

HumiSeal®









SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier			
Trade name or designation of the mixture	HumiSeal UV50LV		
Registration number	-		
Synonyms	None.		
Product code	HumiSeal Europe UV50LV		
Issue date	15-June-2015		
Version number	04		
Revision date	11-January-2018		
Supersedes date	08-January-2016		
1.2. Relevant identified uses of t	he substance or mixture and us	ses advised against	
Identified uses	Protective Coating for Printed C	ircuit Board	
Uses advised against	None known.		
1.3. Details of the supplier of the	safety data sheet		
Supplier			
Company name	HUMISEAL EUROPE LTD.		
Address	505 Eskdale Road		
	Winnersh Wakingham Barkabira DC41 5T		
	Wokingham Berkshire RG41 5T UK	0	
Division	A CHASE CORPORATION CO		
Telephone	General Assistance	44 (0) 118 944 2333	
Telephone e-mail		44 (0) 118 944 2333	
•	General Assistance	44 (0) 118 944 2333	
e-mail	General Assistance europetechsupport@chasecorp	44 (0) 118 944 2333	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.
Environmental hazards Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.

Hazardous to the aquatic environment,	Category 1
long-term aquatic hazard	

H410 - Very toxic to aquatic life with long lasting effects.

Hazard summary

Causes serious eye irritation. Causes skin irritation. May cause irritation to the respiratory system. May cause an allergic skin reaction. Dangerous for the environment if discharged into watercourses.

2.2. Label elements

Contains:

Signal word

Label according to Regulation (EC) No. 1272/2008 as amended

ALIPHATIC POLYISOCYANATE, ISOBORNYL ACRYLATE, ISO-OCTYL ACRYLATE, Trimethylolpropane triacrylate

Hazard pictograms



Signal word	warning
Hazard statements	
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

Trevention					
P261		Avoid breathing mist or vapour.			
P264	0,1	Wash thoroughly after handling.			
P271	2	Use only outdoors or in a well-ventilated area.			
P272		Contaminated work clothing should not be allowed out of the workplace.			
P273		Avoid release to the environment.			
P280		Wear eye protection/face protection.			
P280	wear protective gi	Wear protective gloves.			
Response					
P302 + P352	IF ON SKIN: Wasl				
P304 + P340			sh air and keep comfortable for		
P305 + P351 + P338	IF IN EYES: Rinse and easy to do. Co		ater for several minutes. Remo	ove contact lenses	, if present
P312	Call a POISON CE		ou feel unwell.		
P333 + P313			nedical advice/attention.		
P337 + P313	If eye irritation per				
P362 + P364	Take off contamin	ated clothing and	wash it before reuse.		
P391	Collect spillage.				
Storage					
P403 + P233	Store in a well-ver	ntilated place. Kee	p container tightly closed.		
P405	Store locked up.				
Disposal					
P501	Dispose of conten	ts/container in acc	ordance with local/regional/na	tional/international	regulations.
Supplemental label informati	mixture consists o consists of compo component(s) of u	78.48 % of the mixture consists of component(s) of unknown acute oral toxicity. 78.48 % of the mixture consists of component(s) of unknown acute dermal toxicity. 78.48 % of the mixture consists of component(s) of unknown acute inhalation toxicity. 46.5 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 29.71 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.			
2.3. Other hazards	Not a PBT or vPvB	Not a PBT or vPvB substance or mixture.			
SECTION 3: Composition	on/information on	ingredients			
3.2. Mixtures		-			
General information					
Chemical name	%	CAS-No. / EC	REACH Registration No.	INDEX No.	Notes
onemical name	70	No.	REACT Registration No.		Notes
ISO-OCTYL ACRYLATE	30 - < 40	29590-42-9 249-707-8	01-2119486988-09-XXXX	607-244-00-2	
	Skin Irrit. 2;H315, Eye lı Chronic 1;H410	rrit. 2;H319, STOT	SE 3;H335, Aquatic Acute 1;H	1400, Aquatic	

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
ALIPHATIC POLYISOCYAN	ATE 20 - < 30	28182-81-2 500-060-2	-	-	
Classification: -					
ISOBORNYL ACRYLATE	10 - < 20	5888-33-5 227-561-6	01-2119957862-25-XXXX	607-133-00-9	
Classification: Sk	in Irrit. 2;H315, Eye I	Irrit. 2;H319, STOT	SE 3;H335, Aquatic Chronic	2;H411	А
2-Ethylhexanoic acid	< 1	149-57-5 205-743-6	01-2119488942-23-xxxx	607-230-00-6	
Classification: Act	ute Tox. 4;H302, Ac	ute Tox. 4;H312			
Tosyl isocyanate	< 1	4083-64-1 223-810-8	01-211990050-47-XXXX	615-012-00-7	
Classification: Ski	in Irrit. 2;H315, Eye	lrrit. 2;H319, Resp	. Sens. 1;H334, STOT SE 3;H3	335	
Trimethylolpropane triacrylate	e < 0.3	15625-89-5 239-701-3	01-2119489896-11-XXXX	607-111-00-9	
Classification: Sk	in Irrit. 2;H315, Skin	Sens. 1;H317, Eye	e Irrit. 2;H319		D
Other components below rep	ortable levels 30 -	< 40			
	assigned Union work ative and toxic substa ry bioaccumulative s ent by weight unless	place exposure lin ance. ubstance. s ingredient is a ga	s. Gas concentrations are in p	ercent by volume.	
Composition comments	The full text for al	I H-statements is c	lisplayed in section 16.		
SECTION 4: First aid mea	sures				
General information	personnel are aw		ice (show the label where poss (s) involved, and take precaution		
4.1. Description of first aid mea Inhalation	Remove victim to	fresh air and keep pr/physician if you	eat rest in a position comfortab feel unwell.	le for breathing. Ca	all a POISON
Skin contact	eczema or other s		ediately and wash skin with so k medical attention and take a		
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.				
Ingestion			if symptoms occur.		
4.2. Most important symptoms and effects, both acute and delayed					
4.3. Indication of any immediate medical attention and special treatment needed	Provide general s Symptoms may b		es and treat symptomatically. k	Keep victim under o	bservation.
SECTION 5: Firefighting r	neasures				
General fire hazards	No unusual fire or	r explosion hazard	s noted.		
5.1. Extinguishing media Suitable extinguishing media	Water fog. Foam.	Dry chemical pow	der. Carbon dioxide (CO2).		
Unsuitable extinguishing media	Water. Do not use	e water jet as an e	xtinguisher, as this will spread	the fire.	
5.2. Special hazards arising from the substance or mixture	During fire, gases	hazardous to hea	Ith may be formed.		
5.3. Advice for firefighters Special protective equipment for firefighters	Self-contained bro	eathing apparatus	and full protective clothing mu	st be worn in case o	of fire.

Material name: HumiSeal UV50LV

Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

o i cisoliai precautions, protec	cave equipment and emergency procedures
For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	This product is miscible in water. Prevent entry into waterways, sewer, basements or confined areas.
	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.
	Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for re-use.
6.4. Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities	Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).
7.3. Specific end use(s)	Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters	
Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Follow standard monitoring procedures.
Derived no effect levels (DNELs)	Not available.
Predicted no effect concentrations (PNECs)	Not available.
8.2. Exposure controls	
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.
Individual protection measures,	such as personal protective equipment
General information	Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	Chemical respirator with organic vapour cartridge and full facepiece.
Skin protection	
- Hand protection	Wear appropriate chemical resistant gloves.
- Other	Wear appropriate chemical resistant clothing.
Respiratory protection	Chemical respirator with organic vapour cartridge and full facepiece.

Material name: HumiSeal UV50LV

Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.
Environmental exposure controls	Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Appearance	
Physical state	Liquid.
Form	Liquid.
Colour	Light yellow.
Odour	Mild.
Odour threshold	Not available.
рН	Does not apply.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or exp	losive limits
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	0.16 hPa estimated
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	80 - 120 cP
Viscosity temperature	25 °C (77 °F)
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	
Brookfield viscosity	80 - 120 cP
Density	1.00 - 1.10 g/cm3
Miscible (water)	Negligible
Percent volatile	< 5 % v/v
Specific gravity	1 - 1.1
VOC	0.02 % estimated

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes	s of exposure
Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

11.1. Information on toxicological effects

Acute toxicity	Not known.			
Components	Species	Test results		
2-Ethylhexanoic acid (CAS 149-57	-5)			
<u>Acute</u>				
Dermal				
LD50	Rabbit	1260 mg/kg		
Oral				
LD50	Rat	1.6 g/kg		
* Estimates for product may be	e based on additional component data not shown.			
Skin corrosion/irritation	Causes skin irritation.			
Serious eye damage/eye irritation	Causes serious eye irritation.			
Respiratory sensitisation	Due to partial or complete lack of data the classificat	ion is not possible.		
Skin sensitisation	May cause an allergic skin reaction.			
Germ cell mutagenicity	Due to partial or complete lack of data the classificat	ion is not possible.		
Carcinogenicity	Due to partial or complete lack of data the classificat	ion is not possible.		
Reproductive toxicity	Due to partial or complete lack of data the classificat	ion is not possible.		
Specific target organ toxicity - single exposure	May cause respiratory irritation.			
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classificat	ion is not possible.		
Aspiration hazard	Due to partial or complete lack of data the classificat	Due to partial or complete lack of data the classification is not possible.		
Mixture versus substance information	No information available.			
Other information	Not available.			
SECTION 12: Ecological in	formation			
12.1. Toxicity	Very toxic to aquatic life with long lasting effects.			
12.2. Persistence and degradability				
12.3. Bioaccumulative potential				
Partition coefficient n-octanol/water (log Kow) 2-Ethylhexanoic acid	2.64			
Bioconcentration factor (BCF)	Not available.			
12.4. Mobility in soil	No data available.			
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.			
12.6. Other adverse effects	No other adverse environmental effects (e.g. ozone or potential, endocrine disruption, global warming poter			

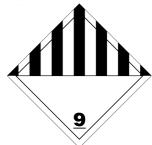
SECTION 13: Disposal considerations

13.1. Waste treatment methods	
Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR		
14.1. UN number	UN3082	
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (ISO-OCTYL ACRYLATE, ISOBORNYL ACRYLATE)	
14.3. Transport hazard class		
Class	9	
Subsidiary risk	-	
Label(s)	9	
Hazard No. (ADR)	90	
Tunnel restriction code	E	
14.4. Packing group		
14.5. Environmental hazards	Yes	
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.	
RID		
14.1. UN number	UN3082	
14.2. UN proper shipping	Environmentally hazardous substance, liquid, n.o.s. (ISO-OCTYL ACRYLATE, ISOBORNYL	
name	ACRYLATE)	
14.3. Transport hazard class	(es)	
Class	9	
Subsidiary risk	-	
Label(s)	9	
14.4. Packing group		
14.5. Environmental hazards	Yes	
14.6. Special precautions	Read safety instructions, SDS and emergency procedures before handling.	
for user		
ADN		
14.1. UN number	UN3082	
14.2. UN proper shipping	Environmentally Hazardous Liquid, N.o.s. (ISO-OCTYL ACRYLATE, ISOBORNYL ACRYLATE)	
name		
14.3. Transport hazard class		
Class	9	
Subsidiary risk		
Label(s)	9	
14.4. Packing group		
14.5. Environmental hazards		
14.6. Special precautions	Read safety instructions, SDS and emergency procedures before handling.	
for user		
	1102000	
14.1. UN number	UN3082	
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (ISO-OCTYL ACRYLATE, ISOBORNYL ACRYLATE)	
14.3. Transport hazard class		
Class	9	
Subsidiary risk	-	
14.4. Packing group		
14.5. Environmental hazards		
ERG Code	9L	

14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.	
Other information		
Passenger and cargo aircraft	Allowed with restrictions.	
Cargo aircraft only	Allowed with restrictions.	
IMDG		
14.1. UN number	UN3082	
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ISO-OCTYL ACRYLATE, ISOBORNYL ACRYLATE), MARINE POLLUTANT	
14.3. Transport hazard class	(es)	
Class	9	
Subsidiary risk	-	
14.4. Packing group	III	
14.5. Environmental hazards	i de la constante de la constan	
Marine pollutant	Yes	
EmS	F-A, S-F	
14.6. Special precautions for user EBCRYL 8411	Read safety instructions, SDS and emergency procedures before handling.	
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	Not established.	
ADN; ADR; IATA; IMDG; RID		



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

assessment

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ISOBORNYL ACRYLATE (CAS 5888-33-5) ISO-OCTYL ACRYLATE (CAS 29590-42-9)

Tosyl isocyanate (CAS 4083-64-1)

Other regulations	Pregnant women should not work with the product, if there is the least risk of exposure. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended. Additional information is given in the Safety Data Sheet.
National regulations	Follow national regulation for work with chemical agents. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended.
15.2. Chemical safety	No Chemical Safety Assessment has been carried out.

SECTION	16:	Other	information
		•	

List of abbreviations	Not available.	
References	Not available.	
Information on evaluation method leading to the classification of mixture	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.	
Full text of any H-statements not written out in full under		
Sections 2 to 15	 H302 Harmful if swallowed. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. 	
Revision information	This document has undergone significant changes and should be reviewed in its entirety.	
Training information	Follow training instructions when handling this material.	
Disclaimer	The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create any warranty, expressed or implied. It is the responsibility of the user to determine the applicability of this information and the suitability of the material or product for any particular purpose	