

# Maximum Cure and Custom IQ Part A Bonding Resin

## Safety Data Sheet

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

Date of issue: 3/14/2018

Version: 8

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Maximum Cure and Custom IQ Part A Bonding Resin

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : For RX only

#### 1.3. Supplier

##### Manufacturer

Reliance Orthodontic Products, Inc. 1540 West Thorndale Ave.  
 Itasca, IL 60143 USA  
 630-773-4009, during normal business hours  
[www.RelianceOrthodontics.com](http://www.RelianceOrthodontics.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC - 24-Hour Hazmat Emergency Communications Center  
 Domestic: 1-800-424-9300 Outside the U.S.: 1-703-527-3887, collect calls accepted

### SECTION 2: Hazard(s) identification

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

##### GHS-US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapour
Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Acute toxicity (dermal) Category 3	H311	Toxic in contact with skin
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Specific target organ toxicity (single exposure) Category 3	H335	May cause respiratory irritation
Hazardous to the aquatic environment - Acute Hazard Category 3	H402	Harmful to aquatic life

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapour  
 H302 - Harmful if swallowed  
 H311 - Toxic in contact with skin  
 H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H318 - Causes serious eye damage  
 H335 - May cause respiratory irritation  
 H402 - Harmful to aquatic life

Precautionary statements (GHS-US) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 P233 - Keep container tightly closed.  
 P240 - Ground/Bond container and receiving equipment

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P241 - Use explosion-proof ventilating equipment  
P242 - Use only non-sparking tools.  
P243 - Take precautionary measures against static discharge.  
P261 - Avoid breathing vapors  
P264 - Wash hands thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P272 - Contaminated work clothing must not be allowed out of the workplace  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, face protection, eye protection  
P301+P312 - If swallowed: Call a POISON CENTER, a doctor if you feel unwell  
P302+P352 - If on skin: Wash with plenty of Wash skin with soap and water  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER, a doctor  
P321 - Specific treatment (see First aid measures on this label)  
P322 - Specific treatment (see face protection, eye protection, protective gloves on this label)  
P330 - Rinse mouth.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P363 - Wash contaminated clothing before reuse.  
P370+P378 - In case of fire: Use dry sand, dry extinguishing powder, nitrogen to extinguish  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose in a safe manner in accordance with local/national regulations

### 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
BisGMA	(CAS-No.) 1565-94-2	50 - 75	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Skin Sens. 1, H317
Methyl Methacrylate, monomer, inhibited	(CAS-No.) 80-62-6	10 - 30	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 3, H402
2,2'-(4-Methylphenyl)Imino]Bisethanol	(CAS-No.) 3077-12-1	1 - 5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
2-N-Morpholinoethyl Methacryla	(CAS-No.) 2997-88-8	1 - 5	Eye Irrit. 2A, H319
4-Methoxyphenol Hydroquinone	(CAS-No.) 150-76-5	< 1	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 2, H401

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 : Call a poison center/doctor/physician if you feel unwell.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.  
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

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First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

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

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

### 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

Fire hazard : Highly flammable liquid and vapour.

Reactivity : Highly flammable liquid and vapour.

### 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.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : No open flames, no sparks, and no smoking. Avoid breathing mist, vapors. Avoid contact with skin, eyes and clothing.

#### 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 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing mist, vapors. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. 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

Technical measures : Ground/bond container and receiving equipment.

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

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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<b>Methyl Methacrylate, monomer, inhibited (80-62-6)</b>		
ACGIH	ACGIH TWA (ppm)	50 ppm
ACGIH	ACGIH STEL (ppm)	100 ppm
<b>2-N-Morpholinoethyl Methacryla (2997-88-8)</b>		
Not applicable		
<b>4-Methoxyphenol Hydroquinone (150-76-5)</b>		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
<b>BisGMA (1565-94-2)</b>		
Not applicable		
<b>2,2'-[(4-Methylphenyl)Imino]Bisethanol (3077-12-1)</b>		
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

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Appearance : Viscous liquid.  
Color : Pale yellow  
Odor : Acrylic  
Odor threshold : No data available  
pH : No data available  
Melting point : Not applicable  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
Relative evaporation rate (butyl acetate=1) : No data available  
Flammability (solid, gas) : Not applicable.  
Vapor pressure : No data available  
Relative vapor 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

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Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Highly flammable liquid and vapour.

### 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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 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: Harmful if swallowed. Dermal: Toxic in contact with skin.

Maxicure Fast and Custom IQ Sealant with Fluoride	
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight

Methyl Methacrylate, monomer, inhibited (80-62-6)	
LD50 oral rat	9400 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male/female, Experimental value)
LD50 dermal rabbit	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value)
LC50 inhalation rat (mg/l)	29.8 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male/female, Experimental value)
ATE US (oral)	9400 mg/kg body weight

2-N-Morpholinoethyl Methacryla (2997-88-8)	
LD50 oral rat	N/A
LD50 dermal rat	N/A
LD50 dermal rabbit	N/A
LC50 inhalation rat (ppm)	N/A

4-Methoxyphenol Hydroquinone (150-76-5)	
LD50 oral rat	1600 mg/kg (Rat)
ATE US (oral)	1600 mg/kg body weight

2,2'-(4-Methylphenyl)Imino]Bisethanol (3077-12-1)	
LD50 oral rat	960 mg/kg (Rat, Literature study)
ATE US (oral)	960 mg/kg body weight

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

2-N-Morpholinoethyl Methacryla (2997-88-8)	
IARC group	4 - Probably not carcinogenic to humans

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Reproductive toxicity : Not classified  
Specific target organ toxicity – single exposure : May cause respiratory irritation.

<b>2-N-Morpholinoethyl Methacryla (2997-88-8)</b>	
LOAEL (oral,rat)	N/A mg/kg body weight
LOAEL (dermal,rat/rabbit)	N/A mg/kg body weight
LOAEC (inhalation,rat,gas)	N/A ppmV/4h
LOAEC (inhalation,rat,vapour )	N/A mg/l/4h
LOAEC (inhalation,rat,dust/mist/fume)	N/A mg/l/4h

Specific target organ toxicity – repeated exposure : Not classified

<b>2-N-Morpholinoethyl Methacryla (2997-88-8)</b>	
LOAEL (oral,rat,90 days)	N/A mg/kg bodyweight/day
LOAEL (dermal,rat/rabbit,90 days)	N/A mg/kg bodyweight/day
LOAEC (inhalation,rat,gas,90 days)	N/A ppmV/6h/day
LOAEC (inhalation,rat,vapour,90 days)	N/A mg/l/6h/day
LOAEC (inhalation,rat,dust/mist/fume,90 days)	N/A mg/l/6h/day

Aspiration hazard : Not classified  
Symptoms/effects after inhalation : May cause respiratory irritation.  
Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.  
Symptoms/effects after eye contact : Serious damage to eyes.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Harmful to aquatic life.

<b>Methyl Methacrylate, monomer, inhibited (80-62-6)</b>	
LC50 fish 1	> 79 mg/l (EPA OTS 797.1400, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)
EC50 Daphnia 1	69 mg/l (EPA OTS 797.1300, 48 h, Daphnia magna, Flow-through system, Fresh water, Experimental value)

<b>4-Methoxyphenol Hydroquinone (150-76-5)</b>	
LC50 fish 1	28.5 mg/l (96 h, Salmo gairdneri, Flow-through system)
EC50 Daphnia 1	2.2 mg/l (48 h, Daphnia magna)

<b>2,2'-[(4-Methylphenyl)Imino]Bisethanol (3077-12-1)</b>	
LC50 fish 1	> 100 mg/l (96 h, Brachydanio rerio, Literature study)

### 12.2. Persistence and degradability

<b>Methyl Methacrylate, monomer, inhibited (80-62-6)</b>	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.14 g O <sub>2</sub> /g substance
ThOD	1.9 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.073

<b>4-Methoxyphenol Hydroquinone (150-76-5)</b>	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
BOD (% of ThOD)	0.57

<b>2,2'-[(4-Methylphenyl)Imino]Bisethanol (3077-12-1)</b>	
Persistence and degradability	Biodegradability in water: no data available.

### 12.3. Bioaccumulative potential

<b>Methyl Methacrylate, monomer, inhibited (80-62-6)</b>	
BCF fish 1	2.97 - 3.5 (Pisces, QSAR)

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### Methyl Methacrylate, monomer, inhibited (80-62-6)

Log Pow	1.32 - 1.38 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

### 4-Methoxyphenol Hydroquinone (150-76-5)

Log Pow	1.34 - 1.58 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

### 2,2'-[(4-Methylphenyl)Imino]Bisethanol (3077-12-1)

Log Pow	1.09 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

## 12.4. Mobility in soil

### Methyl Methacrylate, monomer, inhibited (80-62-6)

Surface tension	28.9 mN/m (20 °C)
Log Koc	0.94 - 1.86 (log Koc, Other, Experimental value, GLP)
Ecology - soil	Highly mobile in soil.

### 2,2'-[(4-Methylphenyl)Imino]Bisethanol (3077-12-1)

Ecology - soil	No (test)data on mobility of the substance available.
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## 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.
Additional information	: Flammable vapors may accumulate in the container.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN1247 Methyl methacrylate monomer, stabilized, 3, II
UN-No. (DOT)	: UN1247
Proper Shipping Name (DOT)	: Methyl methacrylate monomer, stabilized
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT)	: II - Medium Danger
Hazard labels (DOT)	: 3 - Flammable liquid



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Special Provisions (49 CFR 172.102)	: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). 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. 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.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L

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DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"  
Other information : No supplementary information available.

### Transportation of Dangerous Goods

#### Transport by sea

#### Air transport

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 2,2'-[(4-Methylphenyl)Imino]Bisethanol (3077-12-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Full text of H-phrases:

H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H401	Toxic to aquatic life
H402	Harmful to aquatic life

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*