



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006

SDS n° : FP17232

**ENYDYNE H 88222 TA**

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**Former date** no data available

**Revision Date** 18-Jun-2012

**Version:** 1

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

Product identifier

**Product name** ENYDYNE H 88222 TA  
**Chemical Name** Unsaturated polyester resin  
**Pure substance/mixture** Mixture

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

**Sector of use** Resins for composites, Contact us before using for food contact application.

Details of the supplier of the safety data sheet

**Supplier** CCP Composites UK Ltd  
LAPORTE ROAD  
STALLINGBOROUGH, NORTH EAST LINCS. DN41 8DR  
UNITED KINGDOM  
Tel: +44 (0) 1469 572464  
Fax: +44 (0) 1469 572988

**For further information, please contact**

**E-mail address** Rccp.SDSmanagement@ccpcomposites.com  
**Internet Address** <http://www.ccpcomposites.com>

Emergency telephone number

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

**2. HAZARDS IDENTIFICATION**

**The mixture is classified as dangerous in accordance with Directive 1999/45/EC.**

Classification of the substance or mixture

**Symbol(s)** Xn - Harmful  
**Classification** R10 - Xn;R48/20 - Xn;R20 - Xi;R36/37/38

Label elements

contains Styrene

**Symbol(s)** Xn - Harmful

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**R-phrases(s)**

R10 - Flammable

R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation

R20 - Harmful by inhalation

R36/37/38 - Irritating to eyes, respiratory system and skin

**S-phrases(s)**

S16 - Keep away from sources of ignition - No smoking

S23 - Do not breathe vapour

S33 - Take precautionary measures against static discharges

S38 - In case of insufficient ventilation, wear suitable respiratory equipment

S42 - During fumigation/spraying wear suitable respiratory equipment

S51 - Use only in well ventilated areas

S 7/9 - Keep container tightly closed and in a well-ventilated place.

**Special labelling of certain mixtures**

contains phthalic anhydride. May produce an allergic reaction.

Other hazards**Environmental properties**

Should not be released into the environment.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Hazardous components**

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight percent	Classification (67/548)	GHS Classification
Styrene	202-851-5	01-2119457861-3 2	100-42-5	~ 29	R10 Xn; R20 Xn; R48/20 Xn; R65 Xi; R36/37/38	Flam. Liq. 3 (H226) Eye Irrit. 2 (H319) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) STOT SE 3 (H335) STOT RE 1 (H372) Asp. Tox. 1 (H304)
tris(2-chloro-1-methylethyl) phosphate	237-158-7	01-2119486772-2 6	13674-84-5	~ 10	Xn; R22	Acute Tox. 4 (H302)
phthalic anhydride	201-607-5	01-2119457017-4 1	85-44-9	< 1	Xn; R22 Xi; R37/38 Xi; R41 R42/43	Acute Tox. 4 (H302) STOT SE 3 (H335) Resp. Sens. 1 (H334) Eye Dam. 1 (H318) Skin Irrit. 2 (H315) Skin Sens. 1 (H317)

For the full text of the R-phrases mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

Description of first aid measures**Eye Contact**

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

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<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes If skin irritation persists, call a physician
<b>Inhalation</b>	Move to fresh air If not breathing, give artificial respiration If symptoms persist, call a physician
<b>Ingestion</b>	Do NOT induce vomiting Rinse mouth If symptoms persist, call a physician
<b>Protection of first-aiders</b>	Use personal protective equipment

#### Most important symptoms/effects, acute and delayed

<b>Eye Contact</b>	Irritating to eyes
<b>Skin contact</b>	Irritating to skin
<b>Inhalation</b>	Harmful by inhalation Harmful: danger of serious damage to health by prolonged exposure through inhalation Irritating to respiratory system
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

#### Indication of immediate medical attention and special treatment needed, if necessary

<b>General advice</b>	If symptoms persist, call a physician Show this safety data sheet to the doctor in attendance Do not breathe dust/fume/gas/mist/vapours/spray
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### 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

<b>Suitable extinguishing media</b>	Cool containers / tanks with water spray, Dry chemical, Foam, Carbon dioxide (CO <sub>2</sub> )
<b>Extinguishing Media Which Must not be Used for Safety Reasons</b>	Do not use a solid water stream as it may scatter and spread fire.

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

<b>Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases</b>	Vapours may form explosive mixtures with air Most vapours are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks)
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#### Precautions for fire-fighters

<b>Special protective equipment for fire-fighters</b>	Wear self-contained breathing apparatus and protective suit.
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<b>Other information</b>	Cool containers / tanks with water spray Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations
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### 6. ACCIDENTAL RELEASE MEASURES

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Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

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

Methods and materials for containment and cleaning up

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

Reference to other sections

See Section 12 for additional Ecological Information

**7. HANDLING AND STORAGE**Precautions for safe handling

**Precautions for safe handling** Avoid static electricity build up with connection to earth  
Use only in area provided with appropriate exhaust ventilation  
In case of insufficient ventilation, wear suitable respiratory equipment  
Do not eat, drink or smoke when using this product  
Wear personal protective equipment

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

**Hygiene measures** When using, do not eat, drink or smoke  
Provide regular cleaning of equipment, work area and clothing

Conditions for safe storage, including any incompatibilities

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

**Materials to avoid** Strong oxidizing agents, Peroxides

**Packaging material** metallic GRP Tanks (Reinforced Glass Polyester)

**Unsuitable materials for containers** Aluminium copper Copper alloys

Specific use(s)**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

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Control parametersOccupational Exposure limits

Chemical Name	European Union	The United Kingdom	Ireland
Styrene 100-42-5	-	STEL 250 ppm STEL 1080 mg/m <sup>3</sup> TWA 100 ppm TWA 430 mg/m <sup>3</sup>	TWA 20 ppm TWA 85 mg/m <sup>3</sup> STEL 40 ppm STEL 170 mg/m <sup>3</sup>
phthalic anhydride 85-44-9		STEL 12 mg/m <sup>3</sup> TWA 4 mg/m <sup>3</sup> Sen+	TWA 4 mg/m <sup>3</sup> STEL 12 mg/m <sup>3</sup> Sensitizer

**Legend:**

+	Sensitisers
*	Skin designation
**	Hazard Designation
C:	Carcinogen
M:	Mutagen
R:	Toxic to reproduction

Biological standards

Chemical Name	European Union	The United Kingdom	Ireland
Styrene 100-42-5	-	We are not aware of any national exposure limit.	We are not aware of any national exposure limit.

Exposure controlsOccupational exposure controls**Engineering measures**

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

**Personal protective equipment****General Information**

Use personal protective equipment.

**Respiratory protection**

In case of insufficient ventilation wear suitable respiratory equipment. Breathing apparatus with filter. Type A.

**Eye protection**

Safety glasses with side-shields Do not wear contact lenses

**Skin and body protection**

Antistatic boots. Wear fire/flame resistant/retardant clothing.

**Hand protection**

Impervious gloves Glove material : Neoprene Nitriles Viton (R) Polyvinyl alcohol  
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough

Environmental exposure controls

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Information on basic physical and chemical properties

<u>Property</u>	<u>Values</u>	<u>Remark</u>
Appearance	amber	
Physical state	Liquid	
Particle size		no data available
Odour	Styrene	
Odour Threshold		no data available
pH		no data available
pH (as aqueous solution)		no data available
Melting point/range		no data available
Freezing point		no data available
Boiling point		no data available
Flash point	31 °C	
Evapouration rate		no data available
Flammability Limits in Air		
upper	-	
lower	-	
Vapour pressure	6 hPa	20°C
Vapour density		no data available
Density	1.1 - 1.15 g/cm3	20°C
Water solubility	Insoluble in water	
Partition coefficient: n-octanol/water		no data available
Autoignition temperature		no data available
Decomposition temperature		no data available
Viscosity	320 - 400 mPa.s	25 °C
Explosive properties		
Oxidizing properties		

Other information

<u>Property</u>	<u>Values</u>	<u>Remark</u>
Solubility in other solvents	Soluble in most organic solvents	

## 10. STABILITY AND REACTIVITY

ReactivityChemical stability

**Stability** Stable under recommended storage conditions.

Possibility of hazardous reactions

**Hazardous polymerisation** Polymerisation can occur.

Conditions to avoid

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

Incompatible materials

**Materials to avoid** Strong oxidizing agents, Peroxides

Hazardous decomposition products

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

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## 11. TOXICOLOGICAL INFORMATION

## Information on toxicological effects

## Acute toxicity Product Information

**Inhalation** Harmful by inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Irritating to respiratory system.

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

## Local effects

**Inhalation** Harmful by inhalation Harmful: danger of serious damage to health by prolonged exposure through inhalation Irritating to respiratory system

**Skin contact** Irritating to skin

**Eye Contact** Irritating to eyes

## Sensitisation

**Inhalation** May produce an allergic reaction.

**Skin contact** May produce an allergic reaction.

## Chronic toxicity

**Target Organ Effects** Central nervous system (CNS). Reproductive System. Respiratory system. Eyes. Liver. Skin.

## Specific effects

**Carcinogenicity** Animal testing did not show any carcinogenic effects.

**Mutagenic Effects** Animal testing did not show any mutagenic effects

**Reproductive toxicity** Animal testing did not show any effects on fertility

**Developmental Toxicity** Animal studies did not show statistically significant developmental toxicological effects.

## Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Styrene	> 2000 mg/kg (Rat)		11.8 mg/L (Rat) 4 h
tris(2-chloro-1-methylethyl) phosphate	500 mg/kg ( Rat )	1230 mg/kg ( Rabbit ) 5000 mg/kg ( Rat )	5 mg/L ( Rat ) 4 h 17.8 mg/L ( Rat ) 1 h
phthalic anhydride	1530 mg/kg bw (Rat)	> 3160 mg/kg bw (Rabbit)	2.14 mg/L (Rat) 4 h

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances
Styrene	Group I Chemical	High Exposure Concern

## 12. ECOLOGICAL INFORMATION

## Toxicity

Do not flush into surface water or sanitary sewer system.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Styrene 100-42-5	LC50 Algae 72h 4.9 mg/L	EC50 Daphnia magna 48h 4.7 mg/L	LC50 Fish 96h 4.02 - 10 mg/L	
tris(2-chloro-1-methylethyl) phosphate 13674-84-5	EC50 Pseudokirchneriella subcapitata 96h 4mg/L EC50 Desmodesmus subspicatus 72h 45mg/L	EC50 Daphnia magna 48h 63mg/L	LC50 Leuciscus idus 96h 180mg/L LC50 Poecilia reticulata 96h 30mg/L LC50 Brachydanio rerio 96h 56.2mg/L LC50 Pimephales promelas 96h 98mg/L	
phthalic anhydride 85-44-9		EC50 Daphnia magna 48h > 640 mg/L	LC50 Fish 7d 560 mg/L (Brachydanio rerio)	

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Persistence and degradability

No information available.

Bioaccumulative potential**Partition coefficient:  
n-octanol/water**

Chemical Name	log Pow
Styrene - 100-42-5	3
tris(2-chloro-1-methylethyl) phosphate - 13674-84-5	2.59
phthalic anhydride - 85-44-9	1.6

Mobility in soil

No information available.

Results of PBT and vPvB assessment

No information available.

Other adverse effects

None known.

## 13. DISPOSAL CONSIDERATIONS

Waste treatment methods**Waste from Residues/Unused  
Products**

Dispose of in accordance with the European Directives on waste and hazardous waste.

**Contaminated packaging**

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

**Other information**

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

## 14. TRANSPORT INFORMATION

ADR/RID

<b>UN-No</b>	UN1866
<b>Hazard class</b>	3
<b>Proper shipping name</b>	Resin solution
<b>Packing group</b>	III
<b>Classification Code</b>	F1
<b>Tunnel restriction code</b>	(D/E)
<b>ADR Hazard Id (Kemmler Number)</b>	30
<b>Description</b>	UN1866, RESIN SOLUTION, 3, PG III, (D/E)
<b>Limited quantity</b>	LQ7

IMDG/IMO

<b>UN-No</b>	UN1866
<b>Hazard class</b>	3
<b>Proper shipping name</b>	Resin solution



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**Packing group** III  
**Marine pollutant** NP  
**EmS** F-E, S-E  
**Description** UN1866, RESIN SOLUTION, 3, PG III, (31°C c.c.)  
**Limited quantity** 5 L

ICAO/IATA

**UN-No** UN1866  
**Hazard class** 3  
**Packing group** III  
**ERG Code** 3L  
**Description** UN1866, RESIN SOLUTION, 3, PG III  
**Limited quantity** 10 L

ADN

**UN-No** UN1866  
**Hazard class** 3  
**Packing group** III  
**Classification Code** F1  
**Special Provisions** 640E  
**Description** UN1866, RESIN SOLUTION, 3, PG III  
**Limited quantity** LQ7  
**Ventilation** VE01

## 15. REGULATORY INFORMATION

The mixture is classified as dangerous in accordance with Directive 1999/45/EC.

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

**European Union**

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

**National regulatory information****The United Kingdom**

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

**Ireland**

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

Chemical Safety Assessment

No information available

## 16. OTHER INFORMATION

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Full text of R-phrases referred to under sections 2 and 3

R10 - Flammable

R20 - Harmful by inhalation

R65 - Harmful: may cause lung damage if swallowed

R22 - Harmful if swallowed

R41 - Risk of serious damage to eyes

R36/37/38 - Irritating to eyes, respiratory system and skin

R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation

R42/43 - May cause sensitisation by inhalation and skin contact

R37/38 - Irritating to respiratory system and skin

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Revision Note not applicable

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

#### Disclaimer

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

End of Safety Data Sheet