UVR PART A / UVR Part B

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General Product Information

UVR PART A / UVR Part B* is a two component polyurethane resin.

Typical Properties @ 25C

	UVR PART A	UVR PART B **
	Part B	Part A
Appearance	Clear Liquid	Clear Liquid
Viscosity (Poise)	20.00 - 40.00	20.00 - 40.00
Specific Gravity Density (g/ml)	1.00 - 1.01	1.12 - 1.16
Gel Time (min)[100g mass @ 25C]	60.00 : 80.00	
Mix Ratio (Part B to A*)	1.11 : 1 **parts by weight**	
Shelf Life (months) **in original container and @ recommended storage conditions**	6	6

**Recommended Part A; **Requested Part A*

Typical Cured Physical Properties* @ 24 hours (for more information please refer to Technical Data Sheet or Contact Derbyshire Specialist Aggregates Technical department).

The below refers to typical polyurethane casting systems - please also refer to individual product data sheets and produt labels for further information.

This data sheet refers to a two component thermoset, polyurethane, resin system which is cured through chemical reaction by the correct mixing and application of the two components. Thermoset resins, also called thermosetting polymers, generally refers to polymeric materials which once cured cannot go back to its constituent parts or be melted . The name polyurethane refers to the chemical linkage of the polymer structure.

Storage Requirements

Store in the original sealed container in a dry environment. In case of the base component it is advised that containers are rotated on a regular basis; please refer to the housekeeping guide for more detailed information and refer to product labels. Recommended storage conditions are between 15 - 25 Deg. C.

Avoid Moisture

Water reacts with the Activator (ISO) component and generates carbon dioxide gas which can cause problems in application. Both components actively attract moisture in the atmosphere and will also react with moisture in damp or porous media - such as wood. As soon as a container is opened material will be exposed to moisture and it is therefore recommended to use a container within a few days of opening, not to leave the container open for longer than is necessary and promote the use of either desiccants or nitrogen blankets if material is to be left for longer period of time, even in a sealed container that has had access to the atmosphere.

Pre mixing requirements

Before mixing the two components it is very important to make sure the BASE (POLYOL) component is homogenous. The BASE component is often a mixture of a number of ingredients and although Derbyshire Specialist Aggregates formulates to make these as compatible as possible the mixture can separate over time in a similar fashion to the way a can of paint settles. It is therefore very important to carefully rehomogenize the material in the container before processing. The activator component is usually a mixture of compatible liquids which does not require rehomgenising before use - if this is a requirement it will be detailed in the specific technical literature for that product.

Mixing

Polyurethane systems are affected by both temperature and mass. The greater the mass mixed or the higher the temperature the faster the reaction will occur. For further details on recommended processing temperatures for particular resin systems and/or applications please contact our Technical Department.

In order for the reaction to occur properly the correct proportion or ratio of part B, referred to by Derbyshire Specialist Aggregates as BASE (Polyol), must be reacted with part A, referred to as ACTIVATOR (ISO). **This mix ratio is critical in producing the correct cured product**. A mix ratio tolerance of ±2% is generally acceptable, however, should you require further information on your particular product please do not hesitate to contact the technical department. In addition to the correct mix ratio and making sure the individual components are homogeneous it is important that they are well mixed together.

For further information on both machine and hand mixing please contact Derbyshire Specialist Aggregates Technical department.

SAFETY DATA SHEET

UVR PLUS PART A

Compilation date: 12/03/2019

Revision No: 1

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

1.1. Product identifier

Product name: UVR PLUS PART A

Product code: UVR PLUS PART A

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

Use of substance / mixture: Component for polyurethane systems.

1.3. Details of the supplier of the safety data sheet

Company name: Derbyshire Specialist Aggregates
Arbor Low
Youlgrave
Bakewell
Derbyshire
DE45 1JS
United Kingdom

Tel: +44(0) 1629 636 500

Email: sales@derbyaggs.com

1.4. Emergency telephone number

Emergency tel: +44(0) 1629 636 500
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Aquatic Chronic 3: H412; -: EUH208

Most important adverse effects: Harmful to aquatic life with long lasting effects. Contains bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate, methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate. May produce an allergic reaction.

2.2. Label elements

Label elements:

Hazard statements: H412: Harmful to aquatic life with long lasting effects.
EUH208: Contains bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate, methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate. May produce an allergic reaction.

Precautionary statements: P273: Avoid release to the environment.
P501: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

[cont...]

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

BUTANE-1,4-DIOL - REACH registered number(s): 01-2119471849-20-XXXX

EINECS	CAS	PBT / WEL	CLP Classification	Percent
203-786-5	110-63-4	-	Acute Tox. 4: H302; STOT SE 3: H336	1-10%

BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE

255-437-1	41556-26-7	-	Skin Sens. 1: H317; Aquatic Acute 1: H400; Aquatic Chronic 1: H410	<1%

METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL SEBACATE

280-060-4	82919-37-7	-	Skin Sens. 1: H317; Aquatic Acute 1: H400; Aquatic Chronic 1: H410	<1%

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water. In the event of symptoms seek medical advice.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Wash out mouth with water. Do not induce vomiting. Consult a doctor.

Inhalation: Move to fresh air. In the event of symptoms seek medical advice.

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

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: Spray/mists may cause respiratory tract irritation.

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

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

[cont...]

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep container tightly closed. Avoid contact with water or humidity. Protect from frost/do not freeze. The floor of the storage room must be impermeable to prevent the escape of liquids.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: No data available.

DNEL/PNEC Values

[cont...]

Hazardous ingredients:

BUTANE-1,4-DIOL

Type	Exposure	Value	Population	Effect
DNEL	Dermal	19 mg/kg	Workers	Systemic
DNEL	Inhalation	136 mg/m3	Workers	Systemic
PNEC	Fresh water	0.813 mg/l	-	-
PNEC	Marine water	0.0813 mg/l	-	-
PNEC	Fresh water sediments	3.61 mg/kg	-	-
PNEC	Marine sediments	0.361 mg/kg	-	-
PNEC	Soil (agricultural)	0.244 mg/kg	-	-
PNEC	Microorganisms in sewage treatment	1554 mg/l	-	-

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: Respiratory protection not required.

Hand protection: Protective gloves.

Eye protection: Safety glasses.

Skin protection: Protective clothing.

Environmental: The floor of the storage room must be impermeable to prevent the escape of liquids.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Pale yellow

Odour: Characteristic odour

Evaporation rate: Negligible

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: Insoluble

Viscosity: No data available.

Boiling point/range°C: >200

Melting point/range°C: No data available.

Flammability limits %: lower: No data available.

upper: No data available.

Flash point°C: >100

Part.coeff. n-octanol/water: No data available.

Autoflammability°C: No data available.

Vapour pressure: No data available.

Relative density: 0.98

pH: No data available.

VOC g/l: No data available.

9.2. Other information

Other information: No data available.

[cont...]

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.

Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat. Moist air. Humidity.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

BUTANE-1,4-DIOL

DERMAL	RAT	LD50	>5000	mg/kg
DUST/MIST	RAT	4H LC50	>5.1	mg/l
ORAL	RAT	LD50	1500	mg/kg

Toxicity values: No data available.

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: Spray/mists may cause respiratory tract irritation.

Section 12: Ecological information

12.1. Toxicity

[cont...]

Hazardous ingredients:

BUTANE-1,4-DIOL

ALGAE	72H ErC50	>1000	mg/l
Daphnia magna	48H EC50	813	mg/l
FISH	48H LC50	>10000	mg/l

12.2. Persistence and degradability

Persistence and degradability: No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available.

12.4. Mobility in soil

Mobility: Insoluble in water.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Harmful to aquatic organisms.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Transport class: This product does not require a classification for transport.

Section 15: Regulatory information

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

Specific regulations: Not applicable.

15.2. Chemical Safety Assessment

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

[cont...]

Other information

Other information: according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: EUH208: Contains bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate, methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate. May produce an allergic reaction.

H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H336: May cause drowsiness or dizziness.

H400: Very toxic to aquatic life.

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

H412: Harmful to aquatic life with long lasting effects.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

SAFETY DATA SHEET

UVR PLUS PART B

Compilation date: 12/03/2019

Revision No: 1

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

1.1. Product identifier

Product name: UVR PLUS PART B

Product code: UVR PLUS PART B

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

Use of substance / mixture: Di-/polyisocyanate components for the production of polyurethanes.

1.3. Details of the supplier of the safety data sheet

Company name: Derbyshire Specialist Aggregates

Arbor Low

Youlgrave

Bakewell

Derbyshire

DE45 1JS

United Kingdom

Tel: +44(0) 1629 636 500

Email: sales@derbyaggs.com

1.4. Emergency telephone number

Emergency tel: +44(0) 1629 636 500

(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: STOT SE 3: H335; Acute Tox. 4: H332; Skin Sens. 1: H317

Most important adverse effects: May cause an allergic skin reaction. Harmful if inhaled. May cause respiratory irritation.

2.2. Label elements

Label elements:

Hazard statements: H317: May cause an allergic skin reaction.

H332: Harmful if inhaled.

H335: May cause respiratory irritation.

Hazard pictograms: GHS07: Exclamation mark

[cont...]

Signal words: Warning

Precautionary statements: P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of water.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312: Call a POISON CENTRE or doctor if you feel unwell.

P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

HEXAMETHYLENE DIISOCYANATE, OLIGOMERS - REACH registered number(s): 01-2119970543-34-XXXX

EINECS	CAS	PBT / WEL	CLP Classification	Percent
500-060-2; 939-340-8	28182-81-2	-	STOT SE 3: H335; Acute Tox. 4: H332; Skin Sens. 1: H317	>90%

HEXAMETHYLENE-DI-ISOCYANATE

212-485-8	822-06-0	-	Acute Tox. 3: H331; Eye Irrit. 2: H319; STOT SE 3: H335; Skin Irrit. 2: H315; Resp. Sens. 1: H334; Skin Sens. 1: H317	<1%

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water. Consult a doctor in the event of a skin reaction.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Wash out mouth with water. Do not induce vomiting. Consult a doctor.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

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

Skin contact: There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact. May cause an allergic skin reaction.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat. Inhalation of fumes from the stomach may cause symptoms similar to direct inhalation.

[cont...]

Inhalation: Harmful by inhalation. There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing. May cause allergy or asthma symptoms.

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

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Carbon dioxide. Foam. Dry chemical powder. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Turn leaking containers leak-side up to prevent the escape of liquid. Refer to section 8 of SDS for personal protection details. If outside do not approach from downwind. Mark out the contaminated area with signs and prevent access to unauthorised personnel.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Breathing protection required during clean-up operation. Remove mechanically; cover the remainder with wet, absorbant material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx 1 hour transfer to waste container and DO NOT SEAL (evolution of CO2). Keep damp in a safe ventilated area for several days. Refer to section 13 of SDS for suitable method of disposal.

6.4. Reference to other sections

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Avoid the formation or spread of mists in the air. Ensure there is sufficient ventilation of the area. Do not handle in a confined space.

[cont...]

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep container tightly closed. Avoid contact with water or humidity. Protect from frost/do not freeze.

7.3. Specific end use(s)

Section 8: Exposure controls/personal protection

8.1. Control parameters

Hazardous ingredients:

HEXAMETHYLENE-DI-ISOCYANATE

Workplace exposure limits: **Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	0.02 mg/m3	0.07 mg/m3	-	-

DNEL/PNEC Values

Hazardous ingredients:

HEXAMETHYLENE DIISOCYANATE, OLIGOMERS

Type	Exposure	Value	Population	Effect
DNEL	Inhalation - Acute	1 mg/m3	Workers	Local
DNEL	Inhalation - Long-term	0.5 mg/m3	Workers	Local
PNEC	Microorganisms in sewage treatment	6.46 mg/l	-	-

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: In case of aerosol or mist formation use a respirator with an approved filter. Respiratory protection must be used if airborne concentration exceeds the Workplace Exposure Limit.

Hand protection: Protective gloves.

Eye protection: Safety glasses. 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

State: Liquid

Colour: Pale yellow

Odour: Barely perceptible odour

Evaporation rate: Negligible

[cont...]

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: Reacts with water.

Viscosity: No data available.

Boiling point/range°C: >220

Melting point/range°C: No data available.

Flammability limits %: lower: No data available.

upper: No data available.

Flash point°C: >200

Part.coeff. n-octanol/water: No data available.

Autoflammability°C: No data available.

Vapour pressure: No data available.

Relative density: 1.16

pH: No data available.

VOC g/l: No data available.

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Reacts with alcohols, amines, bases and water with release of CO2; risk of pressure build-up in containers/confined areas.

10.4. Conditions to avoid

Conditions to avoid: Heat. Moist air. Humidity.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Water. Alcohols. Amines. Bases.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

HEXAMETHYLENE DIISOCYANATE, OLIGOMERS

DUST/MIST	RAT	ATE	1.5	mg/l

[cont...]

HEXAMETHYLENE-DI-ISOCYANATE

IVN	MUS	LD50	5600	µg/kg
ORL	MUS	LD50	350	mg/kg
ORL	RAT	LD50	710	µl/kg

Relevant hazards for product:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	INH	Hazardous: calculated
Respiratory/skin sensitisation	DRM	Hazardous: calculated
STOT-single exposure	INH	Hazardous: calculated

Symptoms / routes of exposure

Skin contact: There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact. May cause an allergic skin reaction.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat. Inhalation of fumes from the stomach may cause symptoms similar to direct inhalation.

Inhalation: Harmful by inhalation. There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing. May cause allergy or asthma symptoms.

Other information: Please contact Derbyshire Specialist Aggregates for further information and industry guidance/studies on the safe use of this product. Alternatively further information is availale at www.isopa.org

Section 12: Ecological information

12.1. Toxicity

Hazardous ingredients:

HEXAMETHYLENE DIISOCYANATE, OLIGOMERS

ALGAE	72H ErC50	>100	mg/l
Daphnia magna	48H EC50	>100	mg/l
ZEBRAFISH (Brachydanio rerio)	96H LC50	>100	mg/l

12.2. Persistence and degradability

Persistence and degradability: No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available.

[cont...]

12.4. Mobility in soil

Mobility: Formation of insoluble polyurea.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Transport class: This product does not require a classification for transport.

Section 15: Regulatory information

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

Specific regulations: Not applicable.

15.2. Chemical Safety Assessment

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

Other information

Other information: according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H331: Toxic if inhaled.

H332: Harmful if inhaled.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335: May cause respiratory irritation.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive

[cont...]

and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.