



## Safety Data Sheet REVOLUTION FORMULA 2 (all shades)

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product identifier

Product name : REVOLUTION FORMULA 2 (all shades)

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

##### Relevant identified uses

Main use category : Professional use

Function or use category : Dental product: Composite.

##### Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

KERRHAWE S.A.  
Via Strecce n°4  
6934 Bioggio (Switzerland)  
T 00-800-41-050-505  
E-mail: [safety@kerrhawe.com](mailto:safety@kerrhawe.com)

##### Manufacturer

Kerr Italia S.r.l.  
Via Passanti, 332  
84018 Scafati (SA) - Italy  
T +39-081-850-8311  
E-mail: [safety@kerrhawe.com](mailto:safety@kerrhawe.com)

Contact person : [safety@kerrhawe.com](mailto:safety@kerrhawe.com) - tel. 00-800-41-050-505 (08.00-17.00)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC® Emergency Call Center. Emergency Telephone Number (for USA only) 001-800-424-9300 International and Maritime Telephone Number +1 (703) 527-3887

Country	Organisation/Company	Address	Emergency number
Gibraltar	GHA Call Centre Zone 2, Level3, St Bernard's Hospital	Harbour Views Road	+350 200 79700 +350 200 72266
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504
United Kingdom	National Poisons Information Service (Newcastle Unit)	Claremont Place Newcastle-upon-Tyne, Newcastle	+44 191 2606182/+44 191 2606180 24H

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Irrit. 2 H315  
Eye Irrit. 2 H319  
Skin Sens. 1 H317  
STOT SE 3 H335  
Aquatic Chronic 4 H413

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

**2.2. Label elements**

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP)	:	
		GHS07
Signal word (CLP)	:	Warning
Hazardous ingredients	:	2,2'-ethylenedioxydiethyl dimethacrylate; Poly(oxy-1,2-ethanediyl), $\alpha,\alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -[(2-methyl-1-oxo-2-propen-1-yl)oxy]-
Hazard statements (CLP)	:	H315 - Causes skin irritation H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation H335 - May cause respiratory irritation H413 - May cause long lasting harmful effects to aquatic life
Precautionary statements (CLP)	:	P261 - Avoid breathing vapours P264 - Wash hands thoroughly after handling P273 - Avoid release to the environment P280 - Wear eye protection, protective gloves P312 - Call a POISON CENTER or doctor/physician if you feel unwell P333+P313 - If skin irritation or rash occurs: Get medical advice/attention P337+P313 - If eye irritation persists: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P403+P233 - Store in a well-ventilated place. Keep container tightly closed P405 - Store locked up P501 - Dispose of contents/container to a hazardous or special waste collection point
Extra phrases	:	The product is seen as a medical device and therefore not subject to labelling (EU-regulation 1272/2008, article 1, paragraph 5d).

**2.3. Other hazards**

Other hazards not contributing to the classification : None under normal conditions.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1. Substances**

Not applicable

**3.2. Mixtures**

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2,2'-ethylenedioxydiethyl dimethacrylate	(CAS No) 109-16-0 (EC No) 203-652-6 (REACH-no) 01-2119969287-21	10 - 30	Skin Sens. 1, H317
Poly(oxy-1,2-ethanediyl), $\alpha,\alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -[(2-methyl-1-oxo-2-propen-1-yl)oxy]-	(CAS No) 41637-38-1 (EC No) 609-946-4 (REACH-no) 01-2119980659-17	10 - 30	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 STOT SE 3, H335 Aquatic Chronic 4, H413
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	(CAS No) 1565-94-2 (EC No) 216-367-7 (REACH-no) N/A	5 - 15	Skin Irrit. 2, H315 Eye Irrit. 2, H319
3-Methacryloxypropyltrimethoxysilane	(CAS No) 2530-85-0 (EC No) 219-785-8 (REACH-no) 01-2119513216-50	1 - 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Full text of H-statements: see section 16

**SECTION 4: FIRST AID MEASURES**

**4.1. Description of first aid measures**

First-aid measures general	:	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

- First-aid measures after skin contact : Gently wash with plenty of soap and water. Wash contaminated clothing before reuse. 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 : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : Causes skin irritation. May cause an allergic skin reaction.
- Symptoms/injuries after eye contact : Causes serious eye irritation.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically. In all cases of doubt, or when symptoms persist, seek medical attention.

**SECTION 5: FIRE-FIGHTING MEASURES**

**5.1. Extinguishing media**

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Foam, carbon dioxide (CO2) and powder.
- Unsuitable extinguishing media : Do not use a heavy water stream.

**5.2. Special hazards arising from the substance or mixture**

- Fire hazard : Non flammable.
- Explosion hazard : Product is not explosive.
- Hazardous decomposition products in case of fire : Carbon dioxide. Carbon monoxide. metallic oxide.

**5.3. Advice for firefighters**

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
- Protection during firefighting : Do not enter fire area without proper personal protective equipment, including respiratory protection.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency procedures**

- General measures : Wear appropriate personal protective equipment - see Section 8. Avoid contact with skin and eyes.

**For non-emergency personnel**

- Emergency procedures : Evacuate unnecessary personnel.

**For emergency responders**

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

**6.2. Environmental precautions**

Discharging into rivers and drains is forbidden. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

**6.3. Methods and material for containment and cleaning up**

- For containment : Collect all waste in suitable and labelled containers and dispose according to local legislation.
- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

**6.4. Reference to other sections**

For further information refer to section 13. See Heading 8. Exposure controls and personal protection.

**SECTION 7: HANDLING AND STORAGE**

**7.1. Precautions for safe handling**

- Precautions for safe handling : Keep container tightly closed. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing vapours. Use only outdoors or in a well-ventilated area. Use personal protective equipment as required.
- Hygiene measures : Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage, including any incompatibilities**

- Storage conditions : Store in a dry place. Keep container tightly closed. Store in original container. Store in a well-ventilated place.
- Incompatible materials : Oxidizing substances. reducing materials. Organic peroxides. Amines. Sources of ignition. Direct sunlight.

**7.3. Specific end use(s)**

For professional use only.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters**

No additional information available

**8.2. Exposure controls**

Appropriate engineering controls	: Ensure good ventilation of the work station.
Personal protective equipment	: Gloves. Avoid all unnecessary exposure.
Hand protection	: Wear suitable gloves. Nitrile rubber gloves. Layer thickness : 0,2 - 0,4 mm. Breakthrough time : > 60 minutes. STANDARD EN 374.
Eye protection	: Use splash goggles when eye contact due to splashing is possible. Chemical goggles or safety glasses. EN 166
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation



Other information : Do not eat, drink or smoke during use. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

Physical state	: Liquid
Appearance	: Paste.
Colour	: Various.
Odour	: Fruity. Ester.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 2.5 g/ml
Solubility	: insoluble in water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: No data available
Explosive limits	: No data available

**9.2. Other information**

Additional information : None to our knowledge.

**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 polymerization.

**10.4. Conditions to avoid**

Heat. No flames. Eliminate all sources of ignition. Direct sunlight. Hazardous polymerization may occur if exposed to high temperature.

**10.5. Incompatible materials**

Oxidizing agent. reducing materials. Organic peroxides. Amines.

**10.6. Hazardous decomposition products**

No decomposition if stored and used normally.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects**

Acute toxicity : Not classified

**2,2'-ethylenedioxydiethyl dimethacrylate (109-16-0)**

LD50 oral rat 10837 mg/kg

**3-Methacryloxypropyltrimethoxysilane (2530-85-0)**

LD50 oral rat &gt; 30000 mg/kg

LD50 dermal rabbit &gt; 15000 mg/kg

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
	Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
	Based on available data, the classification criteria are not met
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
	Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
	Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

**SECTION 12: ECOLOGICAL INFORMATION****12.1. Toxicity**

Ecology - general : Avoid discharge to the environment.

Ecology - water : May cause long lasting harmful effects to aquatic life.

**12.2. Persistence and degradability****REVOLUTION FORMULA 2 (all shades)**

Persistence and degradability May cause long-term adverse effects in the environment.

**12.3. Bioaccumulative potential****REVOLUTION FORMULA 2 (all shades)**

Bioaccumulative potential No data.

**(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate (1565-94-2)**

Bioconcentration factor (BCF REACH) 2.46

Log Pow 4.94

**3-Methacryloxypropyltrimethoxysilane (2530-85-0)**

Log Pow 0.75

**12.4. Mobility in soil****REVOLUTION FORMULA 2 (all shades)**

Ecology - soil insoluble in water.

**12.5. Results of PBT and vPvB assessment**

**REVOLUTION FORMULA 2 (all shades)**

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

**12.6. Other adverse effects**

Other adverse effects : None to our knowledge.

Additional information : No other effects known. Avoid release to the environment

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

Regional legislation (waste) : Dispose as hazardous waste.

Waste treatment methods : Recover the product with absorbent material. Dispose of contents/container in accordance with licensed collector's sorting instructions. Do not discharge into drains.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a hazardous or special waste collection point.

Ecology - waste materials : Avoid release to the environment.

European List of Waste (LoW) code : 18 01 06\* - chemicals consisting of or containing dangerous substances

**SECTION 14: TRANSPORT INFORMATION**

In accordance with ADR / RID / IMDG / IATA / ADN

<b>14.1. UN number</b>	Not regulated for transport
<b>14.2. UN proper shipping name</b>	
<b>14.3. Transport hazard class(es)</b>	
<b>14.4. Packing group</b>	
<b>14.5. Environmental hazards</b>	
No supplementary information available	

**14.6. Special precautions for user**

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**SECTION 15: REGULATORY INFORMATION**

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

**EU-Regulations**

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	REVOLUTION FORMULA 2 (all shades) - 2,2'-ethylenedioxydiethyl dimethacrylate - Poly(oxy-1,2-ethanediyl), α,α'-[(1-methylethylidene)di-4,1-phenylene]bis[ω-[(2-methyl-1-oxo-2-propen-1-yl)oxy]-
3(c) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1	REVOLUTION FORMULA 2 (all shades) - Poly(oxy-1,2-ethanediyl), α,α'-[(1-methylethylidene)di-4,1-phenylene]bis[ω-[(2-methyl-1-oxo-2-propen-1-yl)oxy]-

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

**National regulations**

EC-regulation 2015/830 /EC, 1907/2006/EC (REACH), 1272/2008/EC (CLP), 790/2009/EC. Transport of dangerous goods (ADR/RID, IMDG, IATA/ICAO). Workplace exposure limits.

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

**SECTION 16: OTHER INFORMATION**

## Indication of changes:

Composition/information on ingredients. Hazards identification. Label elements. Waste disposal recommendations.

2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Added	
2.2	Hazard pictograms (CLP)	Added	
2.2	Precautionary statements (CLP)	Added	
2.2	Hazard statements (CLP)	Added	
2.2	Signal word (CLP)	Added	
2.2	EUH-statements	Removed	
3	Composition/information on ingredients	Modified	
4.1	First-aid measures after ingestion	Modified	
4.1	First-aid measures general	Modified	
4.1	First-aid measures after skin contact	Modified	
4.1	First-aid measures after inhalation	Modified	
4.1	First-aid measures after eye contact	Modified	
4.2	Symptoms/injuries after inhalation	Added	
4.2	Symptoms/injuries after skin contact	Added	
4.2	Symptoms/injuries	Removed	
4.2	Symptoms/injuries after eye contact	Added	
4.3	Other medical advice or treatment	Modified	
5.2	Hazardous decomposition products in case of fire	Modified	
5.3	Firefighting instructions	Modified	
6.1	General measures	Modified	
6.1	Protective equipment	Added	
6.1	Emergency procedures	Added	
6.2	Environmental precautions	Modified	
6.3	Methods for cleaning up	Modified	
7.1	Hygiene measures	Added	
7.1	Precautions for safe handling	Modified	
7.2	Storage conditions	Modified	
7.2	Incompatible materials	Modified	
8.2	Hand protection	Modified	
8.2	Eye protection	Modified	
8.2	Personal protective equipment	Modified	
9.1	Solubility	Modified	
10.3	Possibility of hazardous reactions	Modified	
10.4	Conditions to avoid	Modified	
11.1	Potential adverse human health effects and symptoms	Modified	
12.1	Ecology - general	Modified	
12.1	Ecology - water	Added	
12.2	Persistence and degradability	Modified	
12.4	Ecology - soil	Modified	
13.1	European List of Waste (LoW) code	Modified	
13.1	Waste treatment	Modified	

	methods		
13.1	Regional legislation (waste)	Modified	
13.1	Waste disposal recommendations	Modified	
16	Data sources	Added	
16	Other information	Added	

Data sources : EC-regulation 2015/830 /EC, 1907/2006/EC (REACH), 1272/2008/EC (CLP), 790/2009/EC. Transport of dangerous goods (ADR/RID, IMDG, IATA/ICAO). Workplace exposure limits.

Other information : None.

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Version : 6.0

Signature : A. Åsebø Murel

Full text of H- and EUH-statements:

Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
Skin Sens. 1A	Sensitisation — Skin, category 1A
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H413	May cause long lasting harmful effects to aquatic life

The information in this safety data sheet is based on information from the manufacturer/supplier, present European and national legislation, and presupposes that the product is used within the specified area of application.