ISOPON METAL FIX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Product Reference code:according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
SDS Ref. (EU): MTFX-R-SDS
Issue date: 6/8/2015 Revision date: 8/19/2020 Supersedes version of: 7/12/2019 Version: 7.0

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

1.1. Product identifier

Product form	:	Mixture
Trade name	:	ISOPON METAL FIX
UFI	:	0YE1-J0CH-C005-PQMH
Product code	:	MTFX/S, MTFX/1
Product group	:	Bodyfiller

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

1.2.1. Relevant identified uses

Intended for general public

Main use category	:	Industrial use,Professional use,Consumer use
Use of the substance/mixture	:	Fillers, putties, plasters, modelling clay
Function or use category	:	Fillers

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer
U-POL Limited Ltd
Denington Road
GB– NN8 2QH Wellingborough – Northamptonshire
United Kingdom
T +44 (0) 1933 230310
technicalsupport@u-pol.com - www.u-pol.com

Importer
U-POL Netherlands B.V. B.V.
Hoorgoorddreef 15
NL– 1101BA Amsterdam
Netherlands
T +31 20 240 2216
technicalsupport@u-pol.com - www.u-pol.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: +44 (0) 870 8200418 (24 hrs)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	NHS England, Scotland & Wales	-	Call 111 or a Doctor	In Northern Ireland, contact your local GP or pharmacist during normal hours (www.gpoutofhours.hscni.net)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Reproductive toxicity, Category 2	H361

Specific target organ toxicity — Repeated exposure, Category 1 H372

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Causes skin irritation. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07 GHS08

Signal word (CLP) : Danger

Contains : styrene

Hazard statements (CLP) : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H361 - Suspected of damaging the unborn child.
H372 - Causes damage to organs (hearing organs) through prolonged or repeated exposure (inhalation).

Precautionary statements (CLP) : P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear eye protection, protective clothing, protective gloves.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P405 - Store locked up.
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Unknown acute toxicity (CLP) - SDS : 0.25% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
0.25% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
styrene (Note D)	CAS-No.: 100-42-5 EC-No.: 202-851-5 EC Index-No.: 601-026-00-0 REACH-no: 01-2119457861-32	10 – 20	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d STOT SE 3, H335 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Chronic 3, H412

Note D : Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.
Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact : Irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact : Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. No open flames. No smoking.

6.1.1. For non-emergency personnel

Protective equipment : Safety glasses. Protective clothing. Gloves.
Emergency procedures : Ventilate spillage area. Do not breathe fume, vapours. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, collect/pump into suitable containers. Collect spillage.
Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe fume, vapours. Avoid contact with skin and eyes.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.
Storage temperature : < 25 °C
Storage area : Store in a well-ventilated place.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

styrene (100-42-5)	
Ireland - Occupational Exposure Limits	
Local name	Styrene [Phenylethylene, Vinyl benzene]
OEL TWA [1]	85 mg/m³
OEL TWA [2]	20 ppm
OEL STEL	170 mg/m³

styrene (100-42-5)	
OEL STEL [ppm]	40 ppm
Regulatory reference	Chemical Agents Code of Practice 2020
United Kingdom - Occupational Exposure Limits	
Local name	Styrene
WEL TWA (OEL TWA) [1]	430 mg/m³
WEL TWA (OEL TWA) [2]	100 ppm
WEL STEL (OEL STEL)	1080 mg/m³
WEL STEL (OEL STEL) [ppm]	250 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

styrene (100-42-5)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	289 mg/m³
Acute - local effects, inhalation	306 mg/m³
Long-term - systemic effects, dermal	406 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	85 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	174.25 mg/m³
Acute - local effects, inhalation	182.75 mg/m³
Long-term - systemic effects,oral	2.1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	10.2 mg/m³
Long-term - systemic effects, dermal	343 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.028 mg/l
PNEC aqua (marine water)	0.014 mg/l
PNEC aqua (intermittent, freshwater)	0.04 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.614 mg/kg dwt
PNEC sediment (marine water)	0.307 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.2 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	5 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:
Gloves. Protective clothing. Safety glasses.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses			

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Skin and body protection	
Type	**Standard**
Chemically resistant protective gloves, Disposable gowns, Goggles, Safety glasses, Shoe Cover	

Hand protection:
Protective gloves

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Protective gloves	Viton	5 (> 240 minutes), 6 (> 480 minutes)	0.7		
Protective gloves	Nitrile rubber (NBR)	3 (> 60 minutes)	0.2		

Other skin protection

Materials for protective clothing:
Impermeable clothing

8.2.2.3. Respiratory protection

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
Gas filters	Type A - High-boiling (>65 °C) organic compounds	Vapour protection	

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Paste.
Colour	:	Grey. Metallic.
Odour	:	aromatic.
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	32 °C (does not sustain combustion)
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.525 (1.5 – 1.55) g/cm³
Solubility	:	insoluble in water. soluble in most organic solvents.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	Not applicable

9.2. Other information

VOC content	:	227 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

styrene (100-42-5)	
LD50 oral rat	5000 mg/kg bodyweight (Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	11.8 mg/l (4 h, Rat, Inconclusive, insufficient data, Inhalation (vapours))

dolomite (16389-88-1)	
LD50 oral rat	> 2000 mg/kg (OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure), rat, female, Experimental value)

talc (14807-96-6)	
LD50 oral rat	> 5000 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 2.1 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 15 day(s))

magnesium hydroxide (1309-42-8)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LC50 Inhalation - Rat	> 2.1 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity)

isopentane; 2-methylbutane (78-78-4)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EU Method B.1 (Acute Toxicity (Oral))
LC50 Inhalation - Rat	> 25.3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

2-phenoxyethanol (122-99-6)	
LD50 oral rat	1850 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	14391 mg/kg bodyweight Animal: rat
LD50 dermal rabbit	> 2214 mg/kg bodyweight Animal: rabbit, Guideline: other:Draft IRLG (Interagency Regulatory Liaison Group) Guidelines for Selected Acute Toxicity Tests (August. 1979)
LC50 Inhalation - Rat	> 1 mg/l air Animal: rat, Guideline: other:OECD 412

silicon dioxide, amorphous (7631-86-9)	
LD50 oral rat	> 10000 mg/kg (Rat, Oral)

silicon dioxide, amorphous (7631-86-9)	
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Dermal)

Naphtha (petroleum), hydrotreated heavy, Low boiling point hydrogen treated naphtha (64742-48-9)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

aluminium powder (stabilised) (7429-90-5)	
LD50 oral rat	> 15900 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LC50 Inhalation - Rat	> 0.888 mg/l air Animal: rat, Animal sex: male, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

calcium carbonate (471-34-1)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method), Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity)
LC50 Inhalation - Rat (Dust/Mist)	> 3 mg/l/4h (4 h, OECD Guidelines 403 (Acute Toxicity Inhalation), rat, male/female, Experimental value)

Unknown acute toxicity (CLP) - SDS : 0.25% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
0.25% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

styrene (100-42-5)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Suspected of damaging the unborn child.

2-phenoxyethanol (122-99-6)	
LOAEL (animal/male, F1)	≈ 1875 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: other:Reproductive Assessment by Continuous Breeding (RACB); protocol devised by the NTP
LOAEL (animal/female, F1)	≈ 1875 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: other:Reproductive Assessment by Continuous Breeding (RACB); protocol devised by the NTP
NOAEL (animal/female, F0/P)	≈ 1875 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: other:Reproductive Assessment by Continuous Breeding (RACB); protocol devised by the NTP

aluminium powder (stabilised) (7429-90-5)	
NOAEL (animal/male, F0/P)	1000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure : Not classified

styrene (100-42-5)	
STOT-single exposure	May cause respiratory irritation.

isopentane; 2-methylbutane (78-78-4)	
STOT-single exposure	May cause drowsiness or dizziness.

Naphtha (petroleum), hydrotreated heavy, Low boiling point hydrogen treated naphtha (64742-48-9)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Causes damage to organs (hearing organs) through prolonged or repeated exposure (inhalation).

styrene (100-42-5)	
LOAEL (oral, rat, 90 days)	2000 mg/kg bodyweight Animal: rat
LOAEC (inhalation, rat, vapour, 90 days)	0.21 mg/l air Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat
NOAEL (subchronic, oral, animal/male, 90 days)	10 mg/kg bodyweight Animal: mouse, Animal sex: male
STOT-repeated exposure	Causes damage to organs (hearing sense) through prolonged or repeated exposure (if inhaled).

magnesium hydroxide (1309-42-8)	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:The EPA Health Effects Test Guidelines, OPPTS 870.3650, Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test, July 2000, Guideline: other:Commision Regulation (EC) No 440/2008 Part B:Methods for the Determination of Toxicity and other Heallth Effects; B.7: "Repeated Dose (28 days) Toxicity (oral)". Official Journal of the European Union No. L142, May 2008, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents), Guideline: other:EPA OPPTS 870.3050(repeated Dose 28-day oral toxicity study in rodents)

isopentane; 2-methylbutane (78-78-4)	
NOAEC (inhalation, rat, vapour, 90 days)	30 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study), Guideline: other: U.S. EPA/FIFRA Guidelines §82-4, Guideline: EPA OTS 798.2450 (90-Day Inhalation Toxicity), Guideline: other:U.S. EPA/TSCA Guidelines 40 CFR §798.6059, and §798.6059, 798.6200, 798.6400, Guideline: other:EU Guideline 87/302/EEC

2-phenoxyethanol (122-99-6)	
LOAEL (oral, rat, 90 days)	> 700 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
LOAEL (dermal, rat/rabbit, 90 days)	> 500 mg/kg bodyweight Animal: rabbit
NOAEL (oral, rat, 90 days)	700 mg/kg bodyweight/day
NOAEL (dermal, rat/rabbit, 90 days)	500 mg/kg bodyweight Animal: rabbit
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.0482 mg/l/6h/day

calcium carbonate (471-34-1)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard : Not classified

ISOPON METAL FIX	
Viscosity, kinematic	Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

styrene (100-42-5)	
LC50 - Fish [1]	10 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	4.7 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	4.9 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	6.3 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	4.9 mg/l (EPA OTS 797.1050, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
LOEC (chronic)	2.06 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	1.01 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

styrene (100-42-5)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Chemical oxygen demand (COD)	2.8 g O_2/g substance
ThOD	3.07 g O_2/g substance
BOD (% of ThOD)	0.42 (Literature study)

12.3. Bioaccumulative potential

styrene (100-42-5)	
BCF - Fish [1]	74 (Calculated value)
Partition coefficient n-octanol/water (Log Pow)	2.96 (Practical experience/observation, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

styrene (100-42-5)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.55 (log Koc, Estimated value)
Ecology - soil	Low potential for adsorption in soil.

12.5. Results of PBT and vPvB assessment

Component	
styrene (100-42-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

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

14.1 UN number

UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated
UN-No. (ADN) : Not regulated
UN-No. (RID) : Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated
Proper Shipping Name (ADN) : Not regulated
Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : Not regulated

IMDG
Transport hazard class(es) (IMDG) : Not regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

ADN
Transport hazard class(es) (ADN) : Not regulated

RID
Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

EU restriction list (REACH Annex XVII)

Reference code	Applicable on	Entry title or description
3(a)	styrene	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
3(b)	styrene	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	styrene	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1
40.	styrene	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.

Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants
Contains substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.
ANNEX II REPORTABLE EXPLOSIVES PRECURSORS

List of substances on their own or in mixtures or in substances for which suspicious transactions and significant disappearances and thefts are to be reported to the relevant national contact point within 24 hours.

Name	CAS-No.	Combined Nomenclature code (CN)	Combined Nomenclature code for mixture without constituents which would determine classification under another CN code
Aluminium, powders	7429-90-5	7603 10 00; ex 7603 20 00	

Please see https://ec.europa.eu/home-affairs/sites/default/files/what-we-do/policies/crisis-and-terrorism/explosives/explosives-precursors/docs/list_of_competent_authorities_and_national_contact_points_en.pdf

VOC content : 227 g/l

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit

Abbreviations and acronyms:	
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

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