TRICURE 11B711A

Product Name:	**TriCure 11B711A** **1163779 Rev.2**
Revision Date:	11-Apr-2023 **According to Regulation (EC) No. 1907/2006**

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name: TriCure 11B711A

Product Description: Modified styrenic solution of the condensation product of polycarboxylic acids / acid anhydrides with a mixture of polyhydric alcohols.

Pure Substance/Mixture: Mixture

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

1.2.1. Relevant Identified Uses

Main Use Category: Industrial Use, Professional Use

Industrial/Professional Use Spec: Production of mixtures, resin compositions, mineral-resin compositions, articles reinforced with fibre glass

1.2.2. Uses Advised Against

No additional information available

1.3. Details of the supplier of the safety data sheet

Tricel Composites (GB) Limited

Unit A, Foxway,
Off Atkinson Street,
Leeds, West Yorkshire,
LS10 1PS.
Tel: +44 (0)113 270 3133

Tricel Composites (NI) Limited

Unit 4, Milltown Ind. Estate, Greenan
Road. Warrenpoint, Newry
Co. Down,
BT34 3FN.
Tel: +44 (0)284 175 3738

1.4. Emergency Telephone Number

Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland.
Telephone Number: +353 (0)1 809 2166

Leeds:	**Newry:**
Tel: +44 (0)113 270 3133	Tel: +44 (0)284 175 3738

1.4.1. Poison Information Centre Telephone Number

European emergency phone number: 112
UK: National Poisons Emergency Number : 0344 892 0111
Ireland: National Poisons Information Centre (NPIC)Telephone Healthcare Professionals : +353 (01) 809 2566. (24 hour service)Telephone Members of Public: +353 (01) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

2. Hazards Identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 3	**H226**
Skin Irrit. 2	**H315**
Eye Irrit. 2	H319
Skin Sens. 1	**H317**
Repr. 2	**H361d**
STOT SE 3	H335
STOT RE 1	**H372**
Aquatic Chronic 3	**H412**

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

Adverse physicochemical, human health and environmental effects
Flammable liquid and vapour. Suspected of damaging the unborn child. Causes damage to organs (hearing organs) (inhalation). Causes eye irritation. Causes skin irritation. May cause an allergic skin reaction. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard Pictograms (CLP)

Signal Word (CLP): Danger

Contains: styrene; maleic anhydride

2.2.1. Hazard Statements (CLP)

- H226 - Flammable liquid and vapour.
- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.
- H361d - Suspected of damaging the unborn child.
- H372 - Causes damage to organs (hearing organs) through prolonged or repeated exposure (inhalation).
- H412 - Harmful to aquatic life with long lasting effects.

  Precautionary Statements (CLP)
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P261 - Avoid breathing vapours, spray.
- P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
- P280 - Wear protective clothing, eye protection, face protection, protective gloves.
- P273 - Avoid release to the environment.

2.3. Other Hazards

Other Hazards Which Do Not Result In Classification

Vapour could form explosive mixture with air. The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of

REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

The product does not meet the PBT and vPvB classification criteria

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	(CAS-No.) 100-42-5 (EC-No.) 202-851-5 (EC Index-No.) 601-026-00-0 (REACH-no) 01-2119457861-32- XXXX	33 – 45	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), 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
N,N-diethylaniline	(CAS-No.) 91-66-7 (EC-No.) 202-088-8 (EC Index-No.) 612-054-00-8 (REACH-no) 01-2119943758-22- XXXX	0 – 0,15	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT RE 2, H373 Aquatic Chronic 2, H411
maleic anhydride	(CAS-No.) 108-31-6 (EC-No.) 203-571-6 (EC Index-No.) 607-096-00-9 (REACH-no) 01-2119472428-31- XXXX	0 – 0,03	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT RE 1, H372

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits**
maleic anhydride	(CAS-No.) 108-31-6 (EC-No.) 203-571-6 (EC Index-No.) 607-096-00-9 (REACH-no) 01-2119472428-31- XXXX	(0,001 ≤C ≤ 100) Skin Sens. 1A, H317

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

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 the injured person to fresh air and provide him with the conditions for free breathing. Remove the injured person to fresh air and provide him with the conditions for free breathing. Move victim to fresh air. In case of breathing problems: consult a doctor / health service. Call a poison center or doctor if you feel unwell.

First Aid Measures After Skin contact: Remove contaminated clothing and shoes immediately. Wash contaminated parts of the skin thoroughly with soap and water. If irritation / allergy symptoms occur, consult a doctor.

First-Aid Measures After Eye Contact: Consult a doctor immediately. Protect non-irritated eye, remove contact lenses. Rinse contaminated eyes thoroughly with water for 10-15 minutes. Avoid strong water stream - risk of cornea damage. After rinsing, put on a sterile - sterile dressing.

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 Inhalation:	May cause respiratory irritation.
Symptoms/Effects after Skin Contact:	Irritation. May cause an allergic skin reaction.
Symptoms/Effects after Eye Contact:	Eye Irritation, Redness, itching, tears
Symptoms/Effects after Ingestion:	Abdominal pain, nausea.

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

The decision on how to proceed with the rescue should be made by the doctor after careful assessment of the victim's condition. In case of severe poisoning, measures to prevent liver damage should be given; control the function of the heart and circulatory system. There is no antidote. Treat symptomatically.

5. Firefighting Measures

5.1. Extinguishing media

Suitable Extinguishing Media: Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable Extinguishing Media: Do not use a heavy water stream.

5.2. Special Hazards Arising from the Substance or Mixture

Fire hazard: Flammable liquid and vapour.

Explosion hazard: Vapours may form explosive mixture with air.

Hazardous decomposition products in case of fire: During combustion, hazardous vapors and gases containing thermal decomposition products, carbon oxides and soot may be formed. Avoid inhalation of combustion products, they may be hazardous to health.

5.3. Advice for Firefighters

Protection during firefighting: General protection measures typical in case of fire. Do not stay in the fire zone without appropriate clothing. Recommended personal protective equipment for emergency services: full protective suit, self-contained breathing apparatus. Proceed with firefighting waters as in subsection 6.2. and 6.3.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment: For further information refer to section 8: "Exposure controls/personal protection". Wear recommended personal protective equipment. See Section 8.
Emergency Procedures: Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe vapours, spray. 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 the formation of vapors. In case of spillage, steps should be taken to prevent it from spreading into the environment - prevent it from reaching sewage systems, water reservoirs, rivers, groundwater and soil. Do not use open fire, avoid sparks, eliminate ignition sources. Notify the appropriate emergency services. Warn others about the danger. Similar precautions should also be taken in the event of fire water.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: In case of large spills, embank the accumulating liquid, pump it out to appropriate, sealed and labeled containers and send it for recovery or neutralization in accordance with the provisions of the Act on waste. Use sorbent kits to remove the remains and small amounts of the spilled product, and failing that, use diatomaceous earth or sand. Collect the absorbent agent containing the product to an appropriate, sealed and labeled waste container and recycle or neutralize it in accordance with the provisions of the Act on waste.
Methods for cleaning up: Take up liquid spill into absorbent material.
Other information: Proceed in accordance with the Environmental Protection Law and the Waste Act. Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

7. Handling and Storage

7.1. Precautions for safe handling

7.1.1. Precautions for safe handling

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
- No smoking.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Use explosion-proof equipment.
- Wear personal protective equipment.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe vapours, spray.
- Use only outdoors or in a well-ventilated area.
- Avoid contact with skin and eyes.

7.1.2. Hygiene measures

Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. 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: Keep in a dry, cool and well-ventilated place.

Storage Temperature: <25 °C

Storage Area: Store in original, tightly closed containers, in dry and ventilated storage rooms. Keep away from food, fodder, food utensils, out of the reach of unauthorized persons. Avoid direct exposure to sunlight, sources of heat and fire. Take all necessary measures to avoid accidental release of the substance into sewers, water reservoirs, rivers, soil due to unsealing of packaging or industrial systems.

Packaging Materials: high density polyethylene (HDPE). Ordinary steel. Stainless steel. Polypropylene.

7.3. Specific End Use(s)

See Section 1.

8. Exposure Controls/Personal Protection

8.1. Control Parameters

National Occupational Exposure and Biological Limit Values

styrene (100-42-5)	
Poland - Occupational Exposure Limits	
Local name	Styren
NDS (OEL TWA)	50 mg/m³
NDSCh (OEL STEL)	100 mg/m³
Regulatory reference	Dz. U. 2018 poz. 1286

maleic anhydride (108-31-6)	
Poland - Occupational Exposure Limits	
Local name	Bezwodnik maleinowy

NDS (OEL TWA)	0,5 mg/m³
NDSCh (OEL STEL)	1 mg/m³
Remark	Skóra (Oznakowanie substancji notacją „ skóra" oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową).

- Recommended Monitoring Procedures
- No additional information available
- Air Contaminants Formed
- No additional information available
- 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

maleic anhydride (108-31-6)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	0,2 mg/kg bodyweight/day
Acute - systemic effects, inhalation	0,95 mg/m³
Long-term - systemic effects, dermal	0,2 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0,19 mg/m³
Long-term - local effects, inhalation	0,32 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	0,1 mg/kg bodyweight/day
Acute - systemic effects, inhalation	0,25
Acute - systemic effects, oral	0,1 mg/kg bodyweight/day
Long-term - systemic effects,oral	0,06 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0,05 mg/m³
Long-term - systemic effects, dermal	0,1 mg/kg bodyweight/day
Long-term - local effects, inhalation	0,08 mg/m³

PNEC (Water)	
PNEC aqua (freshwater)	0,075 mg/l
PNEC aqua (marine water)	0,0075 mg/l
PNEC aqua (intermittent, freshwater)	0,75 mg/l
PNEC (Sediment)	

PNEC sediment (freshwater)	0,06 mg/kg dwt
PNEC sediment (marine water)	0,006 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,01 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	6,67 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	4,46 mg/l

8.1.1. Control Banding

No additional information available

8.2. Exposure Controls

8.2.1. Appropriate Engineering Controls

Ensure adequate ventilation in confined areas. If ventilation is not sufficient, to keep vapour concentrations below the limit valuesuse the appropriate respiratory protection. Personal protection equipment should be selected on the basis of substance concentrations at individual work stations, exposure time, operator functions and recommendations indicated by the supplier of the equipment. In explosion-risk areas, wear clothes, gloves and boots with electrostatic discharge protection function. Procedures for monitoring concentrations of hazardous components in the air and procedures for air cleanliness in the workplace should be applied - as long as they are available and justified at the workplace - in accordance with the relevant reference methods - standards in force in Poland. The mode, type and frequency of tests and measurements should meet the requirements of the Regulation of the Minister of Health of February 2, 2011 on tests and measurements of factors

harmful to health in the work environment (Journal of Laws No. 33 item 166, as amended). Ensure good ventilation of the work station.

8.2.2. Personal protective equipment

Personal Protective Equipment Symbol(s):

8.2.3. Eye and Face Protection:

Eye protection:			
Safety glasses			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses	Droplet	clear	EN 166

8.2.4. Skin Protection:

Skin and body protection:
Wear suitable protective clothing

Hand Protection:
Protective Gloves

Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Protective gloves	Butyl rubber, Nitrile	6 (> 480 minutes)	> 0,4 mm	3 (> 0.65)	EN ISO 374

	rubber (NBR)				

Other Skin Protection Materials for Protective Clothing:
Use protective clothing. Safety foot-wear

8.2.5. Respiratory Protection:

Respiratory protection:			
[In case of inadequate ventilation] wear respiratory protection.			
Device	**Filter type**	**Condition**	**Standard**
Full face mask	ABEK	Long term exposure, If conc. in air > exposure limit, Vapour protection, Protection for Liquid particles	EN 143, EN 149
Reusable half mask	Type P2	Short term exposure, Vapour protection, Protection for Liquid particles	EN 143, EN 149

8.3. Thermal Hazards

No additional information available

8.4. Environmental exposure controls

Avoid Release to the Environment

Other information: Handle in accordance with good industrial hygiene and safety procedures

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	Yellow. Greenish blue. Rose.
Appearance	Viscous liquid.
Odour	Aromatic,sweetish, characteristic of styrene.
Odour Threshold	0,05 – 0,08 ppm (for styrene)
Melting point/range	-30,6 °C (for styrene)
Freezing Point	Not available
Boiling point	≈ 140 °C
Flammability	Flammable liquid and vapour.
Explosive Properties	Vapours may form explosive mixture with air.
Oxidising Properties	Does not apply.
Explosive Limits	Not available
Lower explosion limit	Not available
Upper explosion limit	Not available
Flash Point	≈ 32 °C
Auto-ignition temperature	≈ 480 °C
Decomposition Temperature	Not available
PH	Not available
Viscosity, kinematic	> 60 mm²/s (40°C)

Viscosity, dynamic	150 – 670 mPa.s (25°C)
Solubility	Soluble in acetone. Soluble in ethanol. Soluble in propylene carbonate. Water: 1,25 mg/l
Partition coefficient: n-octanol/water (Log Kow)	Not available
Partition coefficient n-octanol/water (Log Pow)	2,95 (for styrene)
Vapour pressure	≥ 9 kPa
Vapour pressure at 50°C	106 – 128 hPa
Density	≈ 1120 kg/m³ (25°C)
Relative density	Not available
Relative vapour density at 20°C	Not available
Particle size	Not applicable
Particle size distribution	Not applicable
Particle shape	Not applicable
Particle aspect ratio	Not applicable
Particle aggregation state	Not applicable
Particle agglomeration state	Not applicable
Particle specific surface area	Not applicable
Particle dustiness	Not applicable

9.2. Other Information

9.2.1. Information with regards to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Other properties: Attempt to separate the solvent: (applies to 2.2.3.1.5 ADR)

Height of the separated solvent layer: < 3%

Time of discharge from the discharge cup (ISO 2431: 1993): > 40 seconds (nozzle diameter 6 mm)

10. Stability and Reactivity

10.1. Reactivity

It undergoes radical polymerization initiated with organic peroxides or under the influence of thermal and photochemical factors and sunlight. Polymerization can be violent.

10.2. Chemical stability

Stable under normal conditions of use

10.3. Possibility of hazardous reactions

None under normal use

10.4. Conditions to avoid

Protect from sunlight. Keep away from heat

10.5. Incompatible materials

Strong acids, strong bases and strong oxidants. copper. Brass. Copper alloys. Aluminium chloride.

10.6. Hazardous Decomposition Products

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

11. Toxicological Information

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

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

styrene (100-42-5)	
LD50 oral	> 6000 mg/kg bodyweight Animal: hamster, Syrian, Animal sex: male
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat (Vapours)	11,8 mg/l/4h

maleic anhydride (108-31-6)	
LD50 dermal rabbit	2620 mg/kg bodyweight Animal: rabbit, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

N,N-diethylaniline (91-66-7)	
LD50 oral rat	782 mg/kg bodyweight Animal: rat, Guideline: other:, Remarks on results: other:
LD50 dermal rabbit	> 400 mg/kg bodyweight Animal: rabbit, Guideline: other:, Remarks on results: other:
LC50 Inhalation - Rat	> 5,1 mg/l/4h

(Vapours)	

11.1.1. Skin corrosion/irritation

Causes skin irritation

11.1.2. Serious Eye Damage/Eye Irritation

Causes serious eye irritation

11.1.3. Respiratory or skin sensitisation

Not classified. May cause an allergic skin reaction

11.1.4. Germ cell mutagenicity

Not classified

11.1.5. Carcinogenicity

Not classified

11.1.6. Reproductive toxicity

Suspected of damaging the unborn child

11.1.7. STOT-single exposure

May cause respiratory irritation

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

11.1.8. 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 organs) through prolonged or repeated exposure.

maleic anhydride (108-31-6)	
NOAEL (oral, rat, 90 days)	≈ 10 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 452 (Chronic Toxicity Studies)
NOAEC (inhalation, rat, vapour, 90 days)	≈ 0,0033 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

N,N-diethylaniline (91-66-7)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

11.1.9. Aspiration hazard

Not classified

POLIMAL® 143 and product range	
Viscosity, kinematic	> 60 mm²/s (40°C)

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties:
The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

11.2.2. Other Information

Information on Effects: refer to section 4

12. Ecological Information

12.1. Toxicity

Ecology – general: Harmful to aquatic life with long lasting effects

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

Hazardous to the aquatic environment, long–term (chronic): Harmful to aquatic life with long lasting effects

Not rapidly degradable

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)
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'

maleic anhydride (108-31-6)	
LC50 - Fish [1]	75 mg/l Test organisms (species): Lepomis macrochirus
LC50 - Fish [2]	75 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	330 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 150 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

N,N-diethylaniline (91-66-7)	
LC50 - Fish [1]	42,25 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	35,2 mg/l Test organisms (species): Daphnia magna

EC50 72h - Algae [1]	7,42 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC (chronic)	0,936 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	1252 mg/l Test organisms (species): other: Duration: '28 d'

12.2. Persistence and Degradability

POLIMAL® 143 and product range	
Persistence and degradability	Readily biodegradable.

styrene (100-42-5)	
Persistence and degradability	Readily biodegradable.
Biochemical oxygen demand (BOD)	1,96 g O_2/g substance
Chemical oxygen demand (COD)	2,8 g O_2/g substance
Biodegradation	70,9 %

maleic anhydride (108-31-6)	
Persistence and degradability	Readily biodegradable.

12.3. Bio-accumulative potential

POLIMAL® 143 and product range	
Partition coefficient n-octanol/water (Log Pow)	2,95 (for styrene)
Bioaccumulative potential	Bioaccumulation unlikely.

styrene (100-42-5)	
Partition coefficient n-octanol/water (Log Pow)	2,95
Bioaccumulative potential	Potential to bioaccumulate is low.

maleic anhydride (108-31-6)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in Soil

POLIMAL® 143 and product range	
Ecology - soil	low mobility.

styrene (100-42-5)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	352
Ecology - soil	moderately.

maleic anhydride (108-31-6)	
Ecology - soil	No data available.

12.5. Results in PBT and vPvB Assessment

POLIMAL® 143 and product range
The product does not meet the PBT and vPvB classification criteria

12.6. Endocrine disrupting Properties:

Adverse effects on the environment caused by endocrine disrupting properties

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Other Adverse Effects: Not dangerous for the ozone layer

13. Disposal Considerations

13.1. Waste Treatment Methods

13.1.1. Regional legislation (waste)

Act of 13 June 2013 on the management of packaging and packaging waste(J.o.L. 2013, item 888 as amended; consolidated text J.o.L. 2020, item 1114). Act of 14 December 2012 on waste(J.o.L. 2013, item 322 as amended; consolidated text J.o.L. 2020, item 797). Regulation of the Minister of Climate of 2 January 2020 on the catalogue of waste(J.o. L 2020, article 10).

13.1.2. Waste Treatment Methods

The holder of product waste and packaging waste is obliged to handle the waste in a manner consistent with the principles of waste management specified in the Act on the management of packaging and packaging waste, the Act on waste and environmental protection requirements. The resulting product waste and packaging waste should be stored, transported, collected and recovered, including recycling or neutralization, in accordance with the provisions of the Act on waste and related regulations. Unused product as well as contaminated packaging should be sent to an entity authorized to collect hazardous waste. The waste classification should be applied, using the appropriate codes and names in accordance with the applicable waste catalog. The disposal of waste to soil and ground, sewage systems, rivers, water reservoirs is prohibited.

14. Transport Information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1866	UN 1866	UN 1866	UN 1866	UN 1866
14.2. UN proper shipping name				
RESIN SOLUTION (flammable)	RESIN SOLUTION (flammable)	Resin solution (flammable)	RESIN SOLUTION (flammable)	RESIN SOLUTION (flammable)
Transport document description				
UN 1866 RESIN SOLUTION (flammable), 3, III, (D/E)	UN 1866 RESIN SOLUTION (flammable), 3, III	UN 1866 Resin solution (flammable), 3, III	UN 1866 RESIN SOLUTION (flammable), 3, III	UN 1866 RESIN SOLUTION (flammable), 3, III
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

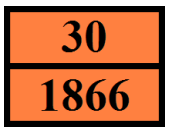
14.6. Special Precautions for User

Special transport precautions: Mixtures: packed in receptacles with a capacity of not more than 450 liters, they are not subject to transport regulations pursuant to clause 2.2.3.1.5 of the European Agreement ADR / RID / ADN and clause 2.3.2.5 of the IMDG Code, Polimal 143 RP, Polimal 143 AWTP-2, Polimal 143 AWTP-2S, Polimal 1430 AP: not subject to exemption 2.2.3.1.5 ADR

14.6.1. Overland transport

Classification code (ADR)	: F1
Limited quantities (ADR)	: 5l
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Special packing provisions (ADR)	: PP1
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T2
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: 30

Orange plates:



Tunnel restriction code (ADR) : D/E

14.6.2. Transport by Sea

Special provisions (IMDG)	: 223, 955
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T2
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-E
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Miscibility with water depends upon the composition.

14.6.3. Air Transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y344
PCA limited quantity max net quantity (IATA)	: 10L
PCA packing instructions (IATA)	: 355
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
Special provisions (IATA)	: A3
ERG code (IATA)	: 3L

14.6.4. Inland Waterway Transport

Classification code (ADN)	: F1
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1

Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 0

14.6.5. Rail Transport

Classification code (RID) : F1
Limited quantities (RID) : 5L
Excepted quantities (RID) : E1
Packing instructions (RID) : P001, IBC03, LP01, R001
Special packing provisions (RID) : PP1
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T2
Portable tank and bulk container special provisions (RID) :TP1
Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W12
Colis express (express parcels) (RID) : CE4
Hazard identification number (RID) : 30

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

15. Regulatory Information

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

EU Regulations

Listed on REACH Annex XVII (Restriction Conditions). The following restrictions are applicable:		
Reference code	Applicable on	Entry title or description
3(a)	POLIMAL® 143 and product range ; 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)	POLIMAL® 143 and product range ; styrene ; N,N-diethylaniline	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)	POLIMAL® 143 and product range ; styrene ; N,N-diethylaniline	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

- Contains no substance(s) listed on the REACH Candidate List
- Contains no substance(s) listed on REACH Annex XIV (Authorisation List)
- Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)
- Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

16. Other Information

Indication of changes:
General update of the safety data sheet. A new product has been added.

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
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

- Data Sources: Own research of the mixture. Safety data sheets of suppliers / producers of mixture ingredients.
- Training Advice: Before starting work with the product, the user should read this safety data sheet, the health and safety rules for handling chemicals, and in

particular, undergo appropriate workplace training pursuant to the provisions of the Act - Labor Code.

- Other Information: The above information is based on the current data characterizing the product as well as the experience and knowledge of the manufacturer in this field. They do not constitute a quality description of a product or a promise of specific properties. They should be treated as an aid for safe handling in transport, storage and use of the product. This does not release the user from responsibility for the improper use of the above information and from compliance with all legal standards in this field.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic 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.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Repr. 2	Reproductive toxicity, Category 2
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Flam. Liq. 3	H226	On basis of test data
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method

Skin Sens. 1	H317	Calculation method
Repr. 2	H361d	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 1	H372	Calculation method
Aquatic Chronic 3	H412	Calculation method

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet