

SAFETY DATA SHEET**Atlac® 580 ACT****SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Product name : Atlac® 580 ACT
Internal code : 001957WW18176
UFI : DJX0-V0Q8-U00W-7T7N

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

Uses advised against	Reason
Consumer uses	Safe use cannot be demonstrated.

Recommended use : Resins system used in the production of fibre reinforced plastics or non-reinforced filled products.

1.3 Details of the supplier of the safety data sheet

Supplier : AOC Italia S.r.l.
 Via Rodi 5
 24040 Filago
 Italy
 +39 035997111
 www.aocresins.com

e-mail address of person responsible for this SDS : product.safety@aocresins.com (Communication in English only please)

1.4 Emergency telephone number

Emergency telephone number : +441618841235
 Switzerland +41 52 644 1222

National advisory body/ Poison Centre : UK: Tel: + 44 844 892 0111
 Ireland: Tel: +353 1 837 9964
 Only for the purpose of informing medical personnel in cases of acute intoxications

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Product definition : Mixture

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

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

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

2.2 Label elements**Hazard pictograms**

Signal word : Danger

Hazard statements : H226 - Flammable liquid and vapour.
 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.
 H412 - Harmful to aquatic life with long lasting effects.

Supplemental label elements : Contains methacrylic acid, monoester with propane-1,2-diol. May produce an allergic reaction.

Precautionary statements

General : Not applicable.

Prevention : P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe vapour.

Response : P370 + P378 - In case of fire: Use carbon dioxide to extinguish.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Storage : P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal : Not applicable.

Hazardous ingredients : Styrene

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : Gas/vapour is heavier than air and may travel along the floor to a source of ignition and flash back.

SECTION 3: Composition/information on ingredients

3.1 Substances / 3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]
Styrene	REACH #: 01-2119457861-32 EC: 202-851-5 CAS: 100-42-5 Index: 601-026-00-0	≥25 - ≤50	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d STOT SE 3, H335 STOT RE 1, H372 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412
silicon dioxide	REACH #: 01-2119379499-16 EC: 231-545-4 CAS: 7631-86-9	≤3	Not classified.
methacrylic acid, monoester with propane-1,2-diol	REACH #: 01-2119490226-37 EC: 248-666-3 CAS: 27813-02-1	<1	Eye Irrit. 2, H319 Skin Sens. 1, H317
1,4-dihydroxybenzene	REACH #: 01-2119524016-51 EC: 204-617-8 CAS: 123-31-9 Index: 604-005-00-4	<0.1	Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 2, H351 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1) See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Never use water for extinction.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Gas/vapour is heavier than air and may travel along the floor to a source of ignition and flash back.
Hazardous combustion products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides (dense) black smoke aldehydes organic acids
5.3 Advice for firefighters	
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Additional information	: None.
Remarks	: Combustible when exposed to heat or flame.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

Small spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb spill with inert material (e.g. dry sand or earth) and place in a chemical waste container.
Large spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures :

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in original container, protected from direct sunlight. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. Ventilation required along the floor.
Keep away from heat and direct sunlight.

7.3 Specific end use(s)

Recommendations

: Resins system used in the production of fibre reinforced plastics or non-reinforced filled products.

Industrial sector specific solutions

: Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Styrene	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 250 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 430 mg/m ³ 8 hours. STEL: 1080 mg/m ³ 15 minutes.
silicon dioxide	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 6 mg/m ³ 8 hours. Form: inhalable dust TWA: 2.4 mg/m ³ 8 hours. Form: respirable dust
1,4-dihydroxybenzene	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 0.5 mg/m ³ 8 hours.

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Styrene	DNEL	Short term Inhalation	289 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	306 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	174.25 mg/m ³	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	182.75 mg/m ³	General population [Consumers]	Local
	DNEL	Long term Inhalation	10.2 mg/m ³	General population [Consumers]	Systemic
	DNEL	Long term Oral	2.1 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	85 mg/m ³	Workers	Systemic
methacrylic acid, monoester with propane-1,2-diol	DNEL	Long term Dermal	343 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	406 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	14.7 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	4.2 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	8.8 mg/m ³	General population [Consumers]	Systemic
	DNEL	Long term Dermal	2.5 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Oral	2.5 mg/kg bw/day	General population [Consumers]	Systemic
1,4-dihydroxybenzene	DNEL	Long term Inhalation	7 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	1 mg/m ³	Workers	Local
	DNEL	Long term Dermal	128 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.74 mg/m ³	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	0.5 mg/m ³	General population [Consumers]	Local
	DNEL	Long term Dermal	64 mg/kg bw/day	General population [Consumers]	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Styrene	Fresh water	0.028 mg/l	Assessment Factors
	Marine water	0.014 mg/l	Assessment Factors
	Fresh water sediment	0.614 mg/kg dwt	Equilibrium Partitioning
	Marine water sediment	0.307 mg/kg dwt	Equilibrium Partitioning
	Sewage Treatment Plant	5 mg/l	Assessment Factors
	Soil	0.2 mg/kg dwt	Equilibrium Partitioning
	Intermittent releases.	0.04 mg/l	Assessment Factors
methacrylic acid, monoester with propane-1,2-diol	Fresh water	0.904 mg/l	-
	Marine water	0.904 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	6.28 mg/kg dwt	-
	Marine water sediment	6.28 mg/kg dwt	-
	Soil	0.727 mg/kg dwt	-
	Intermittent releases.	0.04 mg/l	Assessment Factors
1,4-dihydroxybenzene	Fresh water	0.114 µg/l	Assessment Factors
	Marine water	0.0114 µg/l	Assessment Factors
	Intermittent releases.	1.34 µg/l	Assessment Factors
	Sewage Treatment Plant	0.71 mg/l	Assessment Factors
	Fresh water sediment	0.98 µg/kg dwt	Equilibrium Partitioning
	Marine water sediment	0.097 µg/kg dwt	Equilibrium Partitioning
	Soil	0.129 µg/kg dwt	Equilibrium Partitioning

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.


Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety glasses with side shields.
Use eye protection according to EN 166.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. 4 - 8 hours (breakthrough time): fluor rubber (Viton) (0.70 mm)
< 1 hour (breakthrough time): Nitril rubber (0.4 mm)
- Skin and body** : Chemical-resistant protective suit.
Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- Respiratory protection** : Wear filter mask, filtertype A.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Remarks** : Replace damaged gloves.

Advice on personal protection is applicable for high exposure levels. Select proper personal protection based on a risk assessment of the actual exposure situation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Physical state** : Liquid. [Hazy]
- Colour** : Purple.
- Odour** : Characteristic.
- Odour threshold** : 0.15 to 25 ppm
- pH** : 7 (Concentration 0.02%)
- Melting point/freezing point** : <25 °C
- Initial boiling point and boiling range** : 145 °C
- Flash point** : 33 °C Pensky-Martens.
- Flammability (solid, gas)** : Combustible when exposed to heat or flame.
- Evaporation rate** : 12.4 (compared with butyl acetate)
- Upper/lower flammability or explosive limits** : Lower: 1.1%
Upper: 6.1%
- Vapour pressure** : 0.67 kPa
- Vapour density** : 3.6 (Air = 1)
- Relative density** : 0.9 to 1.2 (Water = 1)
- Density (g/cm³)** : 0.9 to 1.2 g/cm³ (23°C)
- Bulk density** : 1050 kg/m³ (Temperature: 23 °C)
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Solubility in water** : <0.02 g/100 ml (23°C)
- Solubility at room temperature** :  g/l
- Partition coefficient: n-octanol/water** : >2
- Auto-ignition temperature** : 490 °C
- Decomposition temperature** : Not applicable.
- Viscosity** : Dynamic (room temperature): 500 to 600 mPa·s (500 to 600 cP)
Kinematic (room temperature): >4.16 cm²/s (>416 cSt)
Kinematic (40°C): >0.205 cm²/s (>20.5 cSt)
- Explosive properties** : None.
- Oxidising properties** : None.

9.2 Other information

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- 10.5 Incompatible materials** : Reactive or incompatible with the following materials:
oxidising materials
Strong acids
- 10.6 Hazardous decomposition products** : No specific data.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Styrene	LC50 Inhalation Vapour	Rat	11800 mg/m ³	4 hours
methacrylic acid, monoester with propane-1,2-diol	LD50 Oral	Rat	5000 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Dermal	Rabbit - Male	>5000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>2000 mg/kg (LD0 2000 mg/kg)	-
1,4-dihydroxybenzene	LD50 Dermal	Mammal	5970 mg/kg	-
	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	302 mg/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Atlac® 580 ACT	10658.2	N/A	N/A	25.2	N/A
Styrene	5000	N/A	N/A	11.8	N/A
1,4-dihydroxybenzene	302	2500	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Styrene	Respiratory - Irritant	Mammal - species unspecified	-	-	-
methacrylic acid, monoester with propane-1,2-diol	Skin - Irritant	Rabbit	-	-	-
	Eyes - Irritant	Rabbit	-	-	-
	Skin - Oedema	Rabbit	<0.000000001	24 hours 0.5 ml	24 to 72 hours
	Skin - Erythema/ Eschar	Rabbit	<0.000000001	24 hours 0.5 ml	24 to 72 hours
	Eyes - Iris lesion	Rabbit	<0.000000001	0.1 ml	24 to 72 hours
	Eyes - Cornea opacity	Rabbit	1	0.1 ml	24 to 72 hours

Conclusion/Summary

Eyes : Not available.

Skin : Not available.

Respiratory : Not available.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
methacrylic acid, monoester with propane-1,2-diol	skin	Mouse	Sensitising
1,4-dihydroxybenzene	skin	Mouse	Sensitising

Conclusion/Summary

Skin : Not available.

Respiratory : Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
methacrylic acid, monoester with propane-1,2-diol 1,4-dihydroxybenzene	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: Without &^ with metabolic activation	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: Without &^ with metabolic activation	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
	-	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: with and without	Positive
	OECD 483 Mammalian Spermatogonial Chromosome Aberration Test	Experiment: In vivo Subject: Mammalian-Animal	Positive
	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with and without	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Human Metabolic activation: with and without	Negative
OECD 489, mammalian comet assay	Experiment: In vivo Subject: Mammalian-Animal	Negative	

Conclusion/Summary : Not available.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
methacrylic acid, monoester with propane-1,2-diol	Negative - Inhalation - NOAEC	Rat - Male, Female	≥2050 mg/m ³	6 hours /day; 5 days per week

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal	Fertility	Developmental	Species	Dose	Exposure
methacrylic acid, monoester with propane-1,2-diol	-	Negative	-	Rat - Male, Female	Oral: 300 mg/kg /day (NOAEL)	-
	-	-	Negative	Rat - Male, Female	Oral: 1000 mg/kg / day (NOAEL)	-
1,4-dihydroxybenzene	-	-	-	Rat	Oral: 300 mg/	-

					kg Parental NOEL
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Conclusion/Summary : Not available.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
methacrylic acid, monoester with propane-1,2-diol	Negative - Oral	Rabbit	450 mg/kg /day (NOAEL)	-
	Negative - Inhalation	Rabbit	8300 mg/m ³ /day (NOAEC)	6 hours per day
1,4-dihydroxybenzene	Negative - Oral	Rat	-	-

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Styrene	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Styrene	Category 1	-	hearing organs

Aspiration hazard

Product/ingredient name	Result
Styrene	ASPIRATION HAZARD - Category 1

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
Inhalation : May cause respiratory irritation.
Skin contact : Causes skin irritation.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
- Inhalation** : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
 irritation
 redness
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
methacrylic acid, monoester with propane-1,2-diol	Sub-acute NOAEL Oral	Rat - Male, Female	300 mg/kg /day	-
1,4-dihydroxybenzene	Chronic NOAEL Oral	Rat - Male, Female	25 mg/kg	-
	Sub-chronic NOAEL Dermal	Rat - Male, Female	73.9 mg/kg	-
	Sub-chronic NOAEL Oral	Rat	50 mg/kg	13 weeks; 5 days per week

Conclusion/Summary : Not available.

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : Suspected of damaging the unborn child.

Classification

Product/ingredient name	OSHA	IARC	NTP
Styrene	-	2A	Reasonably anticipated to be a human carcinogen.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure	Effects
Styrene	Acute EC50 4.9 mg/l	Algae	72 hours	-
	Acute EC50 4700 µg/l Fresh water	Daphnia - Daphnia magna	48 hours	Mortality
	Acute LC50 4020 µg/l Fresh water	Fish - Pimephales promelas	96 hours	Mortality
	Chronic EC ₁₀ 0.28 mg/l Fresh water	Algae	96 hours	-
methacrylic acid, monoester with propane-1,2-diol	Chronic NOEC 1.01 mg/l Fresh water	Daphnia	21 days	-
	Acute EC50 >97.2 mg/l Fresh water	Algae	72 hours	(growth rate)
	Acute EC50 >143 mg/l Fresh water	Daphnia	48 hours	Mobility
	Acute LC50 493 mg/l Fresh water	Fish	48 hours	Mortality
1,4-dihydroxybenzene	Chronic EC50 45.2 mg/l Fresh water	Daphnia	21 days	Reproduction
	Acute EC50 0.33 mg/l Fresh water	Algae - Pseudokirshnerella subcapitata	72 hours	(growth rate)
	Acute EC50 130 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours	Intoxication
	Acute LC50 44 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours	Mortality
	Acute NOEC 0.019 mg/l Fresh water	Algae - Pseudokirschnerella subcapitata	72 hours	-
	Chronic NOEC 0.0057 mg/l Fresh water	Daphnia	21 days	Reproduction
	Chronic NOEC ≥0.066 mg/l arithmetic mean Fresh water	Fish - Pimephales promelas	32 days	-

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
methacrylic acid, monoester with propane-1,2-diol	OECD 301C Ready Biodegradability - Modified MITI Test (I)	81 % - 28 days	-	-

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Styrene	-	-	Readily
methacrylic acid, monoester with propane-1,2-diol	-	-	Readily
1,4-dihydroxybenzene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Atlac® 580 ACT	>2	-	low
Styrene	2.96	13.49	low
methacrylic acid, monoester with propane-1,2-diol	0.97	-	low
1,4-dihydroxybenzene	0.59	3.162	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. Reference number: 2008/98/EC.

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.





Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1866	UN1866	UN1866	UN1866
14.2 UN proper shipping name	RESIN SOLUTION	RESIN SOLUTION	RESIN SOLUTION	Resin solution
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	Yes.	No.	No.

Additional information

ADR/RID : **Hazard identification number** 30
Limited quantity 5 L
Viscous liquid exception This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.
Tunnel code (D/E)

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.
Viscous liquid exception This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.

IMDG : **Emergency schedules** F-E, _S-E_
Special provisions 223, 955
Viscous liquid exception This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.
Special provisions A3

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not applicable.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Styrene 1,4-dihydroxybenzene	- Not supported	- Not supported	- -	- -

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

National regulations

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Ingredient name	List name	Status
Not listed.		

Montreal Protocol

Ingredient name	Status
Not listed.	

Stockholm Convention on Persistent Organic Pollutants

Ingredient name	List name	Status
Not listed.		

Rotterdam Convention on Prior Informed Consent (PIC)

Ingredient name	List name	Status
Not listed.		

UNECE Aarhus Protocol on POPs and Heavy Metals

Ingredient name	List name	Status
Not listed.		

15.2 Chemical safety assessment : No Chemical Safety Assessment has been carried out.

Remarks : Note: see section 8 for personal protective equipment and section 13 for waste disposal.

SECTION 16: Other information**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d STOT SE 3, H335 STOT RE 1, H372 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

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.
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.
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.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 2	CARCINOGENICITY - Category 2
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
Muta. 2	GERM CELL MUTAGENICITY - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Alterations compared to the previous version : Alterations compared to the previous version are marked with a little (blue) triangle.

Abbreviations and acronyms : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
IATA = International Air Transport Association

IMDG = International Maritime Dangerous Goods
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods
by Rail
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

Sources of key data : Literature data and/or investigation reports are available through the manufacturer.

Internal code : 001957WW18176

Training advice : Handling of this substance or preparation is restricted to skilled personnel only.

Notice to reader

The information contained in the Safety Data Sheet is based on our data available on the date of publication. The information is intended to aid the user in controlling the handling risks; it is not to be construed as a warranty or specification of the product quality. The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications.

The user is responsible for ensuring that appropriate precautions are taken and for satisfying themselves that the data are suitable and sufficient for the product's intended purpose. In case of any unclarity we advise consulting the supplier or an expert.

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