Long Term: 0.037 mg/m3 - 0.005 ppm; Short Term: 0.14 mg/m3 - 0.02 ppm Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	GERMANY	Long Term: 0.035 mg/m3 - 0.005 ppm AGS, 11, 12, Sa, 1;=4=(I) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 0.001 ppm; Short Term: 0.003 ppm Sens., IFV Source: 2021 Code of Practice
NATIONAL	ROMANIA	Long Term: 0.07 mg/m3 - 0.009 ppm; Short Term: 0.15 mg/m3 - 0.02 ppm C2 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 0.035 mg/m3 - 0.005 ppm; Short Term: 0.035 mg/m3 - 0.005 ppm R2 Source: UL št. 72, 11. 5. 2021
NATIONAL	SPAIN	Long Term: 0.036 mg/m3 - 0.005 ppm; Short Term: 0.14 mg/m3 - 0.02 ppm Sen Source: LEP 2022

Predicted No Effect Concentration (PNEC) values

4,4'-methylenediphenyl diisocyanate CAS: 101-68-8	Exposure Route: Fresh Water; PNEC Limit: 1 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 10 mg/l
	Exposure Route: Marine water; PNEC Limit: 100 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 1 mg/l

	Exposure Route: Soil; PNEC Limit: 1 mg/kg
xylene CAS: 95-47-6	Exposure Route: Fresh Water; PNEC Limit: 129.4 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 125.5 µg/l
	Exposure Route: Marine water; PNEC Limit: 125440 ng/L
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3.3 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 7.41 µg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 7.19 µg/kg
	Exposure Route: Soil; PNEC Limit: 1252 µg/kg
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate CAS: 1065336-91-5	Exposure Route: Fresh Water; PNEC Limit: 2.2 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 9 µg/l
	Exposure Route: Marine water; PNEC Limit: 220 ng/L
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 1 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 1.05 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 110 µg/kg
	Exposure Route: Soil; PNEC Limit: 210 µg/kg

Derived No Effect Level (DNEL) values

4,4'-methylenediphenyl diisocyanate CAS: 101-68-8	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 50 µg/m³; Consumer: 25 µg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 100 µg/m³; Consumer: 50 µg/m³
Hydroxyphenyl benzotriazole derivatives	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 350 µg/m³; Consumer: 85 µg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 250 µg/kg; Consumer: 25 µg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 25 µg/kg
xylene CAS: 95-47-6	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 221 mg/m³; Consumer: 65.3 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 442 mg/m³; Consumer: 260 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 221 mg/m³; Consumer: 65.3 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 442 mg/m³; Consumer: 260 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 212 mg/kg; Consumer: 125 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 5 mg/kg
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate CAS: 1065336-91-5	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 680 µg/m³; Consumer: 170 µg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 500 µg/kg; Consumer: 250 µg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 50 µg/kg

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing. Safety shoes.

Protection for hands:

When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent of the specific composition of the material a glove is fabricated from. The thickness of the glove must depending on model and type of material, generally be more than 0,35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0,35 mm. Other glove materials with a thickness of less than 0,35 mm may offer sufficient protection when only brief contact is expected. Suitable materials for safety gloves; EN 374:

Polychloroprene - CR: thickness ≥0,5mm; breakthrough time ≥480min.

Nitrile rubber - NBR: thickness ≥0,35mm; breakthrough time ≥480min.

Butyl rubber - IIR: thickness ≥0,5mm; breakthrough time ≥480min.

Fluorinated rubber - FKM: thickness ≥0,4mm; breakthrough time ≥480min.

Respiratory protection:

Gas filter and particle filter P2 . Gas filter type A

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: In compliance with the product description

Odour: Light

Odour threshold: N.A.

pH: Not Relevant

Kinematic viscosity: N.A.

Melting point/freezing point: N.A.

Boiling point or initial boiling point and boiling range: N.A.

Flash point: > 61 °C (142 °F)

Lower and upper explosion limit: N.A.

Relative vapour density: N.A.

Vapour pressure: N.A.

Density and/or relative density: 1.40 g/cm3

Solubility in water: N.A.

Solubility in oil: N.A.

Partition coefficient n-octanol/water (log value): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs = 4.99 % ; 69.92 g/l

Particle characteristics:

Particle size: N.A.

9.2. Other information

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
b) skin corrosion/irritation	Not classified
	Based on available data, the classification criteria are not met
c) serious eye damage/irritation	Not classified
	Based on available data, the classification criteria are not met
d) respiratory or skin sensitisation	The product is classified: Resp. Sens. 1(H334), Skin Sens. 1A(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	
		LC50 Inhalation Vapour Rat > 5000 mg/m3 8h	
		LD50 Skin Rat > 2000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 24h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No 24-72 h	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Genotoxicity Rat Negative	Inhalation route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat >= 400	ppm
4,4'-methylenediphenyl diisocyanate	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg	
		LC50 Inhalation Rat = 0.49 mg/l 4h	
		LD50 Skin Rabbit > 9400 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No 24h	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Genotoxicity Rat Negative 6h	Inhalation of aerosol
Hydroxyphenyl	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	

benzotriazole derivatives			
		LC50 Inhalation Rat > 5.8 mg/l 96h	
		LD50 Skin Rat > 2000 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive	
	f) carcinogenicity	Genotoxicity Negative	Hamster oral route
	g) reproductive toxicity	No Observed Effect Level Oral Rat < 2 mg/kg	
xylene	a) acute toxicity	LD50 Oral Rat = 3523 ml/Kg	
		LC50 Inhalation Vapour Rat = 27124 mg/m3 4h	
		LD50 Skin Rabbit = 12126 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes 1h	
	f) carcinogenicity	Genotoxicity Negative	Mouse subcutaneous route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 500 mg/kg	ppm
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	a) acute toxicity	LD50 Oral Rat = 3230 mg/kg	
		LD50 Skin Rat > 3170 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 24h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 30 mg/kg	

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	EINECS: 918-481-9	a) Aquatic acute toxicity : LL50 Fish Oncorhynchus mykiss > 1000 mg/L 96h ,,OECD Guideline 203 (Fish, Acute Toxicity Test)
		b) Aquatic chronic toxicity : LOELR Fish = 0.1 mg/L - 28days
		a) Aquatic acute toxicity : LL50 Daphnia Daphnia magna > 1000 mg/L 48h

		b) Aquatic chronic toxicity : NOELR freshwater invertebrate = 0.17 mg/L - 21days
		a) Aquatic acute toxicity : NOELR Algae 72h
		a) Aquatic acute toxicity : EL50 Tetrahymena pyriformis > 1000 mg/L 48h
4,4'-methylenediphenyl diisocyanate	CAS: 101-68-8 - EINECS: 202-966-0 - INDEX: 615-005-00-9	a) Aquatic acute toxicity : LC50 Fish Danio rerio = 1000 mg/L 96h OECD 203
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1000 mg/L 24h OECD 202
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 10 mg/L OECD 211 - 21days
		a) Aquatic acute toxicity : EC50 Algae Scenedesmus subspicatus = 1640 mg/L 72h OECD Guideline 201
		a) Aquatic acute toxicity : EC5 Sludge activated sludge = 100 mg/L 3h OECD 209
		d) Terrestrial toxicity : LC50 Worm Eisenia fetida = 1000 mg/kg OECD 207 - 14days
		e) Plant toxicity : LC50 terrestrial plants = 1000 mg/kg OECD 208 - 14days
Hydroxyphenyl benzotriazole derivatives	EINECS: 400-830-7 - INDEX: 607-176-00-3	a) Aquatic acute toxicity : LC50 Fish freshwater fish = 2.8 mg/L 96h
		a) Aquatic acute toxicity : LC50 freshwater invertebrates = 4 mg/L
		b) Aquatic chronic toxicity : EC50 Daphnia Daphnia magna = 780 µg/L OECD Guideline 211 (Daphnia magna Reproduction Test) - 21days
		a) Aquatic acute toxicity : EC50 Algae freshwater algae = 9 mg/L 72h
		d) Terrestrial toxicity : LC50 Worm Eisenia foetida > 1000 mg/kg ,,OECD Guideline 207 (Earthworm, Acute Toxicity Tests - 14days
xylene	CAS: 95-47-6 - EINECS: 202-422-2 - INDEX: 601-022-00-9	a) Aquatic acute toxicity : LC50 Fish freshwater fish = 2.6 mg/L 96h OECD 203
		b) Aquatic chronic toxicity : NOEC Fish Danio rerio = 0.71 mg/L OECD Guideline 210
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1 mg/L 24h OECD 202
		b) Aquatic chronic toxicity : NOEC Daphnia Ceriodaphnia dubia = 1.17 mg/L - 21days
		a) Aquatic acute toxicity : EC50 Algae freshwater algae = 2.2 mg/L 72h OECD 201
		a) Aquatic acute toxicity : EC50 microorganisms = 16 mg/L OECD 301F
		d) Terrestrial toxicity : NOEC soil macroorganisms = 88.8 mg/kg - 14days
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	CAS: 1065336-91-5 - EINECS: 915-687-0	a) Aquatic acute toxicity : LC50 Fish Danio rerio = 0.9 mg/L 96h OECD Guideline 203
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 1 mg/L OECD guideline 211
		a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 1.68 mg/L 72h OECD Guideline 201
		a) Aquatic acute toxicity : EC20 Sludge activated sludge >= 100 mg/L 3h OECD guideline 209

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Value	Notes:
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2%	Readily biodegradable			

aromatics

4,4'-methylenediphenyl diisocyanate	Non-readily biodegradable	Oxygen consumption	0.000	OECD Guideline 302C
Hydroxyphenyl benzotriazole derivatives	Non-readily biodegradable		12.000	%; OECD 301B
xylene	Readily biodegradable	Biochemical oxigen demand	90.000	28days
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	Non-readily biodegradable		38.000	28days

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes:
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Bioaccumulative	BCF - Bioconcentrantion factor	962.000	L/kg
4,4'-methylenediphenyl diisocyanate	Bioaccumulative	BCF - Bioconcentrantion factor	200.000	OECD 305E
xylene	Bioaccumulative	BCF - Bioconcentrantion factor	25.900	
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	Not bioaccumulative			

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration >= 0.1%

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force. Disposal through discharge into wastewater is not permitted

A waste code according to the European List of Wastes (LoW) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

The product disposed of as such, pursuant to Regulation (EU) 1357/2014, must be classified as hazardous waste

SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

14.1. UN number or ID number

N/A

14.2. UN proper shipping name

ADR-Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical name: N/A

14.3. Transport hazard class(es)

ADR-Class: N/A

IATA-Class: N/A

IMDG-Class: N/A

14.4. Packing group

ADR-Packing Group: N/A

IATA-Packing group: N/A

IMDG-Packing group: N/A

14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: N/A

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: N/A

ADR - Hazard identification number: N/A

ADR-Special Provisions: N/A

ADR-Transport category (Tunnel restriction code): N/A

ADR Limited Quantities: N/A

ADR Excepted Quantities: N/A

Air (IATA):

IATA-Passenger Aircraft: N/A

IATA-Cargo Aircraft: N/A

IATA-Label: N/A

IATA-Subsidiary hazards: N/A

IATA-Erg: N/A

IATA-Special Provisions: N/A

Sea (IMDG):

IMDG-Stowage Code: N/A

IMDG-Stowage Note: N/A

IMDG-Subsidiary hazards: N/A

IMDG-Special Provisions: N/A

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

Regulation (EU) n. 2020/878

Regulation (EC) nr 648/2004 (Detergents).

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 30, 40, 52, 56, 74, 75

Provisions related to directive EU 2012/18 (Seveso III):

None

Explosives precursors – Regulation 2019/1148

No substances listed

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

German Water Hazard Class.

3: Severe hazard to waters

German Lagerklasse according to TRGS 510:

LGK 10

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

Substances for which a Chemical Safety Assessment has been carried out:

4,4'-methylenediphenyl diisocyanate

1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate

SECTION 16: Other information

Code	Description
EUH066	Repeated exposure may cause skin dryness or cracking.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.1/1	Resp. Sens. 1	Respiratory Sensitisation, Category 1
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.6/2	Carc. 2	Carcinogenicity, Category 2
3.7/2	Repr. 2	Reproductive toxicity, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation	Classification procedure

(EC) Nr. 1272/2008

Resp. Sens. 1, H334	Calculation method
Skin Sens. 1A, H317	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: Keep Away From Heat

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

LDLo: Leathal Dose Low

N.A.: Not Applicable

N/A: Not Applicable

N/D: Not defined/ Not available

NA: Not available

NIOSH: National Institute for Occupational Safety and Health

NOAEL: No Observed Adverse Effect Level

OSHA: Occupational Safety and Health Administration

PBT: Persistent, Bioaccumulative and Toxic

PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 13: Disposal considerations
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information

Exposure Scenario

4,4'-methylenediphenyl diisocyanate

Exposure Scenario, 14/07/2021

Substance identity	
	4,4'-methylenediphenyl diisocyanate
CAS No.	101-68-8
INDEX No.	615-005-00-9
EINECS No.	202-966-0
Registration number	01-2119457014-47

Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC9a, PC1)

1. ES 1 Widespread use by professional workers; Various products (PC9a, PC1)

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks - Use in rigid foams, coatings, adhesives and sealants
Date - Version	14/07/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1)

Environment Contributing Scenario

CS1	ERC8c - ERC8f

Worker Contributing Scenario

CS2 Bulk transfers	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Roller, spreader, flow application	PROC11

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use (or from service life)

Amounts used:

Daily amount per site = 329 tonnes/day

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

	Air - minimum efficiency of: = 0.15 % Soil - minimum efficiency of: = 0.005 %

Conditions and measures related to sewage treatment plant

STP type:

No specific measures identified.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100

Local freshwater dilution factor: 10

1.2. CS2: Worker Contributing Scenario: Bulk transfers (PROC8a)

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Frequency:

Use frequency = 365 days per year

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Provide extract ventilation to points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear a respirator conforming to EN140.
Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training.
Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Frequency:

Use frequency = 365 days per year

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Provide extract ventilation to points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear a respirator conforming to EN140.
Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training.
Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Exposure duration < 4 h/day

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Provide extract ventilation to points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training.
Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.
Wear a full face respirator conforming to EN136.

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 0.00694 mg/L	EUSES	< 0.00694
marine water	= 0.000545 mg/L	EUSES	< 0.000545
soil	= 0.271 mg/kg dry weight	EUSES	< 0.271

1.3. CS2: Worker Contributing Scenario: Bulk transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, short-term	= 0.058 mg/m³	N/A	= 0.582
inhalative, long-term	= 0.029 mg/m³	N/A	= 0.582

1.3. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, short-term	= 0.034 mg/m³	N/A	= 0.328

inhalative, long-term	= 0.017 mg/m³	N/A	= 0.328

1.3. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, short-term	= 0.08 mg/m³	N/A	= 0.8

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure Scenario

1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate

Exposure Scenario, 20/04/2022

Substance identity	
	1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate
CAS No.	1065336-91-5
EINECS No.	915-687-0

Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC9a, PC9b)

1. ES 1 Widespread use by professional workers; Various products (PC9a, PC9b)

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks - Use in rigid foams, coatings, adhesives and sealants
Date - Version	20/04/2022 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Coatings and paints, thinners, paint removers (PC9a) - Fillers, putties, plasters, modelling clay (PC9b)

Environment Contributing Scenario

CS1	ERC8c

Worker Contributing Scenario

CS2 Material transfers	PROC8a
CS3 Rolling, Brushing	PROC10

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
Vapour pressure < 0.01 Pa at standard temperature and pressure 0.0001 Pa

Amount used, frequency and duration of use (or from service life)

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

	Air - minimum efficiency of: 15 % Water - minimum efficiency of: 1 %

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 88.9 %
STP effluent (m³/day): 2000

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Receiving surface water flow: 18000 m³/day
Indoor use

1.2. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
Vapour pressure < 0.01 Pa at standard temperature and pressure 0.0001 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 5 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to 480 min

Frequency:
Covers use up to 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training.	Dermal - minimum efficiency of: = 90 %
Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin.	

Other conditions affecting worker exposure

Indoor use
Professional use

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional Good Practice Advice:
Ensure no splashing occurs during transfer.

1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
Vapour pressure < 0.01 Pa at standard temperature and pressure 0.0001 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 5 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to 480 min

Frequency:
Covers use up to 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures

Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training.	Dermal - minimum efficiency of: = 90 %
Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin.	

Other conditions affecting worker exposure

Indoor use
Professional use

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional Good Practice Advice:

Ensure no splashing occurs during transfer.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario (ERC8c)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
soil	N/A	ECETOC TRA environment v2.0	0.0579

Additional information on exposure estimation:

Risk from environmental exposure is driven by soil.

1.3. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 0.2743 mg/kg bw/day	ECETOC TRA worker v3	= 0.137143
inhalative, systemic, long-term	= 0.4233 mg/m³	ECETOC TRA worker v3	= 0.119924

1.3. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 0.5486 mg/kg bw/day	ECETOC TRA worker v3	= 0.274286
inhalative, systemic, long-term	= 0.274286 mg/m³	ECETOC TRA worker v3	= 0.097

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.