



## Safety Data Sheet

Updated November 2021

### 1. Identification of the Material and Supplier

**Product Name:** Crystic 349E Fire Retardant Resin 250KG  
**Product Code:** 349E-FR-D  
**UN Number:** UN1866  
**Hazard Class:** Class 3  
**Shipping Name:** Resin Solution, Flammable  
**Packaging Group:** III  
**Hazchem Code:** \*3Y  
**Intended Use:** Industrial/Professional use in GRP Production  
**Company:** H S Composites Ltd  
**Address:** 63 Hunua Road, Papakura, Auckland 2110  
**Telephone:** +64 (09) 295 2200  
**Email:** sales@hscomposites.co.nz  
**Website:** www.hscomposites.co.nz

### 2. Hazard Identification

#### Regulatory Information:

Additives, Process Chemicals and Raw Materials (Flammable, Carcinogenic) Group Standard 2020

HSNO Approval Number: HSR002495

Dangerous Goods Class: Class 3

Packing Group: III

#### HAZARDOUS CLASSIFICATIONS

Flammable Liquid	Category 3
Acute Toxicity (inhalation of dusts/mists)	Category 4
Skin corrosion/irritant	Category 2
Serious eye damage/irritation	Category 2
Respiratory Sensitisation	Category 1
Skin Sensitisation	Category 1
Carcinogenicity	Category 2
Reproductive Toxicity (Fertility)	Category 1
Reproductive Toxicity (Unborn Child)	Category 2
Specific Target Organ Toxicity (Single Exposure-respiratory tract irritation)	Category 3

Specific Target Organ Toxicity (Repeated Exposure – hearing organs)	Category 1
Short term Aquatic Hazard (Acute)	Category 3
Long Term Aquatic Hazard (Chronic)	Category 3

Signal Word: **DANGER**

Pictograms:



Flammable



Irritant



Harmful

### **HEALTH HAZARDS**

H226	Flammable Liquid and Vapour
H303	May be harmful if swallowed
H315	Causes Skin Irritation
H317	May cause an allergic skin reaction
H319	Causes Serious eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H360	May damage fertility
H361	Suspected of damaging the unborn child
H372	Causes damage to organs through prolonged or repeated exposure

### **ENVIRONMENT HAZARDS**

H412	Harmful to aquatic life with long lasting effects
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### **PRECAUTIONARY STATEMENTS**

#### **PREVENTION**

P102	Keep out of reach of children
P201/P202	Obtain instruction before using this product, read Safety Data Sheet/Label
P210	Keep away from ignition sources such as heat/sparks/open flame/hot surface. No smoking.
P233	Keep container tightly closed
P235	Keep cool
P240	Ground/bond container and receiving equipment
P241	Use explosion proof equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P260	Do not breathe vapours
P261	Do not breath dust/fume/gas/mist/vapours/spray
P264	Wash face, hands and exposed skin thoroughly after handling

P270	Do not eat, drink or smoke when using this product
P271	Use only outdoors or well-ventilated areas
P272	Do not let contaminated clothing leave the work place
P273	Avoid release into the environment
P280	Wear protective clothing, gloves and eye protection
P284	Wear respiratory protection

**RESPONSE:**

P101	If medical advice is needed, have product container or label at hand
P314	Get medical advice if you feel unwell
P308 + P313	If exposed or concerned seek medical advice
P304 + P340	If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing.
P312	Call POISON CENTRE or DOCTOR if you feel unwell
P301 + P312	If swallowed call POISON CENTRE or DOCTOR if you feel unwell
P342 + P311	If experiencing respiratory problems, Call POISON CENTRE or DOCTOR
P303+P361+P353	If on skin or hair, talk of all contaminated clothing, wash skin with water
P302 + P352	If on skin, wash with plenty of soap and water
P332 + P313	If skin irritation occurs, get medical advice
P362	Take off contaminated clothing and wash before reuse
P305 + P351	If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so, continue to rinse
P337 + P313	If eye irritation persists seek medical advice
P370 + P378	In case of fire use water fog, foam, dry chemical or carbon dioxide (CO <sub>2</sub> ) to extinguish
P391	Collect any spillage
P301+P330	IF SWALLOWED: Rinse out mouth, do not swallow water, DO NOT induce vomiting.

**STORAGE**

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P235	Keep cool.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P405	Store in a locked area

**DISPOSAL**

P501	Dispose of product and packaging in accordance with local and Governmental regulations
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Vapours are heavier than air and may travel across the ground and reach ignition sources causing a flashback fire danger. May form a flammable/explosive vapour-air mixture.

Diminished inhibitor levels may cause polymerisation.

Repeated exposure may cause skin dryness and cracking.

**Dangerous Goods Classification:** Class 3

**Packing Group:** III

**Hazchem Code:** \*3Y

### 3. Composition / Information on Ingredients

Component	Cas No	Proportion
Aluminium hydroxide	21645-51-2	31.377%
Styrene	100-42-5	21.442%
1,4,5,6,7,7-hexachloro-8,9,10-trinoborn-5-ene-2,3-dicarboxylic acid	115-27-5	17.6%
Antimony Trioxide	1309-64-4	>3.4941%
Tris(2-chlorethyl) phosphate	115-96-8	2.5491%
Methyl methacrylate	80-62-6	0.8364%
1,4,5,6,7,7-hexachloro-8,9,10-trinoborn-5-ene-2,3-dicarboxylic acid	115-28-6	<0.7314%
Cobalt bis (2-ethylhexanoate)	136-52-7	0.2748%
Maleic anhydride	108-31-6	<0.1836%

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 and hence require recording in this section.

### 4. First Aid Measures

#### **For advice, contact the National Poisons Centre (24hr Service) (Phone New Zealand: 0800 764 766) or a doctor.**

If seeking medical attention show this Safety Data Sheet to the Doctor in attendance.

**Inhalation:** Move the person to fresh air immediately, sit in a comfortable position until breathing returns to normal. If breathing is difficult provide artificial respiration, only trained personnel should administer oxygen. It may be dangerous for the person providing aid to give mouth to mouth resuscitation. Get immediate medical attention. Keep warm and at rest until recovered. Get medical advice if person feels unwell or is concerned.

**Skin Contact:** If skin contact occurs, wear gloves, remove contaminated clothing and wash skin with soap and water. The material may cause an allergic skin reaction, if skin irritation develops or persists, get medical advice. Launder contaminated clothing before re-use. Other symptoms may include irritation, redness, reduced foetal weight, increase in foetal deaths, skeletal malformations.

**Eye Contact:** Rinse immediately with plenty of water also under the eyelids keeping them apart and flush the eye continuously with running water for at least 15 minutes. Remove contact lenses after 5 minutes if present, and easy to do. Continue flushing. Get immediate medical advice/attention if irritation persists.

**Ingestion:** DO NOT induce vomiting. Rinse mouth with water, DO NOT swallow water. Move out to fresh air keep at rest in a position that is comfortable for breathing. If material has been swallowed call for medical help immediately. Should vomiting occur keep head below waist to ensure vomit does not enter the lungs. If unconscious place in the recovery position and call for medical help or

call poison centre, ensure to maintain an open airway. Give nothing by mouth to an unconscious person. Loosen any tight clothing, tie, collar, belt or waistband.

Causes serious eye irritation, watering and/or redness. May cause respiratory irritation, may cause allergy or asthma symptoms or breathing difficulties, causes skin irritation or an allergic skin reaction, may be harmful if swallowed

**Protection for First-Aider:** Ensure that those giving assistance and medical personnel are aware of the materials involved, take precautions to protect yourself or any other personnel from contamination. Use PPE.

**First Aid facilities:** Provide eye baths and safety showers close to areas where splashing may occur.

**Note to Doctor/Physician:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5. Fire Fighting Measures

**Flammable liquids and vapours:** Remove all persons from the immediate area, shut off product that may 'fuel' a fire if safe to do so. Allow only trained personnel to attend a fire in progress, provide fire fighters with this Safety Data Sheet. Prevent extinguishing media from escaping to sewers, drains and waterways.

**Suitable extinguishing media:** Water fog, alcohol resistant foam, dry chemical or carbon dioxide (CO<sub>2</sub>).

DO NOT use straight jet streams of water.

**Unsuitable Extinguishing Media:** Caution: Use of water spray when fighting fire may be inefficient.

**Hazards from combustion:** Keep product and empty containers away from heat and sources of ignition. Run off from the fire area may create fire or an explosion hazard. In the event of a fire Keep surrounding containers cool by spraying with water. When burning the product may give off Smoke, fumes, metal oxides, carbon dioxide and carbon monoxide and incomplete combustion products.

**Precautions for fire fighters and special protective equipment:** Full protective clothing and self-contained breathing apparatus with a full-face piece. Move other containers from the area if safe to do so without risk to yourself or others.

**Hazchem Code:** \*3Y

Styrene will polymerise at elevated temperatures. If this occurs in a closed container there is a serious risk of violent rupture.

### **SPECIAL FIREFIGHTING PROCEDURES.**

Fight like a chemical fire, fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode. Water used in fire-fighting should not be allowed to enter sewers, drains or waterways or contaminate soil.

## 6. Accidental Release Measures

### **Steps to be taken if the material is released or spilled.**

Evacuate personnel to safe areas.

Wear the correct Personal Protection Equipment. See section 8 for requirements.

Stop leakage if safe to do so, do not put yourself in a position of harm or danger.

Eliminate all sources of ignition (flames, hot surfaces, electrical, static or frictional sparks). Ventilate the surrounding area. Do not walk in spillage.

Vapours are heavier than air and may track to a source of ignition.

Contain the area of spillage, do not touch damaged containers unless wearing the correct PPE. If safe to do so material can be collected and placed in a container for disposal. Re-use or recycle if possible. Absorb remainder on the floor with sand, vermiculite or other non-combustible material. Place collected material in a closed container that is suitable for that product and label for disposal.

Prevent contamination of storm-water drains and waterways.

Waste disposal method. Through local licensed waste management/disposal agent.

Contaminated absorbent material to be disposed of in accordance with appropriate local or governmental regulations. Can be destroyed by liquid incineration with off-gas scrubber.

Correctly label all material containers to be disposed of and supply copy of SDS for that product.

Liquid material mixed with the appropriate hardener should be allowed to gel and cool before disposal as solid waste in accordance with appropriate local or national regulations or through a registered waste disposal plant.

## 7. Handling and Storage

Wear correct PPE equipment when using material. Avoid inhalation of vapour and contact with skin, eyes and clothing. Use only with adequate ventilation.

Keep away from children.

If in contact with skin, wash off with soapy water, launder contaminated clothing before re-use.

Wash hands/arms thoroughly after handling the product, before breaks and before eating.

This product is flammable. Isolate from all potential sources of ignition including static discharge, do not open near open flame, sources of heat or ignition, NO SMOKING.

Use explosion-proof electrical equipment, use non-sparking tools (air operated).

Store in a locked and bunded area or approved flammable goods store away from direct heat (ideally below 25°C to prevent spoilage) and well ventilated. Keep containers tightly closed when not in use. Open drums slowly in case of internal pressure. Do not store in unlabelled containers.

Store separate from oxidising materials, peroxides and metal salts.

## 8. Exposure Controls / Personal Protective Equipment (PPE)

### Workplace Exposure Limit: Worksafe 2020

Component	Cas No	TWA
Styrene	100-42-5	20ppm
Aluminium hydroxide	21645-51-2	2mg/m <sup>3</sup>
Antimony trioxide	1309-64-4	0.1mg/m <sup>3</sup>
Methyl methacrylate	80-62-6	50ppm
Cobalt bis (2-ethylexanoate)	136-52-7	1mg/m <sup>3</sup>
Maleic anhydride	108-31-6	0.0025ppm

Use general dilution or local exhaust ventilation to maintain vapour concentration below WES level in the work place. If concentrations exceed exposure limit use organic vapour canister mask or approved air-line mask. Face masks should be professionally fitted.

Skin Protection: Wear overalls or other work clothing providing arm and leg cover. Use protective gloves (PVC, Rubber or Nitrile), replace gloves immediately if torn or damaged. Wash hands before breaks and eating, wash hands when the work day is completed.

Eye Protection: Safety goggles/glasses or face shield.

Additional Advice: Do not eat, drink or smoke when using this product.



## 9. Physical / Chemical Properties

<b>Physical Description &amp; colour:</b>	Cloudy viscous liquid
<b>Odour:</b>	Characteristic of styrene
<b>Boiling Point:</b>	145°C
<b>Flammable Liquid Flash Point:</b>	32°C
<b>Flammable Limits:</b>	
UEL (upper explosive limit)	6.1%
LEL (lower explosive limit)	1.1%
<b>Specific Gravity:</b>	1.46
<b>Percent Volatiles:</b>	20 w/w
<b>Water Miscibility:</b>	Immiscible
<b>Marine Pollutant:</b>	Yes

## 10. Stability and Reactivity

<b><u>Stability:</u></b>	Under normal working conditions, good ventilation and providing the correct personal protection is worn then there should be no adverse effects. Shelf life 3 months.
<b><u>Conditions to avoid:</u></b>	Exposure to sunlight, heat, sparks, open flames, contamination and prolonged storage above 25°C.
<b><u>Materials to avoid:</u></b>	Strong acids, peroxides, other oxidising agents, transition metals e.g., copper and zinc, their alloys and galvanised items.
<b><u>Hazardous Polymerisation:</u></b>	May occur as result of high temperature, depletion of inhibitors or contamination, sealed containers may explode when heated, if burned, these products will evolve black, acrid smoke along with carbon monoxide, carbon dioxide and various organic compounds.

11. Toxicological Information
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When used under properly controlled conditions with adequate ventilation, within workplace exposure limits and with adequate protective equipment, no adverse health effects are to be expected.

**Inhalation of Vapour:** Acutely Toxic when inhaled. When inhaled adverse symptoms may include respiratory tract irritation, coughing, drowsiness or dizziness. If ventilation is poor then wear face mask with organic vapour canister.

**Eye Contact:** May cause serious eye damage. Adverse symptoms may include pain or irritation, watering and/or redness. If persistent seek medical advice.

**Skin Contact:** Acutely Toxic to the skin. Adverse symptoms may include irritation, redness of the skin.

**If Swallowed:** Harmful by ingestion, possible irritation of mucous membranes, nausea, vomiting and gastric disturbance. Possible depression of central nervous system. Aspiration into the lungs could cause pneumonitis which may cause damage to the lungs or may be fatal.

**Chronic effects of overexposure:**

Mild dermatitis may result from prolonged or repeated skin contact. Styrene can be absorbed through the skin. Seek medical advice

Excessive exposure to the liquid material or vapour may affect the central nervous system, the liver, kidneys and respiratory system.

Contains a known or suspected reproductive toxin.

12. Ecological Information
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Prevent these products from entering storm-water drains, sewers or waterways.

Styrene is the major contaminant hazard in these formulations and it will undergo slow (but near complete) biodegradation in contact with soil. Styrene vapour degrades rapidly in the atmosphere.

Styrene floats on water and will vaporise and biodegrade.

Acutely/chronically toxic to aquatic life.

H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects

13. Disposal Considerations
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**Waste Disposal:**

Recover/reuse or recycle if possible.

Hazardous materials should be disposed of by thermal treatment or incineration at an approved facility.

Small quantities of these products may be mixed with appropriate amounts of polymerization initiators (MEKP catalyst) and allowed to cool and solidify before disposal as solid waste.

This material and its container must be disposed of as hazardous waste.

Any disposal must be labelled (See section 14) as such and comply with applicable local, regional and national regulations, dispose of through a licensed waste disposal company. Ensure that these materials do not enter drains, sewers or waterways. Ensure that empty packaging is managed in accordance with Dangerous Goods and HSNO regulations.



P501	Dispose of product and packaging in accordance with local regulations
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#### 14. Transport Information

**Proper Shipping Name:** Resin Solution  
**Hazchem Class:** Class 3  
**UN Number:** UN1866  
**Packing Group:** III  
**Hazchem Code:** \*3Y  
**Transport Label:** Flammable Liquid



**Tunnel Restriction:** D  
**IERG:** 14  
**ERG Code:** 127  
**EMS Code:** F-E, S-E  
**Environmental Hazard:** Yes  
**Special precautions for users:** 233, 955

#### 15. Regulatory Information

Additives, Process Chemicals and Raw Materials (Flammable, Carcinogenic) Group Standard 2020  
 EPA New Zealand HSNO approval code HSR002495  
 NZ Inventory of Chemicals – Complies  
 SDS To be available within 10 minutes when required.  
 Websites that will be of assistance regarding Hazardous Substances:  
<https://www.hazardoussubstances.govt.nz/calculator>  
<http://www.hazardoussubstances.govt.nz/>  
<https://www.worksafe.govt.nz/topic-and-industry/hazardous-substances/guidance/hazardous-substances-that-activate-key-safety-controls/>

#### 16. Other Information

This SDS contains only safety-related information. For other data see product information literature.

Fire/Ambulance/Police NZ	111
Cas #	Unique number identifier of chemical substance information
EMS	Emergency response for shipping
EPA	Environmental Protection Agency
ERG	Emergency code for first responders

IMDG	International Maritime Dangerous Goods Class Code
LEL	Lower explosive limit
UEL	Upper explosive limit
mg/m <sup>3</sup>	milligrams per cubic mtr
ppm	parts per million
STEL	Short term exposure limit, maximum airborne concentration to which a worker may be exposed to in any 15-minute period, provided the TWA is not exceeded
STOT	Specific Target Organ Toxicity
TWA	Time Weighted Average, maximum exposure allowed in an 8-hour period
UN Number	United Nation Number assigned to Dangerous Goods
WES	Workplace Exposure Standard
Other References	Manufacturers/Supplier SDS's, Worksafe NZ

**Review:** 3<sup>rd</sup> November 2021

**Reason:** Updates, pictograms & GHS Coding

**Disclaimer:** The information given in this safety data sheet is given in good faith and is believed to be valid and accurate at the time of publication. However, no responsibility is accepted for accident or injury which may occur from omissions or from information contained in the data sheet.