SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS n° : FP16542

EASYLAM LSE

Former date 29-Feb-2016 **Revision date** 21-Nov-2017 **Version:** 1.2

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

1.1. Product identifier

Product name **EASYLAM LSE**
Chemical Name **Unsaturated polyester resin**
Pure substance/mixture Mixture

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

Identified uses Resins for composites. Contact us before using for food contact application.

1.3. Details of the supplier of the safety data sheet

Supplier

Polynt Composites France S.A.
Route d'Arras CS 50019
62320 Drocourt
France
Tel : +33 3 21 74 84 00
Fax : +33 3 21 49 55 84

For further information, please contact
E-mail address Rccp.SDSmanagement@polynt.com
Internet Address http://www.polynt.com

1.4. Emergency telephone number

This telephone number is available 24 hours per day, 7 days per week.	
Europe, America, Middle East, Africa (European language countries) :	+44 (0) 1235 239 670
Middle East/Africa (Arabic speaking countries) :	+44 (0) 1235 239 671
Asia Pacific :	+65 3158 1074

Poison Information Centre telephone number

European emergency phone number : 112
UK : National Poisons Emergency Number : 0845 4647
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)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the substance or mixture - GHS/CLP (n° 1272/2008)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Reproductive Toxicity	Category 2
Specific Target Organ Toxicity (Single Exposure)	Category 3

Specific target organ toxicity - repeated exposure	Category 1
Chronic Aquatic Toxicity	Category 3
Flammable liquids	Category 3

2.2. Label elements

Contains Styrene

Signal word **Danger**

Hazard statements

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H361d - Suspected of damaging the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled
H412 - Harmful to aquatic life with long lasting effects

Physical hazards
H226 - Flammable liquid and vapour

EU H -Phrases

EUH208 - Contains phthalic anhydride- May produce an allergic reaction.

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P243 - Take precautionary measures against static discharge
P260 - Do not breathe vapour
P273 - Avoid release to the environment
P280 - Wear protective gloves/ eye protection/ face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight percent	GHS Classification
Limestone	215-279-6	No data available	1317-65-3	~ 34	-

Styrene	202-851-5	01-2119457861-32	100-42-5	~ 26	Flam. Liq. 3 (H226) Repr. 2 (H361d) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Asp. Tox. 1 (H304) STOT SE 3 (H335) STOT RE 1 (H372) Aquatic Chronic 3 (H412)
Silica, amorphous, fumed, crystalline-free	231-545-4	01-2119379499-16	112945-52-5	< 1	-
phthalic anhydride	201-607-5	01-2119457017-41	85-44-9	< 1	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Eye Dam. 1 (H318) Resp. Sens. 1 (H334) STOT SE 3 (H335)
propane-1,2-diol	200-338-0	01-2119456809-23	57-55-6	< 1	-
Hydroquinone	204-617-8	01-2119524016-51	123-31-9	~ 0.01	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 2 (H351) Aquatic acute 1 (H400) Aquatic Chronic 1 (H410)

For the full text of the H-Statements mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance
Do not breathe dust/fume/gas/mist/vapours/spray

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids.
Keep eye wide open while rinsing.
If symptoms persist, call a physician

Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes
If skin irritation persists, call a physician

Inhalation Move to fresh air
If not breathing, give artificial respiration
Consult a physician

Ingestion Do NOT induce vomiting
Rinse mouth.
Consult a physician

Protection of first-aiders Use personal protective equipment
See section 8 for more information

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

Eye Contact Irritating to eyes

Skin contact Irritating to skin
May produce an allergic reaction.

Inhalation Harmful: danger of serious damage to health by prolonged exposure through inhalation
Irritating to respiratory system
May produce an allergic reaction.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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

Notes to physician No information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Dry chemical, Foam, Carbon dioxide (CO_2), (closed systems)

Extinguishing Media Which Must not be Used for Safety Reasons Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases Vapours may form explosive mixtures with air. Most vapours are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks)
Heating or fire can release toxic gas : Carbon monoxide

5.3. Advice for firefighters

Special protective equipment for fire-fighters Wear self-contained breathing apparatus and protective suit.

Other information Cool containers / tanks with water spray.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Personal precautions Remove all sources of ignition
Heat, flames and sparks.
Take precautionary measures against static charges.
Ensure adequate ventilation
Use personal protective equipment

For emergency responders

Avoid breathing vapours or mists In the event of fire and/or explosion do not breathe fumes. Use personal protective equipment

6.2. Environmental precautions

Environmental precautions The product should not be allowed to enter drains, water courses or the soil.
Do not flush into surface water or sanitary sewer system

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13)
Use clean non-sparking tools to collect absorbed material

6.4. Reference to other sections

See section 8 for more information
See Section 12 for additional Ecological Information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling Avoid static electricity build up with connection to earth
Use only in area provided with appropriate exhaust ventilation
In case of insufficient ventilation, wear suitable respiratory equipment
For personal protection see section 8

Prevention of fire and explosion Keep away from open flames, hot surfaces and sources of ignition Do not use compressed air for filling, discharging or handling. Empty containers may contain flammable or explosive vapours

Hygiene measures When using, do not eat, drink or smoke Provide regular cleaning of equipment, work area and clothing Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep in a dry, cool and well-ventilated place.
Keep at temperature not exceeding 30°C
Keep away from heat and sources of ignition.

Materials to avoid Strong oxidizing agents, Peroxides, Reducing agents

Packageing material metallic GRP Tanks (Reinforced Glass Polyester)

Unsuitable materials for containers copper, Copper alloys, Bronze, Zinc

7.3. Specific end use(s)

Specific use(s) No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure limits

Chemical Name	European Union	ACGIH OEL (Ceiling)	The United Kingdom	Ireland
Limestone 1317-65-3	TWA 4 mg/m³ (Fraction alvéolaire) TWA 10 mg/m³ (Fraction inhalable)		STEL 30 mg/m³ STEL 12 mg/m³ TWA 10 mg/m³ TWA 4 mg/m³	TWA 10 mg/m³ TWA 4 mg/m³
Styrene 100-42-5	-	TLV-8h TWA: 20 ppm - 85 mg/m³ TLV-15min STEL: 40 ppm - 170 mg/m³	STEL 250 ppm STEL 1080 mg/m³ TWA 100 ppm TWA 430 mg/m³	TWA 20 ppm TWA 85 mg/m³ STEL 40 ppm STEL 170 mg/m³
phthalic anhydride 85-44-9		TWA 1 ppm	STEL 12 mg/m³ TWA 4 mg/m³ Sen+	TWA 4 mg/m³ STEL 12 mg/m³ Sensitizer
propane-1,2-diol 57-55-6			STEL 450 ppm STEL 1422 mg/m³ STEL 30 mg/m³ TWA 150 ppm TWA 474 mg/m³ TWA 10 mg/m³	TWA 150 ppm TWA 470 mg/m³ TWA 10 mg/m³
Hydroquinone 123-31-9		TWA 1 mg/m³	STEL 1.5 mg/m³ TWA 0.5 mg/m³	TWA 0.5 mg/m³

Special hazards arising from the substance or mixture

Biological standards

Derived No Effect Level (DNEL)

Derived No Effect Level (DNEL)				
Styrene (100-42-5)				
Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect		406 mg/Kg bw/day	85 mg/m³	
Workers - Acute Short Term - Local effect			306 mg/m³	
Workers - Acute Short term - Systemic effect			289 mg/m³	
General Population - Acute Short Term - Local effect			182.7 mg/m³	
General Population - Acute Short Term - Systemic effect			174.2 mg/m³	
General Population - Long Term - Systemic effect	2.1 mg/Kg bw/day	343 mg/Kg bw/day	10.2 mg/m³	

Silica, amorphous, fumed, crystalline-free (112945-52-5)				
Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect			4 mg/m³	

phthalic anhydride (85-44-9)				
Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect		10 mg/kg bw/day	32.2 mg/m³	
General Population - Long Term - Systemic effect	5 mg/kg bw/day	5 mg/kg bw/day	8.6 mg/m³	

propane-1,2-diol (57-55-6)				
Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect			168 mg/m³	
Workers - Long Term - Local effect			10 mg/m³	
General Population - Long Term - Systemic effect			50 mg/m³	
General Population - Long Term - Local effect			10 mg/m³	

Hydroquinone (123-31-9)				
Type	DNEL oral	DNEL dermal	DNEL inhalation	Remark
Workers - Long Term - Systemic effect		128 mg/kg bw/day	7 mg/m³	
Workers - Long Term - Local effect			1 mg/m³	
General Population - Long Term - Systemic effect		64 mg/kg bw/day	1.74 mg/m³	
General Population - Long Term - Local effect			0.5 mg/m³	

Predicted No Effect Concentration (PNEC)

PNEC Component
Styrene (100-42-5)

Exposure	Type	PNEC
Fresh water	PNEC Aqua	0.028 mg/L
Marine water	PNEC Aqua	0.014 mg/L
Intermittent use/release	PNEC Aqua	0.04 mg/L
Fresh water	PNEC Sediment	0.614 mg/Kg.dw
Marine water	PNEC Sediment	0.307 mg/Kg.dw
Terrestrial Compartment	PNEC Soil	0.2 mg/Kg.dw
STP microorganisms	PNEC STP	5 mg/L

Silica, amorphous, fumed, crystalline-free (112945-52-5)		
Exposure	Type	PNEC
Secondary Poisoning	PNEC Oral	60000 mg/kg

phthalic anhydride (85-44-9)		
Exposure	Type	PNEC
Fresh water	PNEC Aqua	1 mg/L
Marine water	PNEC Aqua	0.1 mg/L
Intermittent use/release	PNEC Aqua	5.6 mg/L
	PNEC STP	10 mg/L
Fresh water	PNEC Sediment	3.8 mg/kg sediment dw
Marine water	PNEC Sediment	0.38 mg/kg sediment dw
Terrestrial Compartment	PNEC Soil	0.173 mg/kg soil dw

propane-1,2-diol (57-55-6)		
Exposure	Type	PNEC
Fresh water	PNEC Aqua	260 mg/L
Marine water	PNEC Aqua	26 mg/L
Intermittent use/release	PNEC Aqua	183 mg/L
	PNEC STP	20000 mg/L
Fresh water	PNEC Sediment	572 mg/kg sediment dw
Marine water	PNEC Sediment	57.2 mg/kg sediment dw
	PNEC Soil	50 mg/kg soil dw
Secondary Poisoning	PNEC Oral	1133 mg/kg

Hydroquinone (123-31-9)		
Exposure	Type	PNEC
Fresh water	PNEC Aqua	0.114 µg/L
Marine water	PNEC Aqua	0.0114 µg/L
Fresh water	PNEC Sediment	0.98 µg/kg sediment dw
Marine water	PNEC Sediment	0.097 µg/kg sediment dw
	PNEC Soil	0.129 µg/kg soil dw
	PNEC STP	0.71 mg/L
Intermittent use/release	PNEC Aqua	1.34 µg/L

8.2. Exposure controls

Occupational exposure controls

Engineering measures Apply technical measures to comply with the occupational exposure limits.
When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment

Personal protective equipment

General Information Use personal protective equipment.

Respiratory protection Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
If exposure limits are likely to be exceeded / In case of insufficient ventilation wear suitable respiratory equipment :
Breathing apparatus with filter Type A (Organic gases and vapours filter conforming to EN 14387 , APF 40 < 1 hour, APF 200 > 1 hour) / Type A(2)/P3 in combination with Particulates filter conforming to EN 143 , if exposed to dust

Eye protection Safety glasses with side-shields. Do not wear contact lenses.

Skin and body protection	Antistatic boots. Protective shoes or boots. Wear fire/flame resistant/retardant clothing.
Hand protection	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Glove material : Neoprene , Nitriles , Viton (R) or Polyvinyl alcohol Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Environmental exposure controls

Environmental exposure controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Property	Values	Remark
Appearance	off-white	
Physical state	Liquid	
Particle size		no data available
Odour	Styrene	
Odour Threshold	0.15 ppm	Values related to styrene
pH		no data available
pH (as aqueous solution)		no data available
Melting point/range	- 30 °C	Values related to styrene
Freezing Point		no data available
Boiling point	145 °C	Values related to styrene
Flash point	31 °C	Values related to styrene
Evapouration rate		no data available
Flammability Limits in Air		
upper	6,1 - 6,8%	Values related to styrene
lower	0,9 -1,1%	Values related to styrene
Vapour pressure	6 hPa	20°C
Vapour density	3.6	Values related to styrene
Density	1.1 - 1.15 g/cm3	20°C
Water solubility	Insoluble in water	
Partition coefficient: n-octanol/water	3	Values related to styrene
Autoignition temperature	490 °C	Values related to styrene
Decomposition temperature		no data available
Viscosity, kinematic	409 - 682 mm2/s	25°C
Viscosity, dynamic	450 - 750 mPa.s	25°C
Explosive properties		not applicable
Oxidizing properties		not applicable

9.2. Other information

Property	Values	Remark
Solubility in other solvents	Soluble in most organic solvents	

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Product may ignite and burn at temperatures exceeding the flash point

10.2. Chemical stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions In use, may form flammable/explosive vapour-air mixture.

Hazardous polymerisation Polymerisation can occur.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks.
Exposure to light.
Take precautionary measures against static charges.

10.5. Incompatible materials

Materials to avoid Strong oxidizing agents, Peroxides, Reducing agents

10.6. Hazardous decomposition products

Hazardous decomposition products Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Inhalation Harmful: danger of serious damage to health by prolonged exposure through inhalation
Irritating to respiratory system May produce an allergic reaction.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation	Read-across (Analogy)
Limestone 1317-65-3	> 5000 mg/kg bw (Rat)			
Styrene 100-42-5	5000 mg/kg (Rat)	> 2000 mg/kg bw (Rat) 24h OECD 402	11.8 mg/L (Rat) 4h CSR	
Silica, amorphous, fumed, crystalline-free 112945-52-5	> 5000 mg/kg bw (Rat) OECD 401	> 5000 mg/kg (Rabbit)	> 0.14 mg/L air (Rat) 4h (analytical) OECD 403	
phthalic anhydride 85-44-9	1530 mg/kg bw (Rat)	> 3160 mg/kg bw (Rabbit)	> 2.14 mg/L (Rat) 4h OECD 403	
propane-1,2-diol 57-55-6	22000 mg/kg bw (Rat) Study predates GLP and OECD guidelines	LD50 (24h) > 2000 mg/kg bw (Rabbit)	LC50 (2h) aerosol > 317042 mg/m³ air (Rabbit)	
Hydroquinone 123-31-9	367 mg/kg bw (Rat) OECD 401	> 2000 mg/kg bw (Rabbit) OECD 402		

Skin corrosion/irritation

Chemical Name	Skin corrosion/irritation	Read-across (Analogy)
Styrene 100-42-5	Irritating to skin in vivo assay rabbit	
Silica, amorphous, fumed, crystalline-free 112945-52-5	No skin irritation rabbit OECD 404	
phthalic anhydride 85-44-9	Irritating to skin in vivo assay rabbit OECD 404	
propane-1,2-diol 57-55-6	No skin irritation in vivo assay rabbit OECD 404	
Hydroquinone 123-31-9	No skin irritation	

Serious Eye Damage/Eye Irritation

Chemical Name	Serious Eye Damage/Eye Irritation	Read-across (Analogy)
Styrene 100-42-5	Irritating to eyes in vivo assay rabbit	

Silica, amorphous, fumed, crystalline-free 112945-52-5	No eye irritation rabbit OECD 405	
phthalic anhydride 85-44-9	Irritating to eyes in vivo assay rabbit Draize Test	
propane-1,2-diol 57-55-6	No eye irritation in vivo assay rabbit OECD 405	
Hydroquinone 123-31-9	Risk of serious damage to eyes Severe eye irritation	

Respiratory or skin sensitisation May produce an allergic reaction.

Chemical Name	Respiratory or skin sensitisation	Read-across (Analogy)
Styrene 100-42-5	Does not cause skin sensitization Does not cause respiratory sensitization CSR	
Silica, amorphous, fumed, crystalline-free 112945-52-5	Does not cause skin sensitization Does not cause respiratory sensitization	
phthalic anhydride 85-44-9	May cause sensitisation by inhalation and skin contact in vivo assay guinea pig OECD 406	
propane-1,2-diol 57-55-6	Does not cause skin sensitization Does not cause respiratory sensitization in vivo assay guinea pig OECD 406 mouse OECD 429	
Hydroquinone 123-31-9	May cause sensitisation by skin contact mouse OECD 429 guinea pig OECD 406	

Mutagenic Effects

in vitro study

Chemical Name	Ames test	Read-across (Analogy)
Styrene 100-42-5	Ambiguous In vitro gene mutation study in bacteria (S. typhimurium G46, TA1530, TA 1535, TA100, TA98, TA1538, TA 1537) OECD 471	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative In vitro gene mutation study in bacteria OECD 471	
phthalic anhydride 85-44-9	negative In vitro gene mutation study in bacteria (S. typhimurium TA 1535, TA 1537, TA 98, TA100 and TA 102) (Escherichia coli WP2 uvrA) OECD 471	
propane-1,2-diol 57-55-6	negative In vitro gene mutation study in bacteria Salmonella typhimurium (S. typhimurium, other: TA 92, TA 94, TA 98, TA 100, TA 1535, TA 1537)	
Hydroquinone 123-31-9	negative In vitro gene mutation study in bacteria OECD 471	

Chemical Name	In vitro Mammalian Cell Gene Mutation Test	Read-across (Analogy)

Styrene 100-42-5	Ambiguous In vitro gene mutation study in mammalian cells hamster OECD 476	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative In vitro gene mutation study in mammalian cells OECD 476	
phthalic anhydride 85-44-9	negative In vitro gene mutation study in mammalian cells hamster OECD 476	
Hydroquinone 123-31-9	positive Chromosome aberration test in vitro OECD 483	
Chemical Name	**In vitro Mammalian Chromosome Aberration Test**	**Read-across (Analogy)**
Styrene 100-42-5	positive Chromosome aberration test in vitro OECD 473 OECD 479	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative Chromosome aberration test in vitro OECD 473	
phthalic anhydride 85-44-9	Ambiguous Chromosome aberration test in vitro hamster OECD 473	
propane-1,2-diol 57-55-6	negative Chromosome aberration test in vitro OECD 473	
Hydroquinone 123-31-9	positive In vitro gene mutation study in mammalian cells mouse OECD 476	

in vivo assay

Chemical Name	**Unscheduled DNA Synthesis (UDS)**	**Read-across (Analogy)**
Styrene 100-42-5	negative mouse OECD 486 OECD 474	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative rat	
propane-1,2-diol 57-55-6	negative rat	

Chemical Name	**European Union**
Hydroquinone 123-31-9	Muta. 2

Carcinogenicity

Carcinogenicity				
Styrene (100-42-5)				
Exposure routes	Method	Species	Dose	Evaluation
Inhalation	OECD 453	rat	NOAEC systemic (carcinogenicity) >= 4.34 mg/L air (nominal)	negative
Inhalation	OECD 453	mouse	LOAEC (carcinogenicity) female/male = 0.09 - 0.18 mg/L air resp., NOAEC (carcinogenicity) male = 0.09 mg/L air	positive
Oral	No information available	rat	NOAEL (carcinogenicity) >= 2000 mg/kg bw /day	positive
Oral	No information available	mouse	LOAEL (carcinogenicity) = 150 mg/kg bw /day	positive

Silica, amorphous, fumed, crystalline-free (112945-52-5)				
Exposure routes	Method	Species	Dose	Evaluation

Oral	OECD 453	rat	NOAEL = 1800 - 3200 mg/kg bw/day	negative

phthalic anhydride (85-44-9)				
Exposure routes	Method	Species	Dose	Evaluation
Oral	No information available	mouse	NOAEL (carcinogenicity, male) = 3570 mg/kg bw/day (72w) NOAEL (carcinogenicity, female) = 1785 mg/kg bw/day (72w)	negative
Oral	No information available	rat	NOAEL (carcinogenicity) = 1000 mg/kg bw/day (105w)	negative

propane-1,2-diol (57-55-6)				
Exposure routes	Method	Species	Dose	Evaluation
Inhalation	No information available	rat	NOAEC carcinogenocity (male/female) > 350 mg/m³ air (18 month)	negative
Dermal	No information available	mouse	NOAEL carcinogenicity (female) = 0.02 ml/twice a week	negative
Oral	No information available	rat	NOAEL carcinogenicity (male) = 1700 mg/kg bw/day NOAEL carcinogenicity (male/female) = 3040 mg/kg bw/day (105 weeks)	negative
Oral	No information available	mouse	NOAEL carcinogenicity (male/female) = 2390 mg/kg bw/day	negative

Hydroquinone (123-31-9)				
Exposure routes	Method	Species	Dose	Evaluation
Oral	OECD 453	mouse	LOAEL = 100 mg/kg bw/day NOEL = 50 mg/kg bw/day	negative

Reproductive toxicity

Reproductive toxicity				
Styrene (100-42-5)				
Exposure routes	Method	Species	Dose	Evaluation
Inhalation	No information available	rat	NOAEL/LOAEL (fertility) 60d = 100 - 200 mg/kg bw/day	positive
Oral	OECD 422	rat	NOAEL/LOAEL (fertility) 60d = 200 - 400 mg/kg bw/day	positive
Inhalation	OECD 416	rat	NOAEC (P, F1) = 0.64 mg/L air LOAEC (P, F1) = 2.13 mg/L air NOAEC (F2) = 0.21 mg/L air LOAEC (F2) = 0.64 mg/L air (70d)	negative

Silica, amorphous, fumed, crystalline-free (112945-52-5)				
Exposure routes	Method	Species	Dose	Evaluation
Oral	OECD 415	rat	NOAEL = 497 mg/kg bw/day	negative

phthalic anhydride (85-44-9)				
Exposure routes	Method	Species	Dose	Evaluation

Oral	No information available	mouse	NOAEL (reproductive, male) = 3570 mg/kg bw/day (72w) NOAEL (reproductive, female) = 1785 mg/kg bw/day (72w)	negative
Oral	No information available	rat	NOAEL (reproductive, female) = 1000 mg/kg bw/day (105w)	negative

propane-1,2-diol (57-55-6)				
Exposure routes	Method	Species	Dose	Evaluation
Oral	NTP Reproductive Assessment by Continuous Breeding (RACB)	mouse	NOAEL toxicity (male/female) = 10100 mg/kg bw/day NOAEL fertility (male/female) = 10100 mg/kg bw/day NOAEL developmental effects (male/female) = 10100 mg/kg bw/day	negative

Hydroquinone (123-31-9)				
Exposure routes	Method	Species	Dose	Evaluation
Oral	EPA OTS 798.4700	rat	NOAEL (parental toxicity) = 15 mg/kg bw/day LOAEL (reproductive effects) = 150 mg/kg bw/day	negative

Developmental Toxicity Suspected of damaging the unborn child.

Developmental Toxicity				
Styrene (100-42-5)				
Exposure routes	Method	Species	Dose	Evaluation
Inhalation	No information available	rat	NOAEC/LOAEC (maternal toxicity + developemental toxicity) >50d = 1.08 - 2.15 mg/L air	positive
Inhalation	OECD 414	rat	LOAEC (maternal toxicity) 6-15d = 1.28 mg/L air	positive
Inhalation	OECD 414	rat	NOAEC (developmental toxicity) 6-15d >= 2.56 mg/L air	negative
Inhalation	OECD 414	rabbit	NOAEC (maternal toxicity + developmental toxicity) 6-18d = 2.56 mg/L air	negative

Silica, amorphous, fumed, crystalline-free (112945-52-5)				
Exposure routes	Method	Species	Dose	Evaluation
Oral	OECD 414	rat	NOAEL (maternal toxicity) = 1350 mg/kg bw/day NOAEL (teratogenicity) = 1350 mg/kg bw/day	negative

phthalic anhydride (85-44-9)				
Exposure routes	Method	Species	Dose	Evaluation
Oral	Read-across (Analogy) phthalic acid Cas N° : 88-99-3	rat	NOAEL (maternal toxicity) = 1000 mg/kg bw/day NOAEL (teratogenicity) = 1700 mg/kg bw/day	positive

propane-1,2-diol (57-55-6)				
Exposure routes	Method	Species	Dose	Evaluation

Oral	OECD 414	mouse	NOAEL (developmental toxicity) = 10400 mg/kg bw/day NOAEL (maternal toxicity) = 52 mg/kg bw/day	negative

Hydroquinone (123-31-9)				
Exposure routes	Method	Species	Dose	Evaluation
Oral	OECD 414	rat	NOEL (maternal toxicity and developmental toxicity) = 100 mg/kg bw/day	negative
Oral	EPA OTS 798.4900	rabbit	NOEL (maternal toxicity) = 25 mg/kg bw/day NOEL (developmental toxicity) = 75 mg/kg bw/day	negative

Specific target organ toxicity - single exposure May cause irritation of respiratory tract

STOT - single exposure				
propane-1,2-diol (57-55-6)				
Exposure routes	Method	Species	Dose	Remarks
Oral	No information available	rat	NOAEL (male/female) 102 weeks = 1700 mg/kg bw/day	
Dermal	No information available	mouse	NOAEL (female) = 0.02 ml (twice by week, 10 weeks)	
Inhalation	No information available	rat	LOAEC (male) 90d = 160 mg/m³	

Hydroquinone (123-31-9)				
Exposure routes	Method	Species	Dose	Remarks
Oral	No information available	mouse	NOAEL (90d) = 50 mg/kg bw/day	

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure , target organ(s) : Central nervous system , Ears

STOT - repeated exposure				
Styrene (100-42-5)				
Exposure routes	Method	Species	Dose	Remarks
Inhalation	OECD 412	rat mouse	NOAEC male (28d) = 3.47 mg/L air NOAEC (ototoxicity) 28d = 2.13 mg/L air NOAEC (28d) = 0.181 mg/L air NOAEC (28d) = 0.688 mg/L air	
Inhalation	No information available	rat	NOAEC (nasal tract) = 0.85 mg/L air NOAEC (overall) = 2.13 mg/L air NOAEC (ototoxicity) = 0.85 mg/L air LOAEC (ototoxicity) = 3.41 mg/L air NOAEC (overall) = 2.13 mg/L air	
Oral	No information available	rat	NOAEL (toxicity) = 1000 mg/kg bw/day LOAEL (toxicity) = 2000 mg/kg bw/day	

Oral	No information available	mouse	NOAEL (toxicity) = 150 mg/kg bw /day LOAEL (toxicity) = 300 mg/kg bw /day	
Inhalation	OECD 453	rat	LOAEC local (toxicity) = 0.21 mg/L air	

Silica, amorphous, fumed, crystalline-free (112945-52-5)				
Exposure routes	Method	Species	Dose	Remarks
Oral	OECD 408	rat	NOEL (highest dose) 4000 <= 4500 mg/kg bw/day 90d	
Inhalation	OECD 413	rat	NOEC = 1.3 mg/m³ air NOEC < 1.3 mg/m³ air 90d	
Dermal	No information available	rabbit	NOAEL >= 10000 mg/kg bw/day	

phthalic anhydride (85-44-9)				
Exposure routes	Method	Species	Dose	Remarks
Oral	No information available	rat	NOAEL = 1250 mg/kg bw/day LOAEL = 2500 mg/kg bw/day 7 weeks	
Oral	No information available	rat	NOAEL (105 weeks) = 500 mg/kg bw/day	
Oral	No information available	mouse	LOAEL (male) = 2340 mg/kg bw/day LOAEL (female) = 1717 mg/kg bw/day 72 weeks	

propane-1,2-diol (57-55-6)				
Exposure routes	Method	Species	Dose	Remarks
Oral	No information available	rat	NOAEL = 1700 mg/kg bw/day	
Inhalation	No information available	rat	NOAEC = 1000 mg/m³ air NOAEC = 2200 mg/m³ air	
Dermal	No information available	mouse	NOAEL = 0.02 ml/twice a week	

Hydroquinone (123-31-9)				
Exposure routes	Method	Species	Dose	Remarks
Oral	OECD 453	rat	NOAEL (chronic toxicity) = 25 mg/kg bw/day	
Dermal	OECD 411	rat	NOAEL (male) = 73.9 mg/kg bw/day NOAEL (female) = 109.6 mg/kg bw/day	

Aspiration hazard Due to the viscosity, this product does not present an aspiration hazard.

Other information None

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not flush into surface water or sanitary sewer system

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Limestone 1317-65-3	EC50 (72h) > 200 mg/L (Desmodesmus subspicatus)	EC50 (48h) > 1000 mg/L (Daphnia magna)	LC50 (96h) > 10000 mg/L (Oncorhynchus mykiss (rainbow trout))	
Styrene 100-42-5	LC50 (72h) = 4.9 mg/L (Pseudokirchnerella subcapitata) EPA OTS 797.1050	EC50 (48h) = 4.7 mg/L (Daphnia magna) NOEC = 1.9 mg/L (Daphnia magna) OECD 202	LC50 (96h) = 4.02 - 10 mg/L (Pimephales promelas) OECD 203	EC (30min) = 500 mg/L (Activated sludge of a predominantly domestic sewage) OECD 209
Silica, amorphous, fumed, crystalline-free 112945-52-5		EL50 (24h) >= 1000 mg/L (Daphnia magna) OECD 202	LC50 (96h) > 10000 mg/L (Brachydanio rerio) OECD 203	
phthalic anhydride 85-44-9	EC50 (72h) = 68 mg/L, NOEC (72h) = 32 mg/L (Pseudokirchnerella subcapitata) OECD 201	EC50 (48h) = 71 mg/L (Daphnia magna) OECD 202	LC50 (96h) > 99 mg/L (Oryzias latipes) OECD 203	EC50 (3h) > 1000 mg/L (Activated sludge), ISO 8192 EC50 (16h) = 13 mg/L (Pseusomonas putida), ISO 10712
propane-1,2-diol 57-55-6	EC50 (72h) = 24200 mg/L (Pseudokirchnerella subcapitata) EC50 (48h) = 34100 mg/L (Pseudokirchnerella subcapitata) EC50 (96h) = 19000mg/L (Pseudokirchnerella subcapitata) OECD 201	LC50 (48h) = 18340 mg/L (Ceriodaphnia dubia) LC50 (96h) = 18800 mg/L (Americamysis bahia) EPA 600/4-90/0-27	LC50 (96h) = 40613 mg/L (Oncorhynchus mykiss)	CE50 (0.5h) > 1000 mg/L (Activated sludge) OECD 209 NOEC (18h) > 20000 mg/L (Pseudomonas putida)
Hydroquinone 123-31-9	ErC50 (72h) = 0.330 mg/L ; NOEC (72h) (growth rate) = 0.019 mg/L (Pseudokirchnerella subcapitata) OECD 201	EC50 (48h) = 0.134 mg/L (Daphnia magna) OECD 202 NOEC (21d) = 0.0057 mg/L (Daphnia magna) OECD 211	LC50 (96h) = 0.638 mg/L (Oncorhynchus mykiss) OECD 203	

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Styrene 100-42-5		NOEC (21d) = 1.01 mg/L (Daphnia magna) LOEC (21d) = 2.06 mg/L (Daphnia magna) EC50 (21d) = 1.88 mg/L (Daphnia magna) OECD 203		
phthalic anhydride 85-44-9		NOEC (reproduction) 21d = 16 mg/L, EC50 (reproduction) 21d = 42 mg/L (Daphnia magna) OECD 211	LC50 (7d) = 560 mg/L (Danio rerio), OECD 210 LOEC (total embryotoxicity) 60d = 32 mg/L, NOEC (mortality, lengh, weight, embryotoxicity) 60d = 10 mg/L, OECD 210	
propane-1,2-diol 57-55-6	NOEC (14d) = 15000 mg/L (Pseudokirchnerella subcapitata) OECD 201	NOEC (7d) = 13020 mg/L (Ceriodaphnia sp) EPA 600/4-89/001	NOEC (7d) = 11530 mg/L (Pimephales promelas) EPA 600/4-89/001	

Effects on terrestrial organisms - Component Information

Acute toxicity				
phthalic anhydride (85-44-9)				
Acute toxicity	Test Method	Species	Values	Remarks
plants		Lactuca sativa	EC50 (germination) = 731 mg/L	

Chronic toxicity

Styrene (100-42-5)				
Chronic toxicity	Method	Species	Values	Remarks
Toxicity to invertebrates	OECD 207	Eisenia foetida	LC50 (14d) = 120 mg/kg soil dw LOEC (burrowing time and mean percent weight change) = 65 mg/kg soil dw LOEC (survival) = 180 mg/kg soil dw NOEC (mean percent weight change) = 34 mg/kg soil dw	

12.2. Persistence and degradability

Chemical Name	Biodegradation	Evaluation
Styrene 100-42-5	87% (20d) similar to OECD 301D	Readily biodegradable
phthalic anhydride 85-44-9	68 % (10d), 74 % (30d) OECD 301 D	Readily biodegradable
propane-1,2-diol 57-55-6	81,7 % (28d), OECD 301 F 95,8 % (64d), OECD 306	Readily biodegradable
Hydroquinone 123-31-9	70 % (14d) OECD 301C	Readily biodegradable

12.3. Bioaccumulative potential

Bioconcentration factor (BCF)		
Styrene (100-42-5)		
Method	Species	Bioconcentration factor (BCF)
Calculation method		74

phthalic anhydride (85-44-9)		
Method	Species	Bioconcentration factor (BCF)
Calculation method		3.16 - 3.4

propane-1,2-diol (57-55-6)		
Method	Species	Bioconcentration factor (BCF)
Calculation method		0.09

Hydroquinone (123-31-9)		
Method	Species	Bioconcentration factor (BCF)
no data available	Leuciscus idus melanotus	40 (3d)

Chemical Name	log Pow
Styrene 100-42-5	3
phthalic anhydride 85-44-9	1.6
propane-1,2-diol 57-55-6	-1.07
Hydroquinone 123-31-9	0.59

12.4. Mobility in soil

Chemical Name	LogKoc	Koc
Styrene 100-42-5	2.55	352
phthalic anhydride 85-44-9	-	31
propane-1,2-diol 57-55-6	0,46	-

Hydroquinone 123-31-9	0.97 - 1.7	-

12.5. Results of PBT and vPvB assessment

Chemical Name	PBT	vPvB
Limestone 1317-65-3	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
Styrene 100-42-5	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
Silica, amorphous, fumed, crystalline-free 112945-52-5	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
phthalic anhydride 85-44-9	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
propane-1,2-diol 57-55-6	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
Hydroquinone 123-31-9	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Autres effets néfastes

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from Residues/Unused Products Dispose of in accordance with the European Directives on waste and hazardous waste. Do not flush into surface water or sanitary sewer system

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Other information According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

14.1. UN number

ADR/RID	UN1866
IMDG/IMO	UN1866
ICAO/IATA	UN1866
ADN	UN1866

14.2. UN proper shipping name

ADR/RID
Resin solution
UN1866, RESIN SOLUTION, 3, PG III, (D/E)
IMDG/IMO
Resin solution
UN1866, RESIN SOLUTION, 3, PG III, (31°C c.c.)
ICAO/IATA
UN1866, RESIN SOLUTION, 3, PG III

ADN
Resin solution
UN1866, RESIN SOLUTION, 3, PG III

14.3. Transport hazard class(es)

ADR/RID
Hazard class 3
IMDG/IMO
Hazard class 3
ICAO/IATA
Hazard class 3
ADN
Hazard class 3
Hazard Labels 3

14.4. Packing group

ADR/RID	III
IMDG/IMO	III
ICAO/IATA	III
ADN	III

14.5. Environmental hazards

ADR/RID	No
IMDG/IMO	No
Marine pollutant	No
ICAO/IATA	No
ADN	No

14.6. Special precautions for user

ADR/RID
Classification Code F1
Special Provisions 640E
Tunnel restriction code (D/E)
Limited quantity 5 L
IMDG/IMO
EmS F-E, S-E
Limited quantity 5 L
ICAO/IATA
ERG Code 3L
Limited quantity 10 L
ADN
Classification Code F1
Limited quantity 5 L
ventilation VE01

Special precautions for users
Special precautions No information available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk according to MARPOL 73/78 and the IBC Code not applicable

SECTION 15: Regulatory information

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP]

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

European Union

Chemical Name	96/82/EC (SEVESO) - §9	96/82/EC (SEVESO) - §6, §7
Styrene - 100-42-5	50000	5000 tonnes 50000 tonnes

National regulatory information

The United Kingdom

Avoid exceeding of the given occupational exposure limits (see section 8).

Ireland

Avoid exceeding of the given occupational exposure limits (see section 8).

15.2. Chemical safety assessment

not applicable

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

H226 - Flammable liquid and vapour
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
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
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H361d - Suspected of damaging the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects
EUH208 - May produce an allergic reaction

Training Advice	Handle in accordance with good industrial hygiene and safety practice. To avoid risks to man and the environment, comply with the instructions for use.
Sources of key data used to compile the datasheet	ECHA
Former date	29-Feb-2016
Revision date	21-Nov-2017
Revision Note	SDS sections updated : 3 , 11 , 12

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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