

Safety Data Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878

EXENCE ZINC S

Date of first edition: 2/13/2025

Safety Data Sheet dated 13/02/2025

version 1

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

1.1. Product identifier

Mixture identification:

Trade name: EXENCE ZINC S

Trade code: 21022024

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

Recommended use: Paints/coatings - Protective and functional

Uses advised against: All uses other than recommended ones

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112

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)

Flam. Liq. 3 Flammable liquid and vapour.

Skin Irrit. 2 Causes skin irritation.

Eye Irrit. 2 Causes serious eye irritation.

STOT SE 3 May cause respiratory irritation.

STOT RE 2 May cause damage to organs through prolonged or repeated exposure.

DECL10 This titanium dioxide-containing product is not classified as carcinogen by inhalation because it does not meet the criteria stated in Note 10, Annex VI of Regulation (EC) 1272/2008.

Note 10: The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter $\leq 10 \mu\text{m}$.

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



Warning

Hazard statements

H226 Flammable liquid and vapour.

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapours.
P280	Wear protective gloves and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.
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Contains

reaction mass of ethylbenzene and xylene
2-methylpropan-1-ol; iso-butanol

Dir. 2004/42/EC (VOC directive)

One-pack performance coatings
EU limit value for this product (cat. A/i): 500 g/l
This product contains max 402.91 g/l VOC.

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

None.

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: EXENCE ZINC S

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

Qty	Name	Ident. Numb.	Classification	Registration Number
≥ 20 -<50 %	reaction mass of ethylbenzene and xylene	EC:905-588-0	Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; STOT RE 2, H373; Asp. Tox. 1, H304	01-2119488216-32
≥ 20 -<50 %	Titanium dioxide	CAS:13463-67-7 EC:236-675-5	Not classified as hazardous	
≥ 3 -<5 %	n-butyl acetate	CAS:123-86-4 EC:204-658-1 Index:607-025-00-1	Flam. Liq. 3, H226; STOT SE 3, H336, EUH066	01-2119485493-29
≥ 3 -<5 %	ethylbenzene	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412	01-2119489370-35
≥ 1 -<3 %	2-methylpropan-1-ol; iso-butanol	CAS:78-83-1 EC:201-148-0 Index:603-108-00-1	Flam. Liq. 3, H226; STOT SE 3, H335; Skin Irrit. 2, H315; Eye Dam. 1, H318, H336	
≥ 0.5 -<1 %	Propylidynetrimethanol	CAS:77-99-6 EC:201-074-9	Repr. 2, H361	01-2119486799-10-XXXX

≥0.05-<0.1 toluene
%

CAS:108-88-3
EC:203-625-9
Index:601-021-
00-3

Flam. Liq. 2, H225; Repr. 2,
H361d; Asp. Tox. 1, H304; STOT
RE 2, H373; Skin Irrit. 2, H315;
STOT SE 3, H336

01-2116471310-51

This mixture contains ≥ 1% titanium dioxide (CAS 13463-67-7). The Annex VI classification of titanium dioxide does not apply to this mixture according to its Note 10.

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 immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

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

In case of Inhalation:

In case of inhalation, consult a doctor immediately and show him packing or label.

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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:

CO2 or Dry chemical fire extinguisher.

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 all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

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.

Use localized ventilation system.

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

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

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
Titanium dioxide CAS: 13463-67-7	ACGIH		Long Term: 2.5 mg/m ³ (8h) Finescale particles; R ; A3 - LRT irr, pneumoconiosis
	NATIONAL	AUSTRALIA	Long Term: 10 mg/m ³ (8h)
	NATIONAL	GERMANY	Long Term: 0.3 mg/m ³ ; Short Term: 2.4 mg/m ³ DFG; Long term and short term: excluding ultrafine particles; respirable fraction; multiplied by the material density; Source: TRGS900
	NATIONAL	BELGIUM	Long Term: 10 mg/m ³ Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 10 mg/m ³ U Source: NN 1/2021
	NATIONAL	CROATIA	Long Term: 4 mg/m ³ R Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 10 mg/m ³ Source: 2021 Code of Practice
	NATIONAL	IRELAND	Long Term: 4 mg/m ³ Source: 2021 Code of Practice
	NATIONAL	ROMANIA	Long Term: 10 mg/m ³ ; Short Term: 15 mg/m ³ Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SPAIN	Long Term: 10 mg/m ³ Source: LEP 2022
	NATIONAL	AUSTRIA	Long Term: 5 mg/m ³ ; Short Term: 10 mg/m ³ 60(Miw), 2x, MAK, A Source: BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 10 mg/m ³ Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.

NATIONAL	DENMARK	Long Term: 6 mg/m ³ K Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 5 mg/m ³ Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FRANCE	Long Term: 10 mg/m ³ Cancérogène de catégorie 2 Source: INRS outil65
NATIONAL	GREECE	Long Term: 10 mg/m ³ εισπν. Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	GREECE	Long Term: 5 mg/m ³ αvapn. Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	LATVIA	Long Term: 10 mg/m ³ Source: KN325P1
NATIONAL	LITHUANIA	Long Term: 5 mg/m ³ Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NORWAY	Long Term: 5 mg/m ³ Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 10 mg/m ³ 4), 7) Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 5 mg/m ³ Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 5 mg/m ³ 3 Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 3 mg/m ³ TWA mg/m ³ : (a), SSC, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m ³ Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
n-butyl acetate CAS: 123-86-4	NATIONAL AUSTRIA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: Ceiling - 480 mg/m ³ - 100 ppm Mow, MAK Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL BULGARIA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL CZECHIA	Long Term: 241 mg/m ³ ; Short Term: Ceiling - 723 mg/m ³ Source: Nařízení vlády č. 361-2007 Sb
	NATIONAL DENMARK	Long Term: 241 mg/m ³ - 50 ppm E Source: BEK nr 2203 af 29/11/2021
	NATIONAL ESTONIA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm
	NATIONAL FINLAND	Long Term: 240 mg/m ³ - 50 ppm; Short Term: 725 mg/m ³ - 150 ppm Source: HTP-ARVOT 2020
	NATIONAL FRANCE	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: INRS outil65, article R. 4412-149 du Code du travail
	NATIONAL HUNGARY	Long Term: 241 mg/m ³ ; Short Term: 723 mg/m ³ i, sz, EU7, N Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL NETHERLANDS	Long Term: 241 mg/m ³ ; Short Term: 723 mg/m ³ Source: Arbeidsomstandighedenregeling - Lijst A
	NATIONAL POLAND	Long Term: 240 mg/m ³ ; Short Term: 720 mg/m ³ Source: Dz.U. 2018 poz. 1286

NATIONAL	SLOVAKIA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: 355 NARIADENIE VLADY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 240 mg/m ³ - 50 ppm; Short Term: 720 mg/m ³ - 150 ppm SSC, VR Yeux / AW Auge, INRS NIOSH Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 724 mg/m ³ - 150 ppm; Short Term: 966 mg/m ³ - 200 ppm Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	BELGIUM	Long Term: 238 mg/m ³ - 50 ppm; Short Term: 712 mg/m ³ - 150 ppm Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: 2019/1831
NATIONAL	CYPRUS	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 300 mg/m ³ - 62 ppm AGS, Y, 2 (I) Source: TRGS 900
NATIONAL	GREECE	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: Y.A. 72/2021 (ΦΕΚ 163/A` 9.9.2021)
NATIONAL	IRELAND	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: D.lgs. 81/2008, Allegato XXXVIII
NATIONAL	LATVIA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: KN325P1
NATIONAL	LUXEMBOURG	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Dir. 2019/1.831 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Y, EU5 Source: UL št. 72, 11. 5. 2021
NATIONAL	SPAIN	Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm VLI Source: LEP 2022
ethylbenzene CAS: 100-41-4	ACGIH	Long Term: 20 ppm (8h) OTO; A3, BEI - URT & eye irr; ototoxicity; kidney eff; CNS impair
	EU	Long Term: 442 mg/m ³ - 100 ppm (8h); Short Term: 884 mg/m ³ - 200 ppm Skin
	NATIONAL	AUSTRIA Long Term: 440 mg/m ³ - 100 ppm; Short Term: Ceiling - 880 mg/m ³ - 200 ppm 5(Mow), 8x, MAK, H Source: BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA Long Term: 435 mg/m ³ ; Short Term: 545 mg/m ³ Кожа Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	CZECHIA Long Term: 200 mg/m ³ ; Short Term: Ceiling - 500 mg/m ³

		D, B Source: Nařízení vlády č. 361-2007 Sb
NATIONAL	DENMARK	Long Term: 217 mg/m ³ - 50 ppm EHK Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm A, S Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FINLAND	Long Term: 220 mg/m ³ - 50 ppm; Short Term: 880 mg/m ³ - 200 ppm iho Source: HTP-ARVOT 2020
NATIONAL	FRANCE	Long Term: 88.4 mg/m ³ - 20 ppm; Short Term: 442 mg/m ³ - 100 ppm Risque de pénétration percutanée Source: INRS outil65, article R. 4412-149 du Code du travail
NATIONAL	GREECE	Long Term: 435 mg/m ³ - 100 ppm; Short Term: 545 mg/m ³ - 125 ppm Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	HUNGARY	Long Term: 442 mg/m ³ ; Short Term: 884 mg/m ³ b, i, BEM, EU1, T Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LITHUANIA	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm O Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NETHERLANDS	Long Term: 215 mg/m ³ ; Short Term: 430 mg/m ³ H Source: Arbeidsomstandighedenregeling - Lijst A
NATIONAL	NORWAY	Long Term: 20 mg/m ³ - 5 ppm H K E Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 200 mg/m ³ ; Short Term: 400 mg/m ³ skóra Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm K, 7) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 220 mg/m ³ - 50 ppm; Short Term: 884 mg/m ³ - 200 ppm H Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 220 mg/m ³ - 50 ppm; Short Term: 220 mg/m ³ - 50 ppm R/H, OB, B, Rein Foie / Niere Leber, NIOSH Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 441 mg/m ³ - 100 ppm; Short Term: 552 mg/m ³ - 125 ppm Sk Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	CROATIA	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm koža Source: 2000/39/EZ
NATIONAL	CYPRUS	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm δέρμα Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 88 mg/m ³ - 20 ppm DFG, H, Y, EU, 2(II) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm Sk, IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm Cute

NATIONAL	LATVIA	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm Āda; Ietekme uz dzirdi Source: KN325P1
NATIONAL	LUXEMBOURG	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm Peau Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm skin Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm Cutânea Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm P, Dir. 2000/39 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 442 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm K, Y, BAT, EKA EU1 Source: UL št. 72, 11. 5. 2021
NATIONAL	SPAIN	Long Term: 441 mg/m ³ - 100 ppm; Short Term: 884 mg/m ³ - 200 ppm vía dérmica, VLB®, VLI Source: LEP 2022
2-methylpropan-1-ol; iso-butanol CAS: 78-83-1	ACGIH	Long Term: 50 ppm (8h) Skin and eye irr
NATIONAL	AUSTRIA	Long Term: 150 mg/m ³ - 50 ppm; Short Term: 600 mg/m ³ - 200 ppm 15(Miw), 4x, MAK Source: GKV, BGBl. II Nr. 156/2021
NATIONAL	DENMARK	Short Term: Ceiling - 150 mg/m ³ - 50 ppm LH Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 150 mg/m ³ - 50 ppm Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FINLAND	Long Term: 150 mg/m ³ - 50 ppm; Short Term: 230 mg/m ³ - 75 ppm iho Source: HTP-ARVOT 2020
NATIONAL	FRANCE	Long Term: 150 mg/m ³ - 50 ppm Source: INRS outil65
NATIONAL	GREECE	Long Term: 300 mg/m ³ - 100 ppm; Short Term: 300 mg/m ³ - 100 ppm Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	LATVIA	Long Term: 10 mg/m ³ Source: KN325P1
NATIONAL	LITHUANIA	Long Term: 10 mg/m ³ O Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NORWAY	Short Term: Ceiling - 75 mg/m ³ - 25 ppm H T Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 100 mg/m ³ ; Short Term: 200 mg/m ³ skóra Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 310 mg/m ³ - 100 ppm Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 150 mg/m ³ - 50 ppm; Short Term: 250 mg/m ³ - 75 ppm H, V Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 150 mg/m ³ - 50 ppm; Short Term: 150 mg/m ³ - 50 ppm SSC, VRS Yeux / OAW Auge, INRS NIOSH Source: suva.ch/valeurs-limites

Propylidynetrimethanol CAS: 77-99-6	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 154 mg/m ³ - 50 ppm; Short Term: 231 mg/m ³ - 75 ppm Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	NATIONAL	BELGIUM	Long Term: 154 mg/m ³ - 50 ppm Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 154 mg/m ³ - 50 ppm; Short Term: 231 mg/m ³ - 75 ppm koža Source: NN 1/2021
	NATIONAL	GERMANY	Long Term: 310 mg/m ³ - 100 ppm DFG, Y, 1(I) Source: TRGS 900
	NATIONAL	IRELAND	Long Term: 150 mg/m ³ - 50 ppm; Short Term: 225 mg/m ³ - 75 ppm Source: 2021 Code of Practice
	NATIONAL	ROMANIA	Long Term: 100 mg/m ³ - 33 ppm; Short Term: 200 mg/m ³ - 66 ppm Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SLOVENIA	Long Term: 310 mg/m ³ - 100 ppm; Short Term: 310 mg/m ³ - 100 ppm Y Source: UL št. 72, 11. 5. 2021
	NATIONAL	SPAIN	Long Term: 154 mg/m ³ - 50 ppm Source: LEP 2022
	NATIONAL	LITHUANIA	Short Term: Ceiling - 5 ppm Ū Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	SWEDEN	Long Term: 5 mg/m ³ Source: AFS 2021:3
	ACGIH		Long Term: 20 ppm (8h) OTO; A4; BEI - CNS, visual & hearing impair; female repro system eff; pregnancy loss
	EU		Long Term: 192 mg/m ³ - 50 ppm (8h); Short Term: 384 mg/m ³ - 100 ppm Skin
	NATIONAL	AUSTRIA	Long Term: 190 mg/m ³ - 50 ppm; Short Term: 380 mg/m ³ - 100 ppm 15(Miw), 4x, MAK, d, H Source: BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm Кожа Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	CZECHIA	Long Term: 192 mg/m ³ ; Short Term: Ceiling - 384 mg/m ³ B, D, I Source: Nařízení vlády č. 361-2007 Sb
toluene CAS: 108-88-3	NATIONAL	DENMARK	Long Term: 94 mg/m ³ - 25 ppm EH Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm A Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FINLAND	Long Term: 81 mg/m ³ - 25 ppm; Short Term: 380 mg/m ³ - 100 ppm iho, melu Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 76.8 mg/m ³ - 20 ppm; Short Term: 384 mg/m ³ - 100 ppm Toxique pour la reproduction de catégorie 2, Risque de pénétration percutanée Source: INRS outil65, article R. 4412-149 du Code du travail
	NATIONAL	HUNGARY	Long Term: 190 mg/m ³ ; Short Term: 380 mg/m ³ b, i, BEM, EU2, R+T Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	LITHUANIA	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm R O Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389

NATIONAL	NETHERLAND S	Long Term: 150 mg/m ³ ; Short Term: 384 mg/m ³ Source: Arbeidsomstandighedenregeling - Lijst A
NATIONAL	NORWAY	Long Term: 94 mg/m ³ - 25 ppm H E Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 100 mg/m ³ ; Short Term: 200 mg/m ³ skóra Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm K, 7) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm B, H Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 190 mg/m ³ - 50 ppm; Short Term: 760 mg/m ³ - 200 ppm R/H, R2D, R2F, SSC, OB, B, Vue SNC / Sehen ZNS, INRS HSE NIOSH DFG Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 191 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm Sk Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	BELGIUM	Long Term: 77 mg/m ³ - 20 ppm; Short Term: 384 mg/m ³ - 100 ppm D Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm koža Source: 2006/15/EZ
NATIONAL	CYPRUS	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm δέρμα Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 190 mg/m ³ - 50 ppm DFG, EU, H, Y, 2 (II) Source: TRGS 900
NATIONAL	GREECE	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm Δ Source: ΦΕΚ 202/Α` 23.8.2007
NATIONAL	IRELAND	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm Sk, IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 192 mg/m ³ - 50 ppm Cute Source: D.lgs. 81/2008, Allegato XXXVIII
NATIONAL	LATVIA	Long Term: 50 mg/m ³ - 14 ppm; Short Term: 150 mg/m ³ - 40 ppm Āda; Ietekme uz dzirdi Source: KN325P1
NATIONAL	LUXEMBOURG	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm Peau Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm skin Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm Cutânea Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm P, R2, Dir. 2006/15 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 192 mg/m ³ - 50 ppm; Short Term: 384 mg/m ³ - 100 ppm

Biological limit values

toluene
CAS: 108-88-3

Biological Indicator: Toluene in blood; Sampling Period: End of turn
Value: 600 µg/L; Medium: Blood

Biological Indicator: Hippuric acid in urine; Sampling Period: End of turn; End of working week
Value: 2 g/g; Medium: Urine
Remark: Not Specific; Semiquantitative

Biological Indicator: o-Cresol in urine; Sampling Period: End of turn; End of working week
Value: 0.5 mg/L; Medium: Urine
Remark: Not Quantitative; Not Specific

Predicted No Effect Concentration (PNEC) values

reaction mass of
ethylbenzene and xylene

Exposure Route: Food chain; PNEC Limit: 327 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 327 µg/l

Exposure Route: Marine water; PNEC Limit: 327 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 6.58 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 12.46 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 12.46 mg/kg

Exposure Route: Soil; PNEC Limit: 2.31 mg/kg

Titanium dioxide
CAS: 13463-67-7

Exposure Route: Fresh Water; PNEC Limit: 0.184 mg/l

Exposure Route: Marine water; PNEC Limit: 0.018 mg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1 mg/kg

Exposure Route: Intermittent releases (marine water); PNEC Limit: 100 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/kg

n-butyl acetate
CAS: 123-86-4

Exposure Route: Fresh Water; PNEC Limit: 180 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 360 µg/l

Exposure Route: Marine water; PNEC Limit: 18 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 35.6 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 981 µg/kg

Exposure Route: Marine water sediments; PNEC Limit: 98.1 µg/kg

Exposure Route: Soil; PNEC Limit: 90.3 µg/kg

ethylbenzene
CAS: 100-41-4

Exposure Route: Fresh Water; PNEC Limit: 100 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 100 µg/l

Exposure Route: Marine water; PNEC Limit: 55 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 9.6 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 13.7 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 1.37 mg/kg

Exposure Route: Soil; PNEC Limit: 2.68 mg/kg

Exposure Route: Secondary poisoning; PNEC Limit: 20 mg/kg

2-methylpropan-1-ol; iso-
butanol
CAS: 78-83-1

Exposure Route: Fresh Water; PNEC Limit: 400 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 11 mg/l

Exposure Route: Marine water; PNEC Limit: 40 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 1.56 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 156 µg/kg

Exposure Route: Soil; PNEC Limit: 76.5 µg/kg

toluene
CAS: 108-88-3

Exposure Route: Fresh Water; PNEC Limit: 680 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 680 µg/l

Exposure Route: Marine water; PNEC Limit: 680 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 13.61 µg/l

Exposure Route: Freshwater sediments; PNEC Limit: 16.39 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 16.39 mg/kg

Exposure Route: Soil; PNEC Limit: 2.89 mg/kg

Derived No Effect Level (DNEL) values

reaction mass of
ethylbenzene and xylene

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: 12.5 mg/kg

Titanium dioxide
CAS: 13463-67-7

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Professional: 10 mg/m³

n-butyl acetate
CAS: 123-86-4

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 48 mg/m³; Consumer: 12 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 600 mg/m³; Consumer: 300 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Professional: 300 mg/m³; Consumer: 35.7 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects
Worker Professional: 600 mg/m³; Consumer: 300 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 7 mg/kg; Consumer: 3.4 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Worker Professional: 11 mg/kg; Consumer: 6 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 2 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 2 mg/kg

ethylbenzene
CAS: 100-41-4

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 77 mg/m³; Consumer: 15 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects
Worker Professional: 293 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 180 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Worker Professional: 1.6 mg/kg

toluene
CAS: 108-88-3

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 192 mg/m³; Consumer: 56.5 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 384 mg/m³; Consumer: 226 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Professional: 192 mg/m³; Consumer: 56.5 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects

Worker Professional: 384 mg/m³; Consumer: 226 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 384 mg/kg; Consumer: 226 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 8.13 mg/kg

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: White

Odour: Like: Xylene

Odour threshold: N.A.

pH: Not Relevant

Kinematic viscosity: > 20,5 mm²/sec (40 °C)

Melting point/freezing point: N.A.

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

Flash point: 24 °C (75 °F)

Lower and upper explosion limit: N.A.

Relative vapour density: N.A.

Vapour pressure: N.A.

Density and/or relative density: 1.28 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: The product is classified Flam. Liq. 3 H226

Volatile Organic compounds - VOCs = 27.8 % ; 355.84 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

Avoid contact with combustible materials. The product could catch fire.

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	The product is classified: Skin Irrit. 2(H315)
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	Not classified
	Based on available data, the classification criteria are not met
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	The product is classified: STOT SE 3(H335)
i) STOT-repeated exposure	The product is classified: STOT RE 2(H373)
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

reaction mass of ethylbenzene and xylene	a) acute toxicity	LD50 Oral Rat = 3523 mg/kg	
		LC50 Inhalation Vapour Rat = 6700 Ppm 4h	
		LD50 Skin Rabbit = 12126 mg/kg 24h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Negative 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 ppm	
Titanium dioxide	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	
		LC50 Inhalation > 6.82 mg/l	
		LD50 Skin Rat > 2000 mg/kg	
	c) serious eye damage/irritation	Eye Corrosive Negative	
		Eye Irritant No	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	
	i) STOT-repeated exposure	No Observed Adverse Effect Level 1000	
n-butyl acetate	a) acute toxicity	LD50 Oral Rat = 10760 mg/kg	
		LC50 Inhalation of aerosol Rat = 0.74 mg/l 4h	
		LD50 Skin Rabbit > 16 ml/Kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	Mouse
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 750 ppm	

ethylbenzene	a) acute toxicity	LD50 Oral Rat = 3500 mg/kg LC50 Inhalation Mouse = 1432 Ppm LD50 Skin Rabbit = 17.8 ml/Kg	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 24h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	f) carcinogenicity	Genotoxicity Negative 24h	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 100	ppm
2-methylpropan-1-ol; iso-butanol	a) acute toxicity	LD50 Oral Rat > 2830 mg/kg LC50 Inhalation Vapour Rat > 18.18 mg/l 6h LD50 Skin Rabbit > 2000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 24h	
	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
toluene	a) acute toxicity	LD50 Oral Rat = 5580 mg/kg LC50 Inhalation of aerosol Rat > 20 mg/l 4h LD50 Skin Rabbit > 5000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Genotoxicity Rat Negative	Intraperitoneal route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 2261 mg/m3	

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration $\geq 0.1\%$

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
reaction mass of ethylbenzene and xylene	EINECS: 905-588-0	a) Aquatic acute toxicity : LC50 Fish = 2.6 mg/L 96h OECD 203
		b) Aquatic chronic toxicity : NOEC Fish Salmo gairdneri > 1.3 mg/L - 56days
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1 mg/L 24h
		b) Aquatic chronic toxicity : NOEC Daphnia Ceriodaphnia dubia = 0.96 mg/L - 7days

		d) Terrestrial toxicity : NOEC Worm = 16 mg/kg
		e) Plant toxicity : LC50 = 1 mg/kg - 14days
		d) Terrestrial toxicity : EC50 soil microorganisms = 220 mg/kg
Titanium dioxide	CAS: 13463-67-7 - EINECS: 236-675-5	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas (Cavedano americano) > 1000 mg/L 96h
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata (alghe cloroficee) > 100 mg/L 72h
		a) Aquatic acute toxicity : NOEC Algae = 5600 mg/L
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna (Pulce d'acqua grande) > 100 mg/L 48h
n-butyl acetate	CAS: 123-86-4 - EINECS: 204-658-1 - INDEX: 607-025-00-1	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 18 mg/L 96h similar to OECD 203
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 44 mg/L 48h similar to OECD 202
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 23 mg/L OECD 211 - 21days
		a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 397 mg/L 72h OECD 201
		a) Aquatic acute toxicity : EC50 Tetrahymena pyriformis = 356 mg/L - 40h
ethylbenzene	CAS: 100-41-4 - EINECS: 202-849-4 - INDEX: 601-023-00-4	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 4.2 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1.8 mg/L 48h
		b) Aquatic chronic toxicity : NOEC Daphnia Ceriodaphnia dubia = 1 mg/L - 7days
		a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 3.6 mg/L 96h
		c) Bacteria toxicity : EC50 > 96 mg/L 24h
		d) Terrestrial toxicity : LC50 Worm Eisenia fetida = 4.93 µg/L 48h OECD TG 207
2-methylpropan-1-ol; iso-butanol	CAS: 78-83-1 - EINECS: 201-148-0 - INDEX: 603-108-00-1	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 1430 mg/L 96h
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia pulex = 1100 mg/L 48h
		a) Aquatic acute toxicity : EC50 Algae Scenedesmus subspicatus = 1799 mg/L 72h OECD 201
toluene	CAS: 108-88-3 - EINECS: 203-625-9 - INDEX: 601-021-00-3	a) Aquatic acute toxicity : LC50 Fish Coho Salmon = 5.5 mg/L 96h
		b) Aquatic chronic toxicity : NOEC Fish Coho Salmon = 1.4 mg/L - 40days
		a) Aquatic acute toxicity : LC50 freshwater invertebrates = 3.78 mg/L 48h
		b) Aquatic chronic toxicity : NOEC freshwater invertebrates = 0.74 mg/L - 7days
		a) Aquatic acute toxicity : EC50 Algae freshwater algae = 134 mg/L 3h
		a) Aquatic acute toxicity : NOEC Algae freshwater algae = 10 mg/L 72h
		c) Bacteria toxicity : EC50 microorganisms = 84 mg/L 24h
		d) Terrestrial toxicity : NOEC Worm Eisenia fetida = 32.5 mg/kg - 28days

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Value	Notes:
reaction mass of ethylbenzene and xylene	Readily biodegradable		87.800	28days

n-butyl acetate	Readily biodegradable		83.000	%; OECD 301 D
ethylbenzene	Readily biodegradable	CO2 production		
2-methylpropan-1-ol; iso-butanol	Readily biodegradable	Biochemical oxygen demand	80.000	28days
toluene	Readily biodegradable			

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes:
reaction mass of ethylbenzene and xylene	Bioaccumulative	BCF - Bioconcentration factor	25.900	dimensionless
n-butyl acetate	Bioaccumulative	BCF - Bioconcentration factor		
ethylbenzene	Bioaccumulative	BCF - Bioconcentration factor	110.000	L/kg ww
toluene	Bioaccumulative	BCF - Bioconcentration factor	90.000	3days

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration $\geq 0.1\%$

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration $\geq 0.1\%$

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

14.1. UN number or ID number

1263

14.2. UN proper shipping name

ADR-Shipping Name: PAINT

IATA-Technical name: PAINT

IMDG-Technical name: PAINT

14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: F-E, S-E

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 3

ADR - Hazard identification number: 30

ADR-Special Provisions: 163 367 650
ADR-Transport category (Tunnel restriction code): 3 (D/E)
ADR Limited Quantities: 5 L
ADR Excepted Quantities: E1

Air (IATA):

IATA-Passenger Aircraft: 355
IATA-Cargo Aircraft: 366
IATA-Label: 3
IATA-Subsidiary hazards: -
IATA-Erg: 3L
IATA-Special Provisions: A3 A72 A192

Sea (IMDG):

IMDG-Stowage Code: Category A
IMDG-Stowage Note: -
IMDG-Subsidiary hazards: -
IMDG-Special Provisions: 163 223 367 955

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, 40

Restrictions related to the substances contained: 75

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

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
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Product belongs to category: P5c	5000	50000
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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 3

SVHC Substances:

No SVHC substances present in concentration $\geq 0.1\%$

Dir. 2004/42/EC (VOC directive)

(ready to use)

Volatile Organic compounds - VOCs = 33.58 %

Volatile Organic compounds - VOCs = 402.91 g/L

EXENCE ZINC S (not ready to use)

Volatile Organic compounds - VOCs = 27.80 %

Volatile Organic compounds - VOCs = 355.84 g/L

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:

n-butyl acetate

SECTION 16: Other information

Code	Description
EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
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
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, 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/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
STOT SE 3, H335	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.

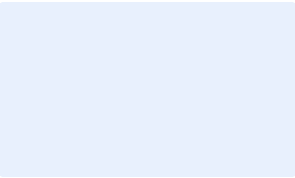
STOT: Specific Target Organ Toxicity.

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.



Exposure Scenario

N-butyl acetate

Exposure Scenario, 13/07/2021

Substance identity	
	N-butyl acetate
CAS No.	123-86-4
INDEX No.	607-025-00-1
EINECS No.	204-658-1
Registration number	01-2119485493-29

Table of contents

1. **ES 1** Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)

1. ES 1		Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)	
1.1 TITLE SECTION			
Exposure Scenario name	Professional application of coatings and inks		
Date - Version	14/05/2021 - 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)		
Environment Contributing Scenario			
CS1	ERC8a		
Worker Contributing Scenario			
CS2 Equipment cleaning and maintenance - Roller, spreader, flow application	PROC11		
CS3 Equipment cleaning and maintenance - Rolling, Brushing - Material transfers	PROC8a - PROC10		
1.2 Conditions of use affecting exposure			
1.2. CS1: Environment Contributing Scenario (ERC8a)			
Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			
Concentration of substance in product: Covers percentage substance in the product up to 100 %.			
<i>Amount used, frequency and duration of use (or from service life)</i>			
Amounts used: Application rate = 4000 t(tonnes)/year			
<i>Conditions and measures related to sewage treatment plant</i>			
STP type: Municipal Sewage Treatment Plant Water - minimum efficiency of: = 89.1 %			
<i>Other conditions affecting environmental exposure</i>			
Local marine water dilution factor: 100 Local freshwater dilution factor: 10 Receiving surface water flow: 18000 m ³ /day Covers indoor and outdoor use			
1.2. CS2: Worker Contributing Scenario: Equipment cleaning and maintenance - Roller, spreader, flow application (PROC11)			
Process Categories	Non industrial spraying (PROC11)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			
Vapour pressure: < 10000 Pa			

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

Technical and organisational conditions and measures**Technical and organisational measures**

Closed systems

Open systems

Other conditions affecting worker exposure**Temperature:** Assumes use at not more than 20 °C above ambient temperature.***Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.*****Additional Good Practice Advice:**

Wear suitable respiratory protection.

1.2. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - Rolling, Brushing - Material transfers (PROC8a, PROC10)**Process Categories**Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -
Roller application or brushing (PROC8a, PROC10)***Product (article) characteristics*****Physical form of product:**

Liquid

Vapour pressure:

< 10000 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure**Duration:**

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures**Technical and organisational measures**

Closed systems

Open systems

Other conditions affecting worker exposure**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 (ERC8a)**

Release route	Release rate	Release estimation method
N/A	N/A	ESVOC SPERC 8.3b.v1

1.3. CS2: Worker Contributing Scenario: Equipment cleaning and maintenance - Roller, spreader, flow application (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, long-term	= 242 mg/m ³	ECETOC TRA worker v3	= 0.504

1.3. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - Rolling, Brushing - Material transfers (PROC8a, PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, long-term	= 290.4 mg/m ³	ECETOC TRA worker v3	= 0.605

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.