### **U-Bond**

### **Material Safety Data Sheet**

 Safety Data Sheet according to regulation (EC) N°1907/2006, (EU)

 2015/830, 1272/2008(CLP) & 453/2010

 Date Revised
 : 05.01.2023

 Product
 : L922 – High Performance UV Adhesive

Glassbond

by

### Section 1 : Identification of the Substance/Mixture and of the Company/ Undertaking

1.1	Product Identifier Product name REACH notes	: U-Bond High Performance UV Adhesive – L922 Liquid : Substances contained in this product that are not classified as hazardous have been/will be registered for UK/EU REACH at the appropriate time.
1.2	Relevant identified uses of Identified use Uses advised against	f the mixture and uses advised against. : PC1, Adhesives, sealants : No other uses
1.3	Details of the supplier of t Company identification	
	Telephone Fax Email	+44(0)1744 730334 +44(0)1744 451661 technical@glassbond.co.uk
1.4	Emergency telephone number	+44(0)1744 730334 (GMT, English spoken, Mon-Friday; 08.30-16.30)

### Section 2 : Hazard Identification

2.1 Classification of the mixture: Regulation (EC) No. 1272/2008(CLP)
Skin Irrit. 2: H315; Eye Dam. 1: H318; Skin Sens. 1: H317; STOT SE 3: H335; STOT – repeated exposure: H373; Aquatic Acute 1: H400; Aquatic Chronic 1: H410.

2.2 Label elements (According to Regulation (EC) No. 1272/2008(CLP))



GHS05: Corrosion GHS07: Harmful GHS09: Dangerous for the environment

Signal Word(s)	Danger
Hazard Statement(s)	H315 Causes skin irritation. H318 Causes serious eye damage. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation. H410 Very toxic to aquatic life with long lasting effects.
Precautionary Statement(s):	<ul> <li>P264 Wash contaminated skin thoroughly after handling.</li> <li>P272 Contaminated work clothing should not be allowed out of the workplace.</li> <li>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</li> <li>P337+P313 If eye irritation persists: Get medical advice/ attention.</li> <li>P362+P364 Take off contaminated clothing and wash it before reuse.</li> <li>P391 Collect spillage.</li> <li>P501 Dispose of contents/container in accordance with existing Community, National and local regulations.</li> </ul>
Contains	Isobornyl acrylate, 2-hydroxyethyl methacrylate, methacrylic acid, Maleic acid, diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
2.3 Other Haza This produ	ards ct is not identified as a PBT/vPvB substance

### Section 3 : Composition/Information on Ingredients

3.2 Hazardous ingredients:

Isobornyl Acrylate – REACH registered number(s): 01-2119957862-25

EINECS	CAS	PBT/WEL	CLP Classification	Percent
227-561-6	5888-33-5	-	Skin Irrit. 2: H315; Eye Irrit. 2: H319; Skin Sens. 1: H317; STOT SE: H335; Aquatic Acute 1: H400; Aquatic Chronic: H410	10 - 30%

#### 2-Hydroxyethyl Methacrylate – REACH registered number(s): 01-2119490169-29

212-782-2	868-77-9	-	Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317	5 - 10%
-----------	----------	---	--	---------

### Methacrylic Acid – REACH registered number(s): 01-2119463884-26

201-204-4 79-41-4	Acute Tox. 4: H302; Acute Tox. 3 H311; Acute Tox. 4: H332; Skin Corr. 1A: H314; Eye Dam. 1: H318; STOT SE 3: H335	1 - <5%
-------------------	--	---------

Diphenyl(2,4,6-trimethylbenzoyl)phosphine - REACH registered number(s): 01-2119972295-29				
278-355-8	75980-60-8	-	Skin Sens. 1B: H317; Repr. 2: H361f; Aquatic Chronic 2: H411	1 - <3%

Maleic Acid - REACH registered number(s): 01-2119488705-25

203-742-5 110-16-7	Acute Tox. 4: H302; Acute Tox. 4: H312; Skin Irrit. 2: H315; Eye Irrit. 2: H319; Skin Sens. 1: H317; STOT SE 3: H335	1 - <3%
--------------------	---	---------

#### **Section 4 : First Aid Measures**

- 4.1 Description of first aid measures
- Inhalation Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
- Eyes Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately
- Skin Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
- Ingestion Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

- Inhalation May cause respiratory irritation.
- Eyes May cause serious eye damage.

Skin Skin irritation. Mild dermatitis, allergic skin rash.

4.3 Indication of any immediate medical attention and special treatment needed

Immediate/special treatment Treat symptomatically.

#### **Section 5 : Fire-Fighting Measures**

5.1 Extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet to extinguish, as this will spread the fire.

- 5.2 Special hazards arising from the Burning produces irritating, toxic and obnoxious fumes. Carbon monoxide, carbon dioxide, and unknown hydrocarbons.
- 5.3 Advice for fire fighters Precautionary fire measures: Evacuate area

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

- 6.1. Personal precautions, protective equipment and emergency procedures Section 6: Accidental Release Measures Notify the police and fire brigade immediately. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Turn leaking containers leakside up to prevent the escape of liquid.
- 6.2 Environmental precautions Do not discharge into drains or rivers.
- 6.3 Methods and material for containment and cleaning up Take up liquid spill into absorbent material. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Place in an appropriate container and dispose of the contaminated material at a licensed site. Prevent entry to sewers and public waters. Dispose of materials or solid residues at an authorized site.
- 6.4 Reference to other sections Refer to section 8 and 13 of SDS.

#### Section 7 : Handling and Storage

- 7.1 Precautions for safe handling
  - HandlingAvoid contact with skin and eyes. Do not eat, drink or smoke when<br/>using this product.
- 7.2 Conditions for safe storage, including any incompatibilities

Storage conditions Store in closed original container at temperatures between 5°C and 25°C. Protect against direct sunlight. Never return unused material to storage receptacle.

7.3 Specific end use(s) Adhesive.

	Product	: L922 – High Performance UV Adhesive		
Section 8 : Exposure Controls/Personal Protection				
8.1 Control parameters				
National occupational exposur	e and biologic	al limit values		
Methacrylic Acid				
Long-term exposure limit (8-h	our TWA):	WEL 20 ppm 72 mg/m <sup>3</sup>		
Short-term exposure limit (15	-minute):	WEL 40 ppm 143 mg/m <sup>3</sup>		
DNEL and PNEC				
Isobornyl Acrylate (5888-3	3-5)			
DNEL (Workers)				
Long-term – systemic effects,	dermal	1.39 mg/kg/day		
PNEC (Water)				
PNEC aqua (freshwater)		0.001 mg/l		
PNEC aqua (marine water)		0 mg/l		
PNEC (Sediment)				
PNEC sediment (freshwater)		0.145 mg/kg		
PNEC sediment (marine water	)	0.015 mg/kg		
PNEC (STP)				
PNEC sewage treatment plant		2 mg/l		
2-hydroxyethyl methacryla	te (868-77-	9)		
DNEL (Workers)		·		
Long-term – systemic effects,	dermal	1.39 mg/kg bodyweight/day		
Long-term - systemic effects,	inhalation	4.9 mg/m <sup>3</sup>		
PNEC (Water)		1		
PNEC aqua		0.482 mg/l		
PNEC aqua (freshwater)		3.79 mg/kg		
PNEC (Soil)				

PNEC soil

PNEC (STP)

PNEC sewage treatment plant

0.476 mg/kg

10 mg/l

Methacrylic Acid (79-41-4)		
DNEL (Workers)		
Long-term – systemic effects, dermal	4.25 mg/kg/day	
Long-term – local effects, inhalation	88 mg/m <sup>3</sup>	
Long-term - systemic effects, inhalation	29.6 mg/m <sup>3</sup>	
PNEC (Water)		
PNEC aqua (freshwater)	0.82 mg/l	
PNEC aqua (marine water)	0.82 mg/l	
PNEC (Soil)		
PNEC soil	1.2 mg/kg	
PNEC (STP)		
PNEC sewage treatment plant	10 mg/l	

Diphenyl(2,4,6-trimethylbenzoyl)phosphine Oxide (75980-60-8)		
DNEL (Workers)		
1 mg/kg bodyweight/day		
3.5 mg/m <sup>3</sup>		
PNEC (Water)		
0.004 mg/l		
0 mg/l		
0.29 mg/kg		
0.029 mg/kg		
PNEC (Soil)		
0.056 mg/kg		
PNEC (STP)		
>1000 mg/l		

Maleic Acid (110-16-7)		
DNEL (Workers)		
Short-term – local effects, inhalation	3 mg/m <sup>3</sup>	
Short-term - systemic effects, inhalation	3 mg/m <sup>3</sup>	
Long-term – local effects, inhalation	3 mg/m <sup>3</sup>	
Long-term - systemic effects, inhalation	3 mg/m <sup>3</sup>	
PNEC (Water)		
PNEC aqua (freshwater)	0.1 mg/l	
PNEC aqua (marine water)	0 mg/l	
Intermittent release	0.4281 mg/l	
PNEC (Sediment)		
PNEC sediment (freshwater)	0.334 mg/kg	
PNEC sediment (marine water)	0.0334 mg/kg	
PNEC (Soil)		
PNEC soil	0.0415 mg/kg	
PNEC (STP)		
PNEC sewage treatment plant	44.6 mg/l	

### 8.2 Exposure controls

Engineering measures: Normal (mechanical) room ventilation should be adequate for small volumes. For higher volume activities, or if needed for worker comfort, local mechanical exhaust should be provided. Respiratory protection: in case of sufficient ventilation, wear suitable respiratory equipment Hand protection: protective gloves. Eye protection: tightly fitting safety goggles. Ensure eye bath is to hand. Skin protection: protective clothing.

### **Section 9 : Physical and Chemical Properties**

### 9.1 Information on basic physical and chemical properties

Appearance Odour Ph Value Melting Point/freezing pt Initial Boiling Point/Range Flashpoint °C	Liquid Characteristic Not applicable Not applicable Not applicable >100°C	Colour Odour threshold ppm Density Solubility in Water @ 20°C Partition Coefficient (n-octanol/water)	Colourless Not Available Not Available Slightly soluble Not available
Evaporation rate	Not applicable	Auto ignition temperature	Not available
Flammability (solid/gas)	Not applicable	Decomposition temperature	Not available
Upper explosive limit	Not Available	Viscosity mPa.s @ 25°C	5000 – 8000
Lower explosive limit	Not Available	Relative density	1.1
Vapour pressure	Not Available	Relative vapour density @20°C	Not Available
Vapour density (air=1)	Not applicable	Particle Characteristics	Not available

### Section 10 : Stability and Reactivity

10.1	Reactivity	The following materials may react with the product: Strong oxidising agents. Light.
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	Protect against direct sunlight.
10.5	Incompatible materials	Strong reducing agents. Strong oxidising agents.
10.6	Hazardous Decomposition Products	Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

### Section 11 : Toxicological information

11.1 Toxicological effects	The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.
Skin sensitisation	May cause sensitisation by skin contact.
Aspiration hazard	None under normal conditions.
Inhalation	May cause respiratory irritation.
Skin contact	Irritating to skin.
Eye contact	Causes serious eye damage
Acute toxicity (oral):	Not classified
Acute toxicity (dermal):	Not classified
Acute toxicity (inhalation):	Not classified

Isobornyl Acrylate	
LD50 oral – rat	5,000 mg/kg bodyweight
LD50 dermal – rabbit	3,000 mg/kg bodyweight
LC50 Inhalation	No information available.
Skin corrosion/irritation – animal	Not irritating.
Serious eye damage/irritation	Not irritating.
Skin sensitisation	Local Lymph Node Assay (LLNA) - : Sensitising
Genotoxicity – in vitro	Genome mutation: Negative
Carcinogenicity	No information available
Reproductive toxicity – fertility	Two-generation study - NOEC 0.092 mg/l, Inhalation, Rat P
Reproductive toxicity – development	Developmental toxicity: - NOAEL: >=500 mg/kg/day, Oral, Rat
STOT – single exposure	No information available.
STOT – repeated exposure	No information available.
Aspiration hazard	No information available.

2-Hydroxyethyl methacrylate	
LD50 oral – rat	5,000 mg/kg bodyweight
LD50 dermal – rabbit	5,000 mg/kg bodyweight
LC50 Inhalation	No information available.
Skin corrosion/irritation – animal	Erythema/eschar score: Very slight erythema - barely perceptible (1). Not irritating.
Serious eye damage/irritation	Moderately irritating.
Respiratory sensitisation	No information available.
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.
Genotoxicity – in vitro	Conclusive data but not sufficient for classification.
Genotoxicity – in vivo	Chromosome aberration: Negative.
Carcinogenicity	No specific test data available.
Reproductive toxicity – fertility	Screening - NOAEL >=1000 mg/kg/day, Oral, Rat F1
Reproductive toxicity – development	Developmental toxicity: - NOAEL: >=1000 mg/kg/day, Oral, Rat
STOT – single exposure	No specific test data available.
STOT – repeated exposure	No specific test data available.
Aspiration hazard	Not applicable.

Methacrylic Acid	
LD50 oral – rat	1,320 mg/kg bodyweight
LD50 dermal – rabbit	1,000 mg/kg bodyweight
Skin corrosion/irritation – animal	Dose: Method: OECD 404, 3 minutes, Rabbit Corrosive
Serious eye damage/irritation	Method: OECD 405, Rabbit Corrosive.
Respiratory sensitisation	Guinea pig: Not sensitising. Method: various test systems
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.
Genotoxicity – in vitro	Based on available data the classification criteria are not met.
Carcinogenicity	CMR: no
Reproductive toxicity – fertility	No evidence of reproductive toxicity in animal studies.
Reproductive toxicity – development	Non-teratogenic, not embryotoxic
STOT – single exposure	Respiratory tract Irritating.
STOT – repeated exposure	No specific target organs known
Aspiration hazard	Based on available data the classification criteria are not met.

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	
LD50 oral – rat	5,000 mg/kg bodyweight
LD50 dermal – rat	2,000.1 mg/kg bodyweight
LC50 Inhalation – rat	No information available.
Skin corrosion/irritation – animal	Not irritating.
Serious eye damage/irritation	Not irritating.
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising.
Genotoxicity – in vitro	Genome mutation: Negative
Carcinogenicity	No data available.
Reproductive toxicity – fertility	Possible risk of adverse reproductive effects.
Reproductive toxicity – development	Developmental toxicity: - NOAEL: 150 mg/kg, Oral, Rat
STOT – single exposure	No information available.
STOT – repeated exposure	NOAEL 50 mg/kg/day, Oral, Rat
Aspiration hazard	No information available.

Maleic Acid	
LD50 oral – rat	708 mg/kg bodyweight
LD50 dermal – rat	1,560 mg/kg bodyweight
LC50 Inhalation – rat	No information available.
Skin corrosion/irritation – animal	Rabbit Irritating to skin.
Serious eye damage/irritation	Rabbit Causes serious eye damage.
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising.
Genotoxicity – in vitro	Chromosome aberration: Positive. Ames test: Negative. DNA damage and/or repair: Negative.
Carcinogenicity	Based on available data the classification criteria are not met.
Reproductive toxicity – fertility	Two-generation study - NOEL 55 mg/kg/day, Oral, Rat F2
Reproductive toxicity – development	No information available.
STOT – single exposure	May cause respiratory irritation.
STOT – repeated exposure	No information available.
Aspiration hazard	No information available.

### Section 12 : Ecological Information

12.1 Ecology - general

Hazardous to the aquatic environment, short term (acute)

Hazardous to the aquatic environment, long-term (chronic) Very toxic to aquatic life with long lasting effects.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects. Not rapidly degradable.

Isobornyl Acrylate	
Acute aquatic toxicity	
LE(C) <sub>50</sub>	$0.1 , L(E)C50 \le 1$
M factor (acute)	1
Acute toxicity – fish	LC50, 96 hours: 0.704 mg/l, Danio rerio (Zebrafish)
Acute toxicity – aquatic plants	EC50, 72 hours: 1.98 mg/l, Pseudokirchneriella subcapitata NOEC, 72 hours: 0.405 mg/l, Pseudokirchneriella subcapitata
Chronic aquatic toxicity	
M factor (chronic)	1
Chronic toxicity – aquatic invertebrates	NOEC, 21 days: 0.092 mg/l, Daphnia magna
2-Hydroxyethyl methacrylate	
Acute aquatic toxicity	
Acute toxicity - fish	LC50, 96 hours: > 100 mg/l, Oryzias latipes (Red killifish)
Acute toxicity – aquatic invertebrates	EC50, 48 hours: 380 mg/l, Daphnia magna
Acute toxicity – aquatic plants	EC50, 72 hours: 836 mg/l, Selenastrum capricornutum

	NOEC, 72 hours: 400 mg/l, Selenastrum
	capricornutum
Acute toxicity -	EC50, 16 hours: > 3000 mg/l, Pseudomonas
microorganisms	fluorescens
Chronic aquatic toxicity	
Chronic toxicity – aquatic invertebrates	NOEC, 21 days: 24.1 mg/l, Daphnia magna

LC50, 96 hours: 85 mg/l, Oncorhynchus mykiss (Rainbow trout)
EC50, 48 hours: > 130 mg/l, Daphnia magna
EC50, 72 hours: 45 mg/l, Selenastrum capricornutum LOEC, 72 hours: 45 mg/l, Selenastrum capricornutum
EC50, 17 hours: 270 mg/l, Pseudomonas putida
NOEC, 35 days: 10 mg/l, Danio rerio (Zebrafish)
NOEC, 21 days: 53 mg/l, Daphnia magna
- - -

Diphenyl(2,4,6-trimethylbenzoyl)phosphine Oxide	
Acute aquatic toxicity	
Acute toxicity - fish	LC50, 48 hours: 6.53 mg/l, Oryzias latipes (Red killifish)
Acute toxicity – aquatic invertebrates	EC50, 48 hours: 3.53 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC50, 72 hours: > 2.01 mg/l, Pseudokirchneriella subcapitata
Acute toxicity – microorganisms	EC50, 180 minutes: > 1000 mg/l, Activated sludge

### Diphenyl(2,4,6-trimethylbenzoyl)phosphine Oxide

Acute aquatic toxicity	
Acute toxicity - fish	LC₅₀, 96 hours: 5 mg/l, Pimephales promelas (Fat-head Minnow) LC₀, 96 hours: 300 mg/l, Lepomis macrochirus (Bluegill)
Acute toxicity – aquatic invertebrates	EC50, 48 hours: 160-400 mg/l, Daphnia magna EC100, 24 hours: 200 mg/l, Daphnia magna
Acute toxicity – aquatic plants	EC50, 72 hours: 41 mg/l, Desmodesmus subspicatus

12.2	Persistence and degradability	No additional information available.
	Ecological information on ingredients: Isobornyl acrylate	Water - Degradation 57%: 28 days
	2-Hydroxyethyl methacrylate	Water - Degradation 84%: 28 days
	Methacrylic acid	Water - Degradation 86%: 28 days
	Diphenyl(2,4,6- trimethylbenzoyl)phosphine oxide	Water - Degradation <20%: 28 days
12.3	Bioaccumulative potential	No data available on bioaccumulation potential.
	Ecological information on ingredients: 2-Hydroxyethyl methacrylate Maleic acid Diphenyl(2,4,6- trimethylbenzoyl)phosphine oxide	Bioaccumulative potential BCF: 1.34 – 1.54 Bioaccumulative potential BCF: <10, Leuciscus idus (golden orfe) Bioaccumulative potential BCF: 23 – 55, Cyprinus carpio (common carp)

12.4	Mobility in soil	No data available.
	Ecological information on ingredients: 2-Hydroxyethyl methacrylate	Water - Koc: 42.7 @ 20°C
12.5	Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.
12.6	Other adverse effects	None known.

### Section 13 : Disposal Consideration

13.1	Waste treatment met Disposal operations	hods Waste disposal should be in accordance with existing Community, National and local regulations Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
	Waste Class	08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances.

#### **Section 14 : Transport Information**

Applies to road, sea, and air transportation to inner containers > 5 litres

- 14.1 UN number
- 14.2 UN shipping name
- 14.3 Transport hazard class(es)
- 14.4 Packing group
- 14.5 Environmental hazards

UN3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Isobornyl Acrylate)



III

9

Environmentally hazardous: Yes Marine pollutant: Yes



14.6 Special precautions for user EmS: F-A, S-F Tunnel code: E
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: Specific regulations National regulations: The Chemicals (Hazard Information and Packaging for Supply Regulations 2009 (SI 2009 No.716) EU Legislation: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Guidance: Workplace Exposure Limits EH40. CHIP for everyone HSG228. Safety Data Sheets for Substances and Preparations. Approved Classification and Labelling Guide (Sixth edition) L131.
- 15.2 Chemical safety assessment:

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

### Section 16 : Other Information

\* Sections Revised N/A

Supercedes date

N/A

Other information	
Phrases used i s.2 and s.3	Regulation (EU) No 453/2010
	H413: May cause long lasting harmful effects to aquatic life

This information relates only to the specific material designated and is to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness and without acceptance of liability for loss or damage attributable to reliance thereon as conditions of use lie outside our control. Users should always carry tests to establish the suitability of any products for their intended applications. No statements shall be incorporated in any contract unless expressively agreed in writing or construed as recommending the use of any product in conflict of any patent. All goods are supplied subject to Glassbond Ltd's General Conditions of Sale.