

Safety Data Sheet

MACROFAN HS GREEN-TECH FILLER BLACK

Safety Data Sheet dated 21/12/2022 version 3



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

1.1. Product identifier

Mixture identification:

Trade name: MACROFAN HS GREEN-TECH FILLER BLACK

Trade code: LOMF0610

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

Recommended use: Coatings and paints, thinners, paint removers

Dual compound primer (undercoat)

Liquid pigmented dispersion

Professional uses

Uses advised against: N.A.

1.3. Details of the supplier of the safety data sheet

Company: Lechler SpA - Via Cecilio, 17 - 22100 Como - CO - Italy

Telephone: +39031586111

First Email: safety@lechler.eu

1.4. Emergency telephone number

UNITED KINGDOM: Emergency Number 0044 1606738600 - This telephone number is available during office hours only (8.45-16.45).

UNITED STATES OF AMERICA: Emergency Contact: Lechler SPA -Tel. +39-031-586301 (8.00-18.00).

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.
Skin Sens. 1A	May cause an allergic skin reaction.
Aquatic Chronic 3	Harmful to aquatic life with long lasting effects.

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.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.

Contains

1,3,3-trimethyl-N-(2-methylpropylidene)-5-
[(2-methylpropylidene)amino]
cyclohexanemethylamine

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

None.

2.3. Other hazards

Results of PBT and vPvB assessment Not a PBT, vPvB substance as per the criteria of the REACH Regulation.
Endocrine disrupting properties-Toxicity The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Endocrine disrupting properties-Ecotoxicity The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: MACROFAN HS GREEN-TECH FILLER BLACK

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

Qty	Name	Ident. Numb.	Classification	Registration Number
≥20 - ≤25 %	kaolin	CAS:1332-58-7 EC:310-194-1	Substance with a Union workplace exposure limit.	
≥7 - ≤10 %	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
≥5 - ≤7 %	Hydrocarbons, C9, aromatics	EC:918-668-5	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335; STOT SE 3, H336, EUH066, DECLP(*)	01-2119455851-35
≥3 - ≤5 %	xylene	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412; STOT SE 3, H335	01-2119488216-32
≥3 - ≤5 %	aluminium dihydrogen triphosphate	CAS:13939-25-8 EC:237-714-9	Eye Irrit. 2, H319	01-2119970565-28
≥1 - ≤2.5 %	Carbon black	CAS:1333-86-4 EC:215-609-9		01-2119384822-32
≥1 - ≤2.5 %	phosphoric acid polyester		Eye Irrit. 2, H319	
≥1 - ≤2.5 %	1,3,3-trimethyl-N-(2-methylpropylidene)-5-[(2-methylpropylidene)amino]cyclohexanemethylamine	CAS:54914-37-3 EC:259-393-4	Skin Corr. 1C, H314; Eye Irrit. 2, H319; Skin Sens. 1A, H317	01-2119978283-28-0000
≥1 - ≤2.5 %	2-ethoxy-1-methylethyl acetate	CAS:54839-24-6 EC:259-370-9 Index:603-177-	Flam. Liq. 3, H226; STOT SE 3, H336	01-2119475116-39

00-8

≥1 - ≤2.5 %	ethylbenzene	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; Asp. Tox. 1, H304; STOT RE 2, H373	01-2119489370-35
≥1 - ≤2.5 %	2-methoxy-1-methylethyl acetate	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	STOT SE 3, H336; Flam. Liq. 3, H226	01-2119475791-29
≥0.5 - ≤1 %	Talc (Mg ₃ H ₂ (SiO ₃) ₄)	CAS:14807-96-6 EC:238-877-9	Substance with a Union workplace exposure limit.	
≥0.1 - ≤0.25 %	zinc oxide	CAS:1314-13-2 EC:215-222-5 Index:030-013-00-7	Aquatic Acute 1, H400; Aquatic Chronic 1, H410, M-Chronic:1, M-Acute:1	01-2119463881-32
< 0,1 %	Respirable crystalline silica	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	
< 0,1 %	phosphoric acid	CAS:7664-38-2 EC:231-633-2 Index:015-011-00-6	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 Specific Concentration Limits: C ≥ 25%: Skin Corr. 1B H314 10% ≤ C < 25%: Skin Irrit. 2 H315 10% ≤ C < 25%: Eye Irrit. 2 H319	01-2119485924-24
< 0,1 %	n-butyl acrylate	CAS:141-32-2 EC:205-480-7 Index:607-062-00-3	Flam. Liq. 3, H226; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 3, H412; STOT SE 3, H335	01-2119453155-43
< 0,1 %	methyl methacrylate	CAS:80-62-6 EC:201-297-1 Index:607-035-00-6	Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	01-2119452498-28

(*)DECLP Substance classified in accordance with Note P, Annex VI of EC Regulation (EC) 1272/2008.

The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply.

Substances in nanoform:

Carbon black	CAS:1333-86-4 EC:215-609-9	Particle size distribution:	D10: ≥ 18 nm ≤ 61 nm D50: ≥ 36 nm ≤ 101 nm D90: ≥ 66 nm ≤ 173 nm (Measurement technique: STEM)
		Shape and aspect ratio:	Spheres, (:1): < 3 (Measurement technique: TEM)
		Crystallinity:	Amorphous: = 100% - (Measurement technique: X-ray Diffraction (XRD))
		Surface Treatment - Agent:	(No)
		Specific surface area:	≥ 21m ² /g ≤ 1,200m ² /g - (Measurement technique: Brunauer, Emmett and Teller (BET) method using Nitrogen)

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:

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

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:

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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

Wear personal protection equipment.

Remove all sources of ignition.

Remove persons to safety.

See protective measures under point 7 and 8.

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.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

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
kaolin CAS: 1332-58-7	ACGIH		Long Term: 2 mg/m ³ E,R, A4 - Pneumoconiosis
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 2 mg/m ³ Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.
	EU		Long Term: 0,1 mg/m ³ 2004/37/EC
	EU		Carcinogens or mutagens
n-butyl acetate CAS: 123-86-4	EU		Respirable dust
	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
	EU		Long Term: 241 mg/m ³ - 50 ppm; Short Term: 723 mg/m ³ - 150 ppm Behaviour Indicative 2019/1831/EU
	ACGIH		Long Term: 50 ppm; Short Term: 150 ppm Eye and URT irr
Hydrocarbons, C9, aromatics	ACGIH		Long Term: 200 mg/m ³ Damages to the central nervous system
xylene CAS: 1330-20-7	ACGIH		Long Term: 20 ppm A4, BEI - URT and eye irr; hematologic eff; CNS impair
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 220 mg/m ³ - 50 ppm; Short Term: 441 mg/m ³ - 100 ppm Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to
	EU		Long Term: 221 mg/m ³ - 50 ppm; Short Term: 442 mg/m ³ - 100 ppm Behaviour Indicative 2000/39/EC
	EU		Identifies the possibility of significant uptake through the skin
Carbon black CAS: 1333-86-4	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 3,5 mg/m ³ ; Short Term: 7 mg/m ³
	ACGIH		Long Term: 3 mg/m ³ I, A3 - Bronchitis

ethylbenzene CAS: 100-41-4	EU		Long Term: 442 mg/m3 - 100 ppm; Short Term: 884 mg/m3 - 200 ppm Behaviour Indicative 2000/39/EC
	EU		Identifies the possibility of significant uptake through the skin
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 441 mg/m3 - 100 ppm; Short Term: 552 mg/m3 - 125 ppm Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to
2-methoxy-1-methylethyl acetate CAS: 108-65-6	ACGIH		Long Term: 20 ppm OTO; A3, BEI - URT & eye irr; ototoxicity; kidney eff; CNS impair
	EU		Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm Behaviour Indicative 2000/39/EC
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Identifies the possibility of significant uptake through the skin Long Term: 274 mg/m3 - 50 ppm; Short Term: 548 mg/m3 - 100 ppm Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to
Talc (Mg3H2(SiO3)4) CAS: 14807-96-6	ACGIH		Long Term: 2 mg/m3 Containing no asbestos fibers\$ E,R, A4 - Pulm fibrosis, pulm func
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 1 mg/m3 Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.
	EU		Long Term: 0,1 mg/m3 2004/37/EC
	EU		Carcinogens or mutagens
	EU		Respirable dust
zinc oxide CAS: 1314-13-2	ACGIH		Long Term: 2 mg/m3; Short Term: 10 mg/m3 R - Metal fume fever
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 0,1 mg/m3 Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.
Respirable crystalline silica CAS: 14808-60-7	EU		Long Term: 0,1 mg/m3 Carcinogens or mutagens
	ACGIH		Long Term: 0,025 mg/m3 R, A2 - Pulm fibrosis, lung cancer
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Behaviour Indicative 2000/39/EC
phosphoric acid CAS: 7664-38-2	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 1 mg/m3; Short Term: 2 mg/m3
	ACGIH		Long Term: 1 mg/m3; Short Term: 3 mg/m3 URT, eye and skin irr
	EU		Long Term: 11 mg/m3 - 2 ppm; Short Term: 53 mg/m3 - 10 ppm Behaviour Indicative 2000/39/EC
n-butyl acrylate CAS: 141-32-2	EH40	UNITED	Long Term: 5 mg/m3 - 1 ppm; Short Term: 26 mg/m3 - 5 ppm

KINGDOM OF
GREAT
BRITAIN AND
NORTHERN
IRELAND

methyl methacrylate CAS: 80-62-6	ACGIH	Long Term: 2 ppm DSEN, A4 - Irr
	EU	Long Term: 50 ppm; Short Term: 100 ppm Behaviour Indicative 2009/161/ EU
	EH40 UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 208 mg/m3 - 50 ppm; Short Term: 416 mg/m3 - 100 ppm
	ACGIH	Long Term: 50 ppm; Short Term: 100 ppm DSEN, A4 - URT and eye irr, body weight eff, pulm edema

Biological limit values

xylene
CAS: 1330-20-7

Biological Indicator: xylene; Sampling Period: End of turn
Value: 1.5 mg/L; Medium: Blood
Remark: Croatia. Biological Exposure Limits

Biological Indicator: Methylhippuric acid; Sampling Period: End of turn
Value: 1.5 g/l; Medium: Urine
Remark: New Zealand. Biological Exposure Indices

Biological Indicator: xylene; Sampling Period: End of turn
Value: 1.5 mg/L; Medium: Blood
Remark: Slovakia. Biological Limit Values

Biological Indicator: sum of 2,3,4-methylhippuric acid; Sampling Period: End of turn
Value: 2000 mg/L; Medium: Urine
Remark: Slovakia. Biological Limit Values

Biological Indicator: methylhippuric acid; Sampling Period: End of turn
Value: 3 g/l; Medium: Urine
Remark: Romania. Biological limit values

Biological Indicator: methylhippuric acid (all isomers); Sampling Period: End of turn
Value: 2 g/l; Medium: Urine
Remark: Slovenia. BAT-values

Biological Indicator: xylene; Sampling Period: Immediately after exposure or after working hours
Value: 1.5 mg/L; Medium: Blood
Remark: TRGS 903 - Biological limit values

Biological Indicator: methylhippuric acid (all isomers); Sampling Period: Immediately after exposure or after working hours
Value: 2 g/l; Medium: Urine
Remark: TRGS 903 - Biological limit values

Biological Indicator: Methylhippuric acid; Sampling Period: Last 4 hours of shift
Value: 2 mg/L; Medium: Urine
Remark: South Africa. Hazardous Chemical Substances Regulations, Biological Exposure Indices.

Biological Indicator: total (o-, m-, p-)methylhippuric acid; Sampling Period: End of turn; End of working week
Value: 800 mg/L; Medium: Urine
Remark: Occupational exposure limits based on biological monitoring (JSOH).

Biological Indicator: methyl hippuric acid; Sampling Period: At the end of a work week / at the end of a work day / at the end of a shift
Value: 1.5 g/l; Medium: Urine
Remark: Austria. Regulation on health surveillance in the workplace 2014

Biological Indicator: xylene; Sampling Period: End of workday
Value: 1 mg/L; Medium: Blood
Remark: Austria. Regulation on health surveillance in the workplace 2014

Biological Indicator: Methylhippuric acid; Sampling Period: At the end of exposure, in 4 hours
Value: 2 mg/L; Medium: Urine
Remark: Kenya. Occupational Safety and Health Act (CAP.514), Schedule I, Table 3 Biological Exposure Limits

Biological Indicator: methyl hippuric acid; Sampling Period: After shift
Value: 5 Millimoles per liter; Medium: Urine
Remark: Finland. Biological limit values

Biological Indicator: methyl hippuric acid; Sampling Period: Immediately after exposure or after working hours
Value: 2 g/l; Medium: Urine
Remark: Svizzera. Lista di valori BAT

ethylbenzene
CAS: 100-41-4

Biological Indicator: mandelic acid; Sampling Period: after the last shift of the last day of the work week
Value: 15 g/g creatinine; Medium: Urine
Remark: Argentina. Biological Exposure Indices

Biological Indicator: Ethylbenzene; Sampling Period: after the last shift of the last day of the work week
Value: 15 g/g creatinine; Medium: Air at the end of exhalation
Remark: Argentina. Biological Exposure Indices

Biological Indicator: mandelic acid; Sampling Period: End of turn; End of working week
Value: 15 g/g creatinine; Medium: Urine
Remark: Brazil. NR7. Parameters for Biological Control of Occupational Exposure to Some Chemical Agents

Biological Indicator: total mandelic acid plus phenylglyoxylic acid; Sampling Period: End of turn
Value: 2000 mg/g Creatinine; Medium: Urine
Remark: Bulgaria. Biological limit values

Biological Indicator: mandelic acid; Sampling Period: End of turn
Value: 1500 mg/g Creatinine; Medium: Urine
Remark: Chile. Biological Limit Values

Biological Indicator: Sum of mandelic acid and phenyl glyoxylic acid; Sampling Period: End of turn
Value: 15 g/g creatinine; Medium: Urine
Remark: Maximum allowable occupational exposure limits in the workplace - Table 3. Adopted Biological Exposure Indices

Biological Indicator: Ethylbenzene; Sampling Period: during exposure
Value: 141 micromol per litre; Medium: Blood
Remark: Croatia. Biological Exposure Limits

Biological Indicator: Ethylbenzene; Sampling Period: during exposure
Value: 1.5 mg/L; Medium: Blood
Remark: Croatia. Biological Exposure Limits

Biological Indicator: mandelic acid; Sampling Period: End of turn; End of working week
Value: 112 mol/mol creatinine; Medium: Urine
Remark: Croatia. Biological Exposure Limits

Biological Indicator: mandelic acid; Sampling Period: End of turn; End of working week
Value: 15 g/g creatinine; Medium: Urine
Remark: Croatia. Biological Exposure Limits

Biological Indicator: mandelic acid; Sampling Period: End of turn
Value: 1500 mg/g Creatinine; Medium: Urine
Remark: Czech Republic. Biological Exposure Indices

Biological Indicator: mandelic acid; Sampling Period: End of turn
Value: 1100 micromoles per millimole creatinine; Medium: Urine
Remark: Czech Republic. Biological Exposure Indices

Biological Indicator: mandelic acid; Sampling Period: After the work shift at the end of week or exposure period
Value: 5.2 Millimoles per liter; Medium: Urine
Remark: Finland. Biological limit values

Biological Indicator: mandelic acid + phenylglyoxylic acid; Sampling Period: Immediately after exposure or after working hours
Value: 250 mg/g Creatinine; Medium: Urine
Remark: TRGS 903 - Biological limit values

Biological Indicator: mandelic acid; Sampling Period: After shift
Value: 1500 mg/g Creatinine; Medium: Urine
Remark: Hungary. Permissible limit values of biological exposure (effect) indices

Biological Indicator: mandelic acid; Sampling Period: After shift
Value: 1110 micromoles per millimole creatinine; Medium: Urine
Remark: Hungary. Permissible limit values of biological exposure (effect) indices

Biological Indicator: Mandelic acid; Sampling Period: End of turn; End of working week
Value: 15 g/g creatinine; Medium: Urine
Remark: Kenya. Occupational Safety and Health Act (CAP.514), Schedule I, Table 3 Biological Exposure Indices

Limits

Biological Indicator: Ethylbenzene

Medium: Air at the end of exhalation

Remark: Kenya. Occupational Safety and Health Act (CAP.514), Schedule I, Table 3 Biological Exposure Limits

Biological Indicator: Sum of Mandelic acid plus phenylglyoxylic acid; Sampling Period: End of turn; End of working week

Value: 7 g/g creatinine; Medium: Urine

Remark: Official Mexican Norm NOM-047-SSA1-2011, Environmental Health - Biological exposure indices for work

Biological Indicator: Ethylbenzene; Sampling Period: Not critical

Medium: exhaled air

Remark: Official Mexican Norm NOM-047-SSA1-2011, Environmental Health - Biological exposure indices for work

Biological Indicator: Sum of mandelic acid and phenylglyoxylic acids; Sampling Period: End of turn

Value: 25 g/g creatinine; Medium: Urine

Remark: New Zealand. Biological Exposure Indices

Biological Indicator: Sum of mandelic acid and phenyl glyoxylic acid; Sampling Period: End of turn

Value: 7 g/g creatinine; Medium: Urine

Remark: Portuguese Norm 1796 - Biological Exposure Indices

Biological Indicator: mandelic acid; Sampling Period: End of working week

Value: 15 g/g creatinine; Medium: Urine

Remark: Romania. Biological limit values

Biological Indicator: 2- and 4-ethylphenol; Sampling Period: End of turn

Value: 12 mg/L; Medium: Blood

Remark: Slovakia. Biological Limit Values

Biological Indicator: Mandelic acid and phenylglyoxylic; Sampling Period: In case of long-term exposure: after more than one shift

Value: 1600 mg/L; Medium: Urine

Remark: Slovakia. Biological Limit Values

Biological Indicator: 2- and 4-ethylphenol; Sampling Period: In case of long-term exposure: after more than one shift

Value: 986 micromol per litre; Medium: Blood

Remark: Slovakia. Biological Limit Values

Biological Indicator: Mandelic acid and phenylglyoxylic; Sampling Period: In case of long-term exposure: after more than one shift

Value: 10590 micromol per litre; Medium: Urine

Remark: Slovakia. Biological Limit Values

Biological Indicator: Mandelic acid and phenylglyoxylic; Sampling Period: End of turn

Value: 1067 mg/g Creatinine; Medium: Urine

Remark: Slovakia. Biological Limit Values

Biological Indicator: Mandelic acid and phenylglyoxylic; Sampling Period: End of turn

Value: 799 micromoles per millimole creatinine; Medium: Urine

Remark: Slovakia. Biological Limit Values

Biological Indicator: 2- and 4-ethylphenol; Sampling Period: In case of long-term exposure: after more than one shift

Value: 803 mg/g Creatinine; Medium: Urine

Remark: Slovakia. Biological Limit Values

Biological Indicator: 2- and 4-ethylphenol; Sampling Period: In case of long-term exposure: after more than one shift

Value: 744 micromoles per millimole creatinine; Medium: Urine

Remark: Slovakia. Biological Limit Values

Biological Indicator: Mandelic acid and phenylglyoxylic; Sampling Period: End of turn

Value: 250 mg/g Creatinine; Medium: Urine

Remark: Slovenia. BAT-values

Biological Indicator: Mandelic acid; Sampling Period: End of turn; End of working week

Value: 15 g/g creatinine; Medium: Urine

Remark: South Africa. Hazardous Chemical Substances Regulations, Biological Exposure Indices.

Biological Indicator: Ethylbenzene

Medium: Air at the end of exhalation

Remark: South Africa. Hazardous Chemical Substances Regulations, Biological Exposure Indices.

Biological Indicator: sum of mandelic acid and phenylglyoxylic acid; Sampling Period: FSL

Value: 700 mg/g Creatinine; Medium: Urine
Remark: Occupational Exposure Limits for Chemical Agents in Spain - Biological Exposure Values

Biological Indicator: Mandelic acid and phenylglyoxylic; Sampling Period: Immediately after exposure or after working hours

Value: 600 mg/g Creatinine; Medium: Urine
Remark: Svizzera. Lista di valori BAT

Biological Indicator: Sum of mandelic acid and phenyl glyoxylic acid; Sampling Period: End of turn
Value: 15 g/g creatinine; Medium: Urine
Remark: ACGIH - Indicatori di Esposizione Biologica (BEI)

Biological Indicator: Mandelic acid; Sampling Period: End of workday at end of workweek
Value: 7 g/g creatinine; Medium: Urine
Remark: VE.Biological Exposure Limits

Biological Indicator: Ethylbenzene; Sampling Period: At discretion
Medium: in exhaled air
Remark: VE.Biological Exposure Limits

Predicted No Effect Concentration (PNEC) values

n-butyl acetate
CAS: 123-86-4

Exposure Route: Fresh Water; PNEC Limit: 0,18 mg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0,36 mg/l

Exposure Route: Marine water; PNEC Limit: 0,01 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 0,98 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0,09 mg/kg

Exposure Route: Soil; PNEC Limit: 0,09 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 35,6 mg/l

Exposure Route: Fresh Water; PNEC Limit: 0,32 mg/l

xylene
CAS: 1330-20-7

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0,32 mg/l

Exposure Route: Marine water; PNEC Limit: 0,32 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

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 6,58 mg/l

Exposure Route: Fresh Water; PNEC Limit: 0,023 mg/l

1,3,3-trimethyl-N-(2-methylpropylidene)-5-[(2-methylpropylidene)amino]cyclohexanemethylamine
CAS: 54914-37-3

Exposure Route: Fresh Water; PNEC Limit: 0,06 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 0,0524 mg/kg

Exposure Route: Freshwater sediments; PNEC Limit: 5,78 mg/kg

Exposure Route: Marine water; PNEC Limit: 0,0023 mg/l

Exposure Route: Marine water; PNEC Limit: 0,0006 mg/l

Exposure Route: Marine water sediments; PNEC Limit: 0,578 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0,00524 mg/kg

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

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3,18 mg/l

Exposure Route: Soil; PNEC Limit: 1,12 mg/kg

Exposure Route: Soil; PNEC Limit: 0,00502 mg/kg

2-ethoxy-1-methylethyl acetate
CAS: 54839-24-6

Exposure Route: Fresh Water; PNEC Limit: 2 mg/l

Exposure Route: Marine water; PNEC Limit: 0,2 mg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 2 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 8,2 mg/l

Exposure Route: Marine water sediments; PNEC Limit: 0,67 mg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 62,5 mg/l

Exposure Route: Oral; PNEC Limit: 117 mg/l

2-methoxy-1-methylethyl acetate
CAS: 108-65-6

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 6,35 mg/l

Exposure Route: Marine water; PNEC Limit: 0,064 mg/kg

Exposure Route: Freshwater sediments; PNEC Limit: 3,29 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0,329 mg/kg

Exposure Route: Soil; PNEC Limit: 0,29 mg/kg

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

Exposure Route: Fresh Water; PNEC Limit: 0,0206 mg/l

zinc oxide
CAS: 1314-13-2

Exposure Route: Marine water; PNEC Limit: 0,0061 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 235,6 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 113 mg/kg

Exposure Route: Soil; PNEC Limit: 106,8 mg/kg

Exposure Route: Fresh Water; PNEC Limit: 0,94 mg/l

methyl methacrylate
CAS: 80-62-6

Exposure Route: Marine water; PNEC Limit: 0,94 mg/l

Exposure Route: Soil; PNEC Limit: 1,47 mg/kg

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

Exposure Route: Freshwater sediments; PNEC Limit: 5,74 mg/kg

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0,94 mg/l

Derived No Effect Level (DNEL) values

n-butyl acetate
CAS: 123-86-4

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Industry: 300 mg/m³

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

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

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

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Industry: 11 mg/kg dry weight (d.w.)

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Worker Industry: 11 mg/kg dry weight (d.w.)

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Consumer: 35,7 mg/m³

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

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Consumer: 35,7 mg/m³

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

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Consumer: 6 mg/kg dry weight (d.w.)

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Consumer: 6 mg/kg dry weight (d.w.)

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 2 mg/kg dry weight (d.w.)

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 2 mg/kg dry weight (d.w.)

Hydrocarbons, C9, aromatics	Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects Consumer: 11 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Consumer: 32 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Consumer: 11 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 150 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 25 mg/kg
xylene CAS: 1330-20-7	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Consumer: 65,3 mg/m3
	Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects Consumer: 12,5 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 442 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 212 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 221 mg/m3
1,3,3-trimethyl-N-(2-methylpropylidene)-5-[(2-methylpropylidene)amino]cyclohexanemethylamine CAS: 54914-37-3	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 150 mg/m3
2-ethoxy-1-methylethyl acetate CAS: 54839-24-6	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Industry: 2366 mg/m3; Worker Professional: 2366 mg/kg; Consumer: 1420 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 152 mg/m3; Worker Professional: 152 mg/m3; Consumer: 181 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 103 mg/kg; Worker Professional: 103 mg/kg; Consumer: 62 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 13,1 mg/kg
2-methoxy-1-methylethyl acetate CAS: 108-65-6	Exposure Route: Human Inhalation; Exposure Frequency: Short Term (acute) Consumer: 33 mg/m3
	Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects Consumer: 36 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Consumer: 320 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Consumer: 33 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term (acute) Worker Professional: 550 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 796 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 275 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 275 mg/m3
zinc oxide CAS: 1314-13-2	Exposure Route: Human Inhalation; Exposure Frequency: Local Effects Worker Professional: 5 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Local Effects Worker Professional: 83 ppm
	Exposure Route: Human Dermal; Exposure Frequency: Local Effects

Consumer: 83 ppm

Exposure Route: Human Inhalation; Exposure Frequency: Local Effects
Consumer: 2,5 mg/m³

Exposure Route: Human Oral; Exposure Frequency: Chronic Effects
Consumer: 0,83 ppm

phosphoric acid
CAS: 7664-38-2

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 10,7 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Consumer: 4,57 mg/m³

Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 0,1 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Professional: 1 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Consumer: 0,36 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects
Worker Professional: 2 mg/m³

methyl methacrylate
CAS: 80-62-6

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Professional: 208 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 208 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
Worker Professional: 1,5 mg/cm²

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 13,67 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term (acute)
Worker Professional: 1,5 mg/cm²

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Consumer: 104 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Consumer: 74,3 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
Consumer: 1,5 mg/cm²

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Consumer: 8,2 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term (acute)
Consumer: 1,5 mg/cm²

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:

N.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: Black
Odour: N.A.
pH: Not Relevant
Kinematic viscosity: > 20,5 mm²/sec (40 °C)
Melting point / freezing point: N.A.
Initial boiling point and boiling range: N.A.
Flash point: 30 °C (86 °F)
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: 1.48 g/cm³
Solubility in water: N.A.
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Flammability: The product is classified Flam. Liq. 3 H226
Kinematic viscosity m²/s (40°C) > 20,5 mm²/sec (40 °C)
Viscosity: = 65.00 s - Method: ISO/DIN 2431 84 - Section: 6.00 mm

Particle characteristics:

Particle size: N.A.
Nanoforms: See Nanoform information in Section 3.

9.2. Other information

Evaporation rate: N.A.
Miscibility: N.A.
Conductivity: N.A.
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 ATEmix - Dermal : 22689.1 mg/kg bw ATEmix - Inhalation (Vapours) : 185.088 mg/l
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	The product is classified: 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

i) STOT-repeated exposure	Based on available data, the classification criteria are not met
	Not classified
j) aspiration hazard	Based on available data, the classification criteria are not met
	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

kaolin	a) acute toxicity	LD50 Oral Rat > 5000, mg/kg	
n-butyl acetate	a) acute toxicity	LD50 Oral Rat = 10760 mg/kg	OECD Test Guideline 423
		LC50 Inhalation > 20, mg/l 4h	
		LD50 Skin Rabbit > 14112, mg/kg	OECD Test Guideline 402
Hydrocarbons, C9, aromatics	a) acute toxicity	LD50 Oral Rat = 3592 mg/kg	OECD Test Guideline 401
	f) carcinogenicity	LD50 Skin Rabbit > 3160 mg/kg Carcinogenicity - Not classified - Substance classified in accordance with Note P, Annex VI of EC Regulation (EC) 1272/2008.	OECD Test Guideline 402
xylene	a) acute toxicity	LD50 Oral Mouse = 5627 mg/kg	
		LC50 Inhalation Rat = 6700 Ppm 4h	
		LD50 Skin Rabbit > 5000 mg/kg	
aluminium dihydrogen triphosphate	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg	OECD Test Guideline 420
		LC50 Inhalation Rat > 3,46 mg/l 4h	OECD Test Guideline 436
Carbon black	a) acute toxicity	LD50 Oral Rat > 8000, mg/kg	
1,3,3-trimethyl-N-(2-methylpropylidene)-5-[(2-methylpropylidene) amino] cyclohexanemethylamine	a) acute toxicity	LD50 Oral Rat = 4150 mg/kg	OECD Test Guideline 401
		LD50 Skin Rat > 5000 mg/kg	OECD Test Guideline 402
2-ethoxy-1-methylethyl acetate	a) acute toxicity	LD50 Oral Rat > 5000	OECD Test Guideline 401
		LC50 Inhalation Mist Rat > 6,99 4h	OECD Test Guideline 403
ethylbenzene	a) acute toxicity	LD50 Oral Rat = 3500, mg/kg	
		LD50 Skin Rabbit > 5000, mg/kg	
2-methoxy-1-methylethyl acetate	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	
		LC0 Inhalation Rat > 2000 Ppm 3h	
		LD50 Skin Rabbit > 5000 mg/kg	
Talc (Mg3H2(SiO3)4)	a) acute toxicity	LD50 Oral > 5000, mg/kg bw	
zinc oxide	a) acute toxicity	LD50 Oral Rat > 5000, mg/kg	
		LC50 Inhalation Dust Rat > 5,7 mg/l 4h	
		LD50 Skin Rat > 2000, mg/kg	

11.2. Information on other hazards**Endocrine disrupting properties:**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information**12.1. Toxicity**

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

Eco-Toxicological Information:

Harmful to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 3(H412)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
n-butyl acetate	CAS: 123-86-4 - EINECS: 204- 658-1 - INDEX: 607-025-00-1	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas (fathead minnow) = 18 mg/L 96 H OECD Test Guideline 203 a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 44 mg/L 48 H OECD Test Guideline 202 e) Plant toxicity : EC50 Algae Selenastrum capricornutum (green algae) = 397 mg/L 72 H OECD Test Guideline 201 c) Bacteria toxicity : IC50 Microorganisms Tetrahymena pyriformis = 356 mg/L 40 H
Hydrocarbons, C9, aromatics	EINECS: 918- 668-5	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss (rainbow trout) = 9,2 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 3,2 mg/L 48 H e) Plant toxicity : Algae algae = 2,9 mg/L 72 H
xylene	CAS: 1330-20-7 - EINECS: 215- 535-7 - INDEX: 601-022-00-9	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss (rainbow trout) = 2,6 mg/L 96 H a) Aquatic acute toxicity : IC50 Invertebrates Daphnia magna (Water flea) = 1 mg/L 24 H e) Plant toxicity : EC0 Algae Pseudokirchneriella subcapitata (green algae) = 0,44 mg/L 72 H b) Aquatic chronic toxicity : NOEC Fish Oncorhynchus mykiss (rainbow trout) > 1,3 mg/L 56 D e) Plant toxicity : Algae Pseudokirchneriella subcapitata (green algae) = 4,36 mg/L 72 H
Carbon black	CAS: 1333-86-4 - EINECS: 215- 609-9	a) Aquatic acute toxicity : LC10 Fish Brachydanio rerio (zebrafish) = 1000 mg/L 96h a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) > 5600 mg/L 48h a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus (green algae) > 10000 mg/L 72h
1,3,3-trimethyl-N-(2-methylpropylidene)-5-[(2-methylpropylidene)amino]cyclohexanemethylamine	CAS: 54914-37- 3 - EINECS: 259-393-4	a) Aquatic acute toxicity : LC50 Fish Danio rerio (zebra fish) > 100 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) =

		14,7 mg/L 48 H
		e) Plant toxicity : Algae <i>Desmodesmus subspicatus</i> (green algae) > 100 mg/L
		b) Aquatic chronic toxicity : NOEC Invertebrates <i>Daphnia magna</i> (Water flea) = 3 mg/L 21 D
		e) Plant toxicity : NOEC Algae <i>Desmodesmus subspicatus</i> (green algae) = 7,6 mg/L
2-ethoxy-1-methylethyl acetate	CAS: 54839-24-6 - EINECS: 259-370-9 - INDEX: 603-177-00-8	a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> (rainbow trout) = 140 mg/L 96 H OECD Test Guideline 203 a) Aquatic acute toxicity : EC50 Invertebrates <i>Daphnia magna</i> (Water flea) = 110 mg/L 48 H OECD Test Guideline 202 e) Plant toxicity : EC50 Algae <i>Desmodesmus subspicatus</i> (green algae) > 100 mg/L 72 H OECD Test Guideline 201 c) Bacteria toxicity : EC10 Microorganisms <i>Pseudomonas putida</i> = 560 mg/L 16 H b) Aquatic chronic toxicity : NOEC Invertebrates <i>Daphnia magna</i> (Water flea) >= 100 mg/L 21 D a) Aquatic acute toxicity : NOEC Fish <i>Oryzias latipes</i> (Orange-red killifish) = 47,5 mg/L 96 H e) Plant toxicity : NOEC Algae <i>Desmodesmus subspicatus</i> (green algae) >= 100 mg/L 72 H
2-methoxy-1-methylethyl acetate	CAS: 108-65-6 - EINECS: 203-603-9 - INDEX: 607-195-00-7	a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> (rainbow trout) 100 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates <i>Daphnia magna</i> (Water flea) > 500 mg/L 48 H e) Plant toxicity : EC50 Algae <i>Selenastrum capricornutum</i> (green algae) > 1000 mg/L 96 H b) Aquatic chronic toxicity : NOEC Fish <i>Oryzias latipes</i> (Japanese medaka) = 47,5 mg/L 14 D b) Aquatic chronic toxicity : NOEC Invertebrates <i>Daphnia magna</i> (Water flea) >= 100 mg/L 21 D e) Plant toxicity : NOEC Algae <i>Selenastrum capricornutum</i> (green algae) >= 1000 mg/L 96 H
zinc oxide	CAS: 1314-13-2 - EINECS: 215-222-5 - INDEX: 030-013-00-7	a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchneriella subcapitata</i> = 0,17 mg/L 72h a) Aquatic acute toxicity : EC50 <i>Daphnia</i> = 0,413 mg/L 48h a) Aquatic acute toxicity : LC50 Fish = 0,1169 mg/L 96h
phosphoric acid	CAS: 7664-38-2 - EINECS: 231-633-2 - INDEX: 015-011-00-6	a) Aquatic acute toxicity : LC50 Fish = 75,1 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates > 100 mg/L 48 H e) Plant toxicity : EC50 Algae > 100 mg/L 72 H
methyl methacrylate	CAS: 80-62-6 - EINECS: 201-297-1 - INDEX: 607-035-00-6	a) Aquatic acute toxicity : LC50 Fish <i>Poecilia reticulata</i> (guppy) 426,9 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates <i>Daphnia magna</i> (Water flea) = 57 mg/L 48 H e) Plant toxicity : EC50 Algae <i>Pseudokirchneriella subcapitata</i> (green algae) = 170 mg/L 96 H

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

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

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number or ID number

1263

14.2. UN proper shipping name

ADR-Shipping Name: PAINT

IATA-Shipping Name: PAINT

IMDG-Shipping 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

Toxic ingredients quantity: 0.00

Very toxic ingredients quantity: 0.00

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: F-E, S-E

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR exempt:

ADR-Label: 3

ADR - Hazard identification number: -

ADR-Special Provisions: 163 367 650

ADR-Transport category (Tunnel restriction code): 3 (E)

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 and handling: Category A
IMDG-Segregation: -
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. 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. 2020/878

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: 30, 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)
--	-------------------------------	-------------------------------

Product belongs to category: P5c	5000	50000
----------------------------------	------	-------

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

No substances listed

German Water Hazard Class.

3: Severe hazard to waters

SVHC Substances:

No data available

DIRECTIVE 2010/75/EU (VOC directive)

Volatile Organic compounds - VOCs = 23.95 %

Volatile Organic compounds - VOCs = 354.46 g/L

Estimated Total Content of Water 0.00 %

Estimated Total Solid Content 76.05 %

Storage Class (TRGS 510)

Storage Class (TRGS 510) Flammable liquid substances

Classification according to VbF

Classification according to VbF Exempt

Mal-Code (Denmark)

Mal-Code (Denmark)	Mal Factor	Unit of Measure	Revision Status / Number	Regulatory Base
2 - 6	772	m3 air/10 g	1993	Administrative determined MAL-Factors

Biocides

REGULATION (EC) No 528/2012

15.2. Chemical safety assessment

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.
H290	May be corrosive to metals.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
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.
H372	Causes damage to organs through prolonged or repeated exposure.
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.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.16/1	Met. Corr. 1	Substance or mixture corrosive to metals, Category 1
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
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/1C	Skin Corr. 1C	Skin corrosion, Category 1C
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
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/1	STOT RE 1	Specific target organ toxicity — repeated exposure, Category 1
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
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
2.6/3	On basis of test data
3.2/2	Calculation method
3.3/2	Calculation method
3.4.2/1A	Calculation method
4.1/C3	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: KAFH

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 4: First aid measures
- SECTION 5: Firefighting measures
- SECTION 6: Accidental release measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 10: Stability and reactivity
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 13: Disposal considerations
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information