

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : DualCure DC Series
 Product code : DC

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Polymeric US
 117 E. 14th Ave
 North Kansas City, MO 64116
 800-746-5567

1.4. Emergency telephone number

Emergency number Chemtel - U.S., Canada, Puerto Rico, U.S. Virgin Islands 1-800-255-3924; International 813-248-0585

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Serious eye damage/eye irritation, Category 2	H319	Causes serious eye irritation.
Skin sensitisation, Category 1	H317	May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361	Suspected of damaging fertility or the unborn child.
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402	Harmful to aquatic life
Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412	Harmful to aquatic life with long lasting effects.

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 H361 - Suspected of damaging fertility or the unborn child.
 H402 - Harmful to aquatic life
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (GHS US) :

P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 - Wash hands, forearms and face thoroughly after handling.
 P272 - Contaminated work clothing must not be allowed out of the workplace
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352 - If on skin: Wash with plenty of water/...
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308+P313 - If exposed or concerned: Get medical advice/attention.
 P321 - Specific treatment (see supplemental first aid instruction on this label)

DualCure DC Series

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
2-phenoxyethyl acrylate	(CAS-No.) 48145-04-6	15 - 30	Skin Sens. 1B, H317 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
1,6-hexanediol diacrylate (Note D)	(CAS-No.) 13048-33-4	5 - 15	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
vinylcaprolactam	(CAS-No.) 2235-00-9	5.58 - 6.2	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
thfa	(CAS-No.) 75980-60-8	5 - 15	Skin Sens. 1B, H317 Repr. 2, H361 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide	(CAS-No.) 162881-26-7	0.5 - 5	Skin Sens. 1, H317 Aquatic Chronic 4, H413

Note D : Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

DualCure DC Series

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1,6-hexanediol diacrylate (13048-33-4)
Not applicable
vinylcaprolactam (2235-00-9)
Not applicable
thfa (75980-60-8)
Not applicable
phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide (162881-26-7)
Not applicable
2-phenoxyethyl acrylate (48145-04-6)
Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

DualCure DC Series

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: colors, varied
Odour	: acrylate odor
Odour threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 212 °F
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

DualCure DC Series

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

vinylcaprolactam (2235-00-9)	
LD50 oral rat	1114 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 400 mg/kg (Rabbit, Dermal)
ATE US (oral)	1114 mg/kg bodyweight

thfa (75980-60-8)	
LD50 oral rat	> 2000 mg/kg (Rat; Literature)

phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide (162881-26-7)	
LD50 oral rat	> 2000 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))

2-phenoxyethyl acrylate (48145-04-6)	
LD50 oral rat	> 5000 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Female, Experimental value, Oral, 14 day(s))

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child.
STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

thfa (75980-60-8)	
LC50 fish 1	1 - 10 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 48 h; <i>Oryzias latipes</i>)
EC50 Daphnia 1	10 - 100 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; <i>Daphnia magna</i>)
Threshold limit algae 1	> mg/l >10/100, EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Algae

phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide (162881-26-7)	
LC50 fish 1	> 90 µg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, <i>Brachydanio rerio</i> , Semi-static system, Experimental value)
EC50 Daphnia 1	> 1175 µg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, <i>Daphnia magna</i> , Static system, Experimental value)
ErC50 (algae)	≥ 260 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, <i>Desmodesmus subspicatus</i> , Static system, Experimental value)

2-phenoxyethyl acrylate (48145-04-6)	
LC50 fish 1	10 mg/l (Equivalent or similar to OECD 203, 96 h, <i>Leuciscus idus</i> , Static system, Fresh water, Experimental value, Lethal)
EC50 Daphnia 1	1.21 mg/l (Equivalent or similar to OECD 202, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value, Locomotor effect)

DualCure DC Series

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2-phenoxyethyl acrylate (48145-04-6)	
ErC50 (algae)	10 (≥ 0) mg/l

12.2. Persistence and degradability

1,6-hexanediol diacrylate (13048-33-4)	
Persistence and degradability	Inherently biodegradable.

vinylcaprolactam (2235-00-9)	
Persistence and degradability	Biodegradability in soil: no data available. Biodegradable in water.

thfa (75980-60-8)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available.

phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide (162881-26-7)	
Persistence and degradability	Not readily biodegradable in water.

2-phenoxyethyl acrylate (48145-04-6)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

1,6-hexanediol diacrylate (13048-33-4)	
Bioaccumulative potential	No bioaccumulation data available.

vinylcaprolactam (2235-00-9)	
Bioaccumulative potential	No bioaccumulation data available.

thfa (75980-60-8)	
BCF fish 1	< 40 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; Cyprinidae sp.)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide (162881-26-7)	
BCF fish 1	< 5 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Cyprinus carpio, Experimental value)
Log Pow	5.8 (Practical experience/observation, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

2-phenoxyethyl acrylate (48145-04-6)	
Log Pow	2.58 (room temperature, Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide (162881-26-7)	
Surface tension	70.7 - 71.4 mN/m (20 °C, 0.1 g/l, EU Method A.5: Surface tension)
Ecology - soil	Adsorption to soil is possible.

2-phenoxyethyl acrylate (48145-04-6)	
Surface tension	53.6 mN/m (23 °C, Experimental value, 472.5 mg/l, OECD 115: Surface Tension of Aqueous Solutions)
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

DualCure DC Series

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN3082 Environmentally hazardous substances, liquid, n.o.s., 9, III
UN-No.(DOT)	: UN3082
Proper Shipping Name (DOT)	: Environmentally hazardous substances, liquid, n.o.s.
Class (DOT)	: 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Packing group (DOT)	: III - Minor Danger
Hazard labels (DOT)	: 9 - Class 9 (Miscellaneous dangerous materials)



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Symbols	: G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102)	: 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 173 - An appropriate generic entry may be used for this material. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leakproof when used as bulk packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: No limit
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	: 171
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG)	: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III
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DualCure DC Series

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

UN-No. (IMDG)	: 3082
Proper Shipping Name (IMDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class (IMDG)	: 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 L

Air transport

Transport document description (IATA)	: UN 3082 Environmentally hazardous substance, liquid, n.o.s., 9, III
UN-No. (IATA)	: 3082
Proper Shipping Name (IATA)	: Environmentally hazardous substance, liquid, n.o.s.
Class (IATA)	: 9 - Miscellaneous Dangerous Goods
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

1,6-hexanediol diacrylate (13048-33-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
vinylcaprolactam (2235-00-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Acrylic Resin	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
Monofunctional Acrylate	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
thfa (75980-60-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	PMN - PMN - indicates a commenced PMN substance.
phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide (162881-26-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	PMN - PMN - indicates a commenced PMN substance.
ethyl 4-dimethylaminobenzoate (10287-53-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
silica, pyrogenic (112945-52-5)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
Oligomer- not GHS Classified	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
2-phenoxyethyl acrylate (48145-04-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Subject to reporting requirements of United States SARA Section 313	

15.2. International regulations

No additional information available

15.3. US State regulations

No additional information available

DualCure DC Series

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 01/16/2019

Full text of H-statements:

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

SDS US - Polymeric US

Polymeric US urges the customer receiving this safety data sheet to study it carefully to become aware of the hazards, if any, in the product. In the interest of safety, the customer should (1) notify your employees, agents and contractors of the information included in this SDS and (2) furnish a copy to each of your employees, customers and agents.

Polymeric US makes no warranty, express or implied, as to the accuracy or reliability of information contained herein, except that such information is, to the best of Polymeric US's knowledge and belief, accurate as of the date indicated on this document. Final determination of suitability of material is the sole responsibility of the user. All the materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.