

## OPTIMOLD II MONOCOMPOSANT

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

Product identifier

**Product name** OPTIMOLD II MONOCOMPOSANT  
**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

**Manufacturer** CRAY VALLEY  
6 rue de l'industrie  
BP 123  
27931 GRAVIGNY CEDEX  
Tel: (33) 02 32 78 30 00  
Fax: (33) 02 32 78 30 20

For further information, please contact

**E-mail address** Rrsn.SDSmanagement@crayvalley.com  
**Internet Address** <http://www.crayvalley.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

**Symbol(s)** Xn - Harmful  
**Classification** R10 - Xn;R20 - Xi;R36/38 - R43

Most important hazards

**R-phrases(s)** Flammable  
Harmful by inhalation  
Irritating to eyes and skin  
May cause sensitisation by skin contact

Other hazards which do not result in classification

**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	no data available	100-42-5	~ 26	R10 Xn; R20 Xi; R36/38	Flam. Liq. 3 (H226) Eye Irrit. 2 (H319) Acute Tox. 4 (H332) Skin Irrit. 2 (H315)
2-Hydroxyethyl methacrylate	212-782-2	no data available	868-77-9	~ 1.8	Xi; R36/38 R43	Eye Irrit. 2 (H319) 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

<b>Eye Contact</b>	Rinse thoroughly with plenty of water, also under the eyelids Keep eye wide open while rinsing If symptoms persist, call a physician
<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 Consult a physician If not breathing, give artificial respiration
<b>Ingestion</b>	Rinse mouth If symptoms persist, call a physician Do NOT induce vomiting
<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 May cause sensitisation by skin contact
<b>Inhalation</b>	Harmful by inhalation
<b>Ingestion</b>	Not classified for acute

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

**General advice** 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

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

**Suitable extinguishing media** Cool containers / tanks with water spray, Dry chemical, Foam, Carbon dioxide (CO<sub>2</sub>),

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

### Special hazards arising from the substance or mixture

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

### Precautions for fire-fighters

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

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

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Remove all sources of ignition  
Ensure adequate ventilation  
Evacuate personnel to safe areas  
Take precautionary measures against static charges  
Use personal protective equipment

### Environmental precautions

**Environmental precautions** Do not flush into surface water or sanitary sewer system  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas  
The product should not be allowed to enter drains, water courses or the soil

### Methods and materials for containment and cleaning up

**Methods for cleaning up** Contain spillage, and then collect with non-combustable 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

**Other information** See Section 12 for additional Ecological Information

## 7. HANDLING AND STORAGE

### Handling

**Advice on 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

**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

### 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,

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

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

### Specific end uses

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational Exposure limits

#### Occupational 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>

#### Legend:

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

Biological standards

Exposure controls

**Occupational exposure controls**

**Engineering measures**

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

**Hygiene measures**

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

**Personal protective equipment**

**General Information**

Use personal protective equipment.

**Respiratory protection**

In case of insufficient ventilation wear suitable respiratory equipment..

**Eye protection**

Safety glasses with side-shields

**Skin and body protection**

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

**Hand protection**

Protective gloves

**Environmental exposure controls**

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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

**Appearance**

no data available  
See information in the product data sheet

**Physical state @20°C**

liquid

**Odour**

aromatic

**Property**

**Values**

**Remarks**

**pH**

no data available

**pH (as aqueous solution)**

no data available

**Boiling point**

no data available

**Flash point**

31 °C

EN 22719

**upper**

(#) 6,1 % vol. **lower**

(#) 1,1 % vol.

**Explosive properties**

no data available

**Vapour pressure** 6 hPa 20°C

**Density** 1.3 g/cm<sup>3</sup> 20°C

**Water solubility** Insoluble in water  
**Solubility in other solvents** Soluble in most organic solvents

Other information

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>Partition coefficient: n-octanol/water</b>		no data available
<b>Viscosity</b>	1350 mPa.s	no data available
<b>Vapour density</b>		no data available
<b>Autoignition temperature</b>	(#) 490 °C	
<b>Melting point/range</b>		no data available
<b>Specific Gravity</b>		no data available
<b>Bulk density</b>		no data available
<b>Freezing point</b>		no data available
<b>Softening point</b>		no data available
<b>Note</b>	1. Take precautionary measures against electrostatic discharges 2. (#) Values related to styrene, not to the preparation	

**10. STABILITY AND REACTIVITY**

Reactivity

Chemical 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

Materials to avoid

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

Hazardous decomposition products

**Hazardous decomposition products** Hazardous decomposition products

**11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects

Acute toxicity Product Information

**Inhalation** Harmful by inhalation.  
**Ingestion** Not classified for acute.



<b>Dermal</b>	Not classified for acute
Local effects	
<b>Inhalation</b>	Harmful by inhalation
<b>Skin Contact</b>	Irritating to skin May cause sensitisation by skin contact
<b>Eye Contact</b>	Irritating to eyes
Sensitisation	
<b>Inhalation</b>	None
<b>Skin Contact</b>	None
Chronic toxicity	
<b>Target Organ Effects</b>	Central nervous system (CNS). Reproductive System. Central Vascular System (CVS). Respiratory system. Eyes. Liver. Skin.
Specific effects	
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Mutagenic Effects</b>	Contains no ingredient listed as a mutagen
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards

#### Acute toxicity Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Styrene	1000 mg/kg ( Rat )		11.8 mg/L ( Rat ) 4 h
2-Hydroxyethyl methacrylate	5050 mg/kg ( Rat )	3000 mg/kg ( Rabbit )	

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	EC50 Pseudokirchneriella subcapitata 96h 0.15 - 3.2mg/L EC50 Pseudokirchneriella subcapitata 72h 0.46 - 4.3mg/L EC50 Pseudokirchneriella subcapitata 96h 0.72mg/L EC50 Pseudokirchneriella subcapitata 72h 1.4mg/L	EC50 Daphnia magna 48h 3.3 - 7.4mg/L	LC50 Lepomis macrochirus 96h 19.03-33.53mg/L LC50 Pimephales promelas 96h 3.24-4.99mg/L LC50 Poecilia reticulata 96h 58.75-95.32mg/L LC50 Pimephales promelas 96h 6.75-14.5mg/L	
2-Hydroxyethyl methacrylate 868-77-9			LC50 Pimephales promelas 96h 213-242mg/L LC50 Pimephales promelas 96h 227mg/L	

Persistence and degradability

(#) Values related to styrene, not to the preparation. (#) Easily biodegradable. No information available.

Bioaccumulative potential

**Product Information**

**Partition coefficient: n-octanol/water** no data available

Chemical Name	log Pow
Styrene - 100-42-5	2.95
2-Hydroxyethyl methacrylate - 868-77-9	0.47

Mobility No information available.

PBT and vPvB assessment No information available.

Other adverse effects

**Other adverse effects** None known.

**13. DISPOSAL CONSIDERATIONS**

Waste treatment

**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

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

IMDG/IMO



<b>UN-No</b>	UN1866
<b>Hazard class</b>	3
<b>Proper shipping name</b>	Resin solution
<b>Packing group</b>	III
<b>Marine pollutant</b>	NP
<b>EmS</b>	F-E, S-E
<b>Description</b>	UN1866, RESIN SOLUTION, 3, PG III, (31°C c.c.)
<b>Limited quantity</b>	5 L

ICAO/IATA

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

ADN

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

15. REGULATORY INFORMATION

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

Labelling

contains 2-Hydroxyethyl methacrylate, Styrene

**Symbol(s)** Xn - Harmful



**R-phrases(s)**

R10 - Flammable  
 R20 - Harmful by inhalation  
 R36/38 - Irritating to eyes and skin  
 R43 - May cause sensitisation by skin contact

**S-phrases(s)**

S24 - Avoid contact with skin  
 S37 - Wear suitable gloves  
 S16 - Keep away from sources of ignition - No smoking  
 S33 - Take precautionary measures against static discharges  
 S 7/9 - Keep container tightly closed and in a well-ventilated place.

Special labelling of certain preparations

Further Information

European Union

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

National regulatory information

The United Kingdom

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

Ireland

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

16. OTHER INFORMATION

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

R10 - Flammable  
R20 - Harmful by inhalation  
R43 - May cause sensitisation by skin contact  
R36/38 - Irritating to eyes and skin.

**Former date** 01-oct-2007  
**Revision Date** 06-Apr-2011  
**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