

# SAFETY DATA SHEET

VE140 Fuel Resistant Vinylester Resin



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

### 1.1 Product identifier

**Product name** : VE140 Fuel Resistant Vinylester Resin  
**Internal code**

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

Uses advised against	Reason
<input checked="" type="checkbox"/> 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

**Company name:** Easy Composites Ltd  
Unit 39, Park Hall Business Village  
Longton, Stoke on Trent  
Staffordshire  
ST3 5XA  
United Kingdom

**Tel:** +44 (0) 1782 454499

**Email:** sales@easycomposites.co.uk

### 1.4 Emergency telephone number

**Emergency tel:** +44 (0) 1782 454499

(office hours only)

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

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

**Supplemental label elements** : Not applicable.

**Precautionary statements**

**General** : Not applicable.

**Prevention** : P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P280 - Wear protective gloves: 4 - 8 hours (breakthrough time): fluor rubber (Viton) (0.70 mm); < 1 hour (breakthrough time): Chloroprene , neoprene (0.2 mm). Wear protective clothing. Wear eye or face protection.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.  
 P243 - Take action to prevent static discharges.  
 P240 - Ground and bond container and receiving equipment.  
 P233 - Keep container tightly closed.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P273 - Avoid release to the environment.  
 P260 - Do not breathe vapour.  
 P270 - Do not eat, drink or smoke when using this product.  
 P264 - Wash hands thoroughly after handling.

**Response** : P314 - Get medical attention if you feel unwell.  
 P308 + P313 - IF exposed or concerned: Get medical attention.  
 P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.  
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
 P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.  
 P332 + P313 - If skin irritation occurs: Get medical attention.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical attention.

**Storage** : P235 - Keep cool.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : Styrene  
 methacrylic acid

**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 (Unborn child) STOT SE 3, H335 STOT RE 1, H372 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412
methacrylic acid	REACH #: 01-2119463884-26 EC: 201-204-4 CAS: 79-41-4 Index: 607-088-00-5	≤2.7	Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 4, H332 Skin Corr. 1A, H314 STOT SE 3, H335

# SAFETY DATA SHEET

VE140 Fuel Resistant Vinylester Resin



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.

# SAFETY DATA SHEET

VE140 Fuel Resistant Vinylester Resin



## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.  
**Not suitable** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid and vapour. 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. Runoff to sewer may create fire or explosion hazard. 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  
(dense) black smoke  
aldehydes  
organic acids  
halogenated compounds

### 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 spilt 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 spilt 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. 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 (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

**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). 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. 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

: Do not store above the following temperature: 30°C (86°F). 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 locked up. Eliminate all ignition sources. Separate from oxidizing 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. Ventilation required along the floor. Store in original container, protected from direct sunlight.  
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	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018).</b> STEL: 250 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 430 mg/m <sup>3</sup> 8 hours. STEL: 1080 mg/m <sup>3</sup> 15 minutes.
methacrylic acid	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018).</b> STEL: 143 mg/m <sup>3</sup> 15 minutes. STEL: 40 ppm 15 minutes. TWA: 72 mg/m <sup>3</sup> 8 hours. TWA: 20 ppm 8 hours.

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

**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 <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	306 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	85 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	174.25 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	182.75 mg/m <sup>3</sup>	General population [Consumers]	Local
	DNEL	Long term Inhalation	10.2 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Long term Dermal	406 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	343 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Oral	2.1 mg/kg bw/day	General population [Consumers]	Systemic
	methacrylic acid	DNEL	Long term Dermal	4.25 mg/kg bw/day	Workers
DNEL		Long term Inhalation	29.6 mg/m <sup>3</sup>	Workers	Systemic
DNEL		Long term Inhalation	88 mg/m <sup>3</sup>	Workers	Local
DNEL		Long term Dermal	2.55 mg/kg bw/day	General population [Consumers]	Systemic
DNEL		Long term Inhalation	6.3 mg/m <sup>3</sup>	General population [Consumers]	Systemic
DNEL		Long term Inhalation	6.55 mg/m <sup>3</sup>	General population [Consumers]	Local

## 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
methacrylic acid	Intermittent releases.	0.04 mg/l	Assessment Factors
	Fresh water	0.82 mg/l	-
	Marine	0.82 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Soil	1.2 mg/kg dwt	-

## 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.

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

- 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): Chloroprene, neoprene (0.2 mm)
- Skin and body** : Chemical-resistant protective suit.
- Respiratory protection** : Wear filter mask, filter type 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. [Clear.]
- Colour** : Yellow green.
- 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
- Softening range** : Not available.
- 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** : 1.08 (Water = 1)
- Density ( g/cm<sup>3</sup> )** : 1.08 g/cm<sup>3</sup> (25°C)
- Bulk density** : 1080 kg/m<sup>3</sup> (Temperature: 23 °C)
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Solubility in water** : <0.02 g/100 ml
- Solubility at room temperature** : <0.02 g/l
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : 490 °C
- Decomposition temperature** : Not available.
- Viscosity** : Dynamic (room temperature): 208 to 282 mPa·s (208 to 282 cP)  
Kinematic (room temperature): >1.92 cm<sup>2</sup>/s (>192 cSt)  
Kinematic (40°C): >0.205 cm<sup>2</sup>/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.

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

**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:  
oxidizing 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 <sup>3</sup>	4 hours
methacrylic acid	LD50 Oral	Rat	5000 mg/kg	-
	LC50 Inhalation Vapour	Rat	7.1 mg/l Air	4 hours
	LD50 Dermal	Rabbit	500 mg/kg	-
	LD50 Dermal	Rabbit	500 to 1000 mg/kg	-
	LD50 Oral	Mouse - Male	1600 mg/kg	-
	LD50 Oral	Rat	1060 mg/kg	-
LD50 Oral	Rat - Male	1320 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)
Atiac® 590	11148.4	7198.7	N/A	31.1	N/A
Styrene	5000	N/A	N/A	11.8	N/A
methacrylic acid	1060	500	N/A	11	N/A

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Styrene	Respiratory - Irritant	Mammal - species unspecified	-	-	-
methacrylic acid	Skin - Irritant	Rabbit	-	-	-
	Eyes - Irritant	Rabbit	-	-	-
	Skin - Severe irritant	Rabbit	-	-	-
	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Primary dermal irritation index (PDII)	Rabbit	6.17	-	-

#### Conclusion/Summary

**Eyes** : Not available.

**Skin** : Not available.

**Respiratory** : Not available.

#### Sensitisation

Product/ingredient name	Route of exposure	Species	Result
methacrylic acid	skin	Guinea pig	Not sensitizing

#### Conclusion/Summary

**Skin** : Not available.

**Respiratory** : Not available.

#### Mutagenicity



# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

Product/ingredient name	Test	Experiment	Result
Methacrylic acid	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with and without	Negative
	OECD 478 Genetic Toxicology: Rodent Dominant Lethal Test	Experiment: In vivo Subject: Mammalian-Animal	Negative

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

Product/ingredient name	Maternal	Fertility	Developmental	Species	Dose	Exposure
Methacrylic acid	Negative	-	Negative	Rat - Male, Female	Oral: 400 mg/kg No adverse effects observed on fertility or Developmental effects	-

**Conclusion/Summary** : Not available.

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Methacrylic acid	Negative - Oral	Rabbit	450 mg/kg Developmental effects	-

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Styrene	Category 3	Not applicable.	Respiratory tract irritation
methacrylic acid	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Styrene	Category 1	Not determined	hearing organs

### Aspiration hazard

Product/ingredient name	Result
Styrene	ASPIRATION HAZARD - Category 1

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful by inhalation. Irritating to respiratory system.
- Skin contact** : Irritating to skin.
- 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

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

**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	Sub-chronic NOAEC Inhalation Gas.	Rat - Male, Female	350 ppm	90 days; 6 hours per day

**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.

**Teratogenicity** : Suspected of damaging the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## 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 <sub>10</sub> 0.28 mg/l Fresh water	Algae	96 hours	-	
	Chronic NOEC 1.01 mg/l Fresh water	Daphnia	21 days	-	
	methacrylic acid	EC10 100 mg/l Fresh water	Micro-organism	16.5 hours	-
		EC50 20 mg/l Fresh water	Algae	72 hours	(biomass)
		EC50 45 mg/l Fresh water	Algae	72 hours	(growth rate)
		EC50 270 mg/l Fresh water	Micro-organism	16.5 hours	-
		NOEC 8.2 mg/l Fresh water	Algae	72 hours	-
		Acute EC50 >130 mg/l Fresh water	Daphnia	48 hours	-
		Acute LC50 85 mg/l Fresh water	Fish	96 hours	Mortality
		Acute NOEC 12 mg/l Fresh water	Fish	96 hours	Mortality
		Chronic LC50 42 mg/l Fresh water	Fish	35 days	-
		Chronic NOEC 53 mg/l Fresh water	Daphnia	21 days	-
	Chronic NOEC 53 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days	Reproduction	
	Chronic NOEC 10 mg/l Fresh water	Fish	35 days	-	

**Conclusion/Summary** : Not available.

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Methacrylic acid	OECD 301 D	86 % - Readily - 28 days	-	-

**Conclusion/Summary** : Not available.

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Styrene	-	-	Readily
methacrylic acid	-	-	Readily

## 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Styrene	2.96	13.49	low
methacrylic acid	0.93	-	low

## 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : 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

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

- ADR/RID** : **Hazard identification number** 30  
**Limited quantity** 5 L  
**Tunnel code** (D/E)
- ADN** : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.
- IMDG** : **Emergency schedules** F-E, \_S-E\_  
**Special provisions** 223, 955
- 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 Annex II of Marpol and the IBC Code** : Not available.

## 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	-	-	Repr. 2, H361d (Unborn child)	-

### Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

### National regulations

### International regulations

### Chemical Weapon Convention List Schedules I, II & III Chemicals

Ingredient name	List name	Status
Not listed.		

### Montreal Protocol (Annexes A, B, C, E)

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.		

# SAFETY DATA SHEET



VE140 Fuel Resistant Vinylester Resin

## 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 (Unborn child) 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.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H372 (inhalation)	Causes damage to organs through prolonged or repeated exposure if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

### Full text of classifications [CLP/GHS]

Acute Tox. 3, H311	ACUTE TOXICITY (dermal) - Category 3
Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
Aquatic Chronic 3, H412	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1, H304	ASPIRATION HAZARD - Category 1
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3, H226	FLAMMABLE LIQUIDS - Category 3
Repr. 2, H361d	REPRODUCTIVE TOXICITY (Unborn child) - Category 2
Skin Corr. 1A, H314	SKIN CORROSION/IRRITATION - Category 1A
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT RE 1, H372 (inhalation)	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (inhalation) - Category 1
STOT RE 1, H372	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

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

**Abbreviations and acronyms** : 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  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
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.

# SAFETY DATA SHEET

VE140 Fuel Resistant Vinylester Resin



**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.

## History

**Date of printing** : 21 February 2020.

**Date of issue** : 21 February 2020

**Version** : 10