SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Safety data sheet according to Regulation (EC) 2020/878

Revision date 20/10/2023 **Revision Number** 1.72

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

1.1. Product identifier

Product Name Polyurethane Resin UR5097, Part A

Product Code(s) UR5097A, EUR5097RP250G, EUR5097RP1000G, EUR5097K5K, EUR5097K10K, EUR5097K25K, EUR5097AB5K, ZE

Safety data sheet number 01545

Pure substance/mixture Mixture

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

Recommended use Resin

Uses advised against No specific uses advised against are identified

1.3. Details of the supplier of the safety data sheet

Manufacturer

ELECTROLUBE
MacDermid Alpha Electronics Solutions
ASHBY PARK, COALFIELD WAY,
ASHBY DE LA ZOUCH,
LEICESTERSHIRE LE65 1JR
UNITED KINGDOM

+44 (0)1530 419600
+44 (0)1530 416640
info@electrolube.com

Supplier

HK WENTWORTH LIMITED
32 RUE DE TOURNENFILS
91540 MENNECY
FRANCE

+33 (0) 1 82 88 47 94

info@electrolube.com

For further information, please contact

E-mail address info@electrolube.com

1.4. Emergency telephone number

Emergency Telephone POISON INFORMATION CENTRE (Beaumont Hospital, Republic of Ireland only) +353 (0)1 809 2166 (08:00 - 22:00)

Emergency Telephone - IN CASE OF EMERGENCY CALL: +44 1865 407333 (24hr, Provided by Carechem 24)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]
EUH210 - Safety data sheet available on request

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor.
Ingestion	Rinse mouth.

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

Symptoms No information available.

Effects of Exposure No information available.

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

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Aluminium Hydroxide 21645-51-2	-	TWA: 5 mg/m³ STEL 10 mg/m³	-	TWA: 10.0 mg/m³ TWA: 1.5 mg/m³	-
Kaolin 1332-58-7	-	-	TWA: 2 mg/m³	TWA: 3.0 mg/m³ TWA: 6.0 mg/m³	TWA: 2 mg/m³
Di-''isononyl'' phthalate 28553-12-0	-	-	-	-	TWA: 5 mg/m³
Amorphous Silica 7631-86-9	TWA: 0.1 mg/m³	TWA: 4 mg/m³	TWA: 3 mg/m³ TWA: 10 mg/m³	TWA: 1.0 mg/m³ TWA: 0.1 mg/m³	TWA: 1.2 mg/m³
Carbon Black 1333-86-4	-	-	TWA: 3 mg/m³	-	TWA: 3.5 mg/m³ STEL: 7 mg/m³
Cyclohexanone 108-94-1	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ *	TWA: 5 ppm TWA: 20 mg/m³ STEL 20 ppm STEL 80 mg/m³ H*	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ D*	STEL: 20 ppm STEL: 81.6 mg/m³ TWA: 10 ppm TWA: 40.8 mg/m³ K*	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ *

Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Aluminium Hydroxide 21645-51-2	-	TWA: 10.0 mg/m³	-	-	-
Kaolin 1332-58-7	-	-	TWA: 2 mg/m³ STEL: 4 mg/m³	-	TWA: 2 mg/m³
Di-''isononyl'' phthalate 28553-12-0	-	TWA: 3 mg/m³ Ceiling: 10 mg/m³	TWA: 3 mg/m³ STEL: 6 mg/m³	TWA: 3 mg/m³ STEL: 5 mg/m³	-
Amorphous Silica 7631-86-9	TWA: 0.1 mg/m³	TWA: 0.1 mg/m³ TWA: 4.0 mg/m³	TWA: 1.5 mg/m³ STEL: 3 mg/m³ uncalcinated with no content of Quartz	TWA: 2 mg/m³	TWA: 5 mg/m³

Carbon Black 1333-86-4	-	TWA: 2.0 mg/m³	TWA: 3.5 mg/m³ STEL: 7 mg/m³	TWA: 3 mg/m³	TWA: 3.5 mg/m³ STEL: 7 mg/m³
Cyclohexanone 108-94-1	STEL: 20 ppm STEL: 81.6 mg/m³ TWA: 10 ppm TWA: 40.8 mg/m³	TWA: 40 mg/m³ Ceiling: 80 mg/m³ D*	TWA: 10 ppm TWA: 41 mg/m³ H* STEL: 81.6 mg/m³ STEL: 20 ppm	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ A*	TWA: 10 ppm TWA: 41 mg/m³ STEL: 20 ppm STEL: 82 mg/m³ iho*
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Aluminium Hydroxide 21645-51-2	-	TWA: 1.25 mg/m³ TWA: 10 mg/m³	TWA: 4 mg/m³ TWA: 1.5 mg/m³	-	-
Kaolin 1332-58-7	TWA: 10 mg/m³	-	-	-	-
Oxydipropanol 25265-71-8	-	TWA: 100 mg/m³	TWA: 100 mg/m³ Peak: 200 mg/m³	-	-
Amorphous Silica 7631-86-9	-	TWA: 4 mg/m³	TWA: 0.02 mg/m³ Peak: 0.16 mg/m³	TWA: 0.1 mg/m³	-
Thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 41484-35-9	-	TWA: 2 mg/m³	TWA: 2 mg/m³ Peak: 4 mg/m³	-	-
Carbon Black 1333-86-4	TWA: 3.5 mg/m³	-	-	TWA: 3.5 mg/m³ STEL: 7 mg/m³	TWA: 3 mg/m³
Cyclohexanone 108-94-1	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³	TWA: 20 ppm TWA: 80 mg/m³ H*	*	TWA: 50 ppm TWA: 200 mg/m³ STEL: 100 ppm STEL: 400 mg/m³ *	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ b*
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Aluminium Hydroxide 21645-51-2	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³	-	TWA: 1 mg/m³	TWA: 6 mg/m³	TWA: 6 mg/m³
Kaolin 1332-58-7	TWA: 2 mg/m³	-	TWA: 2 mg/m³	-	-
Zeolites 1318-02-1	-	-	-	TWA: 2 mg/m³	-
Di-"isononyl" phthalate 28553-12-0	TWA: 5 mg/m³ STEL: 15 mg/m³	-	-	-	STEL: 5 mg/m³ TWA: 3 mg/m³
Amorphous Silica 7631-86-9	TWA: 6 mg/m³ TWA: 2.4 mg/m³ STEL: 18 mg/m³ STEL: 7.2 mg/m³	TWA: 0.1 mg/m³	-	TWA: 1 mg/m³	-
Carbon Black 1333-86-4	TWA: 3 mg/m³ STEL: 15 mg/m³	-	TWA: 3 mg/m³	-	-
Cyclohexanone 108-94-1	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ Sk*	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ cute*	TWA: 20 ppm TWA: 80 mg/m³ STEL: 50 ppm STEL: 201 mg/m³ cute*	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ Ada*	STEL: 20 ppm STEL: 81.6 mg/m³ TWA: 10 ppm TWA: 40.8 mg/m³ O*
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Aluminium Hydroxide 21645-51-2	-	-	-	-	TWA: 2.5 mg/m³ TWA: 1.2 mg/m³
Kaolin 1332-58-7	-	-	-	-	TWA: 10.0 mg/m³
Amorphous Silica	-	-	TWA: 0.075 mg/m³	TWA: 1.5 mg/m³	TWA: 10 mg/m³

7631-86-9				STEL: 3 mg/m³	TWA: 2 mg/m³
Carbon Black 1333-86-4	-	-	-	TWA: 3.5 mg/m³ STEL: 7 mg/m³	TWA: 4 mg/m³
Cyclohexanone 108-94-1	STEL: 20 ppm STEL: 81.6 mg/m³ TWA: 10 ppm TWA: 40.8 mg/m³ Peau*	STEL: 20 ppm STEL: 81.6 mg/m³ skin* TWA: 10 ppm TWA: 40.8 mg/m³	STEL: 12.3 ppm STEL: 50 mg/m³ H*	TWA: 10 ppm TWA: 40 mg/m³ STEL: 20 ppm STEL: 80 mg/m³ H*	STEL: 80 mg/m³ TWA: 40 mg/m³ skóra*

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Aluminium Hydroxide 21645-51-2	TWA: 1 mg/m³	-	TWA: 1.5 mg/m³ TWA: 4 mg/m³	-	TWA: 1 mg/m³
Kaolin 1332-58-7	TWA: 2 mg/m³	-	TWA: 10 mg/m³	-	TWA: 2 mg/m³
Oxydipropanol 25265-71-8	-	-	-	TWA: 100 mg/m³ STEL: 200 mg/m³	-
Amorphous Silica 7631-86-9	TWA: 0.05 mg/m³ TWA: 0.1 mg/m³	-	-	TWA: 4 mg/m³	-
Carbon Black 1333-86-4	TWA: 3 mg/m³	-	TWA: 2 mg/m³ TWA: 10 mg/m³	-	TWA: 3.5 mg/m³
Cyclohexanone 108-94-1	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ Cutânea*	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ P*	TWA: 10 ppm TWA: 41 mg/m³ K* Ceiling: 82 mg/m³	TWA: 10 ppm TWA: 40.8 mg/m³ STEL: 20 ppm STEL: 81.6 mg/m³ K*	TWA: 10 ppm TWA: 41 mg/m³ STEL: 20 ppm STEL: 82 mg/m³ vía dérmica*

Chemical name	Sweden	Switzerland	United Kingdom
Aluminium Hydroxide 21645-51-2	-	TWA: 3 mg/m³ TWA: 10 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³
Kaolin 1332-58-7	-	TWA: 3 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³
Oxydipropanol 25265-71-8	-	TWA: 140 mg/m³ STEL: 280 mg/m³	-
Di-"isononyl" phthalate 28553-12-0	NGV: 3 mg/m³	-	TWA: 5 mg/m³ STEL: 15 mg/m³
Amorphous Silica 7631-86-9	-	TWA: 4 mg/m³	TWA: 6 mg/m³ TWA: 2.4 mg/m³ STEL: 18 mg/m³ STEL: 7.2 mg/m³
Thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxy phenyl)propionate] 41484-35-9	-	TWA: 3 mg/m³ STEL: 6 mg/m³	-
Carbon Black 1333-86-4	NGV: 3 mg/m³	-	TWA: 3.5 mg/m³ STEL: 7 mg/m³
Cyclohexanone 108-94-1	Bindande KGV: 20 ppm Bindande KGV: 81 mg/m³ NGV: 10 ppm NGV: 41 mg/m³ H*	TWA: 25 ppm TWA: 100 mg/m³ STEL: 50 ppm STEL: 200 mg/m³ H*	TWA: 10 ppm TWA: 41 mg/m³ STEL: 20 ppm STEL: 82 mg/m³ Sk*

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Aluminium Hydroxide 21645-51-2	-	-	10.76 mg/m³ [4] [6] 10.76 mg/m³ [5] [6]
Oxydipropanol 25265-71-8	-	84 mg/kg bw/day [4] [6]	238 mg/m³ [4] [6]
Glycol Propylene Oxide Polymer 25791-96-2	-	13.9 mg/kg bw/day [4] [6]	98 mg/m³ [4] [6]
Di-"isononyl" phthalate 28553-12-0	-	366 mg/kg bw/day [4] [6]	51.72 mg/m³ [4] [6]
Didodecyl 3,3'-thiodipropionate 123-28-4	-	3.5 mg/kg bw/day [4] [6] 3.5 mg/kg bw/day [4] [7]	24.7 mg/m³ [4] [6] 24.7 mg/m³ [4] [7]
Thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 41484-35-9	-	13.8 mg/kg bw/day [4] [6]	4.9 mg/m³ [4] [6]
Carbon Black 1333-86-4	-	-	1 mg/m³ [4] [6] 0.5 mg/m³ [5] [6]
Cyclohexanone 108-94-1	-	4 mg/kg bw/day [4] [6] 4 mg/kg bw/day [4] [7]	40 mg/m³ [4] [6] 80 mg/m³ [4] [7] 40 mg/m³ [5] [6] 80 mg/m³ [5] [7]

Derived No Effect Level (DNEL) - General Public .

Chemical name	Oral	Dermal	Inhalation
Aluminium Hydroxide 21645-51-2	4.74 mg/kg bw/day [4] [6]	-	-
Oxydipropanol 25265-71-8	24 mg/kg bw/day [4] [6]	-	70 mg/m³ [4] [6]
Glycol Propylene Oxide Polymer 25791-96-2	8.3 mg/kg bw/day [4] [6]	-	29 mg/m³ [4] [6]
Di-"isononyl" phthalate 28553-12-0	4.4 mg/kg bw/day [4] [6]	-	15.3 mg/m³ [4] [6]
Didodecyl 3,3'-thiodipropionate 123-28-4	1.75 mg/kg bw/day [4] [6] 1.75 mg/kg bw/day [4] [7]	1.75 mg/kg bw/day [4] [6] 1.75 mg/kg bw/day [4] [7]	6.1 mg/m³ [4] [6] 6.1 mg/m³ [4] [7]
Thiodiethylene bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 41484-35-9	0.69 mg/kg bw/day [4] [6]	-	-
Carbon Black 1333-86-4	-	-	0.06 mg/m³ [4] [6]
Cyclohexanone 108-94-1	1.5 mg/kg bw/day [4] [6] 1.5 mg/kg bw/day [4] [7]	1 mg/kg bw/day [4] [6] 1 mg/kg bw/day [4] [7]	10 mg/m³ [4] [6] 20 mg/m³ [4] [7] 20 mg/m³ [5] [6] 40 mg/m³ [5] [7]

Predicted No Effect Concentration (PNEC) .

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Oxydipropanol 25265-71-8	0.1 mg/L	1 mg/L	0.01 mg/L	-	-
Glycol Propylene Oxide Polymer 25791-96-2	0.2 mg/L	1 mg/L	0.02 mg/L	-	-
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane 2530-83-8	0.45 mg/L	0.45 mg/L	0.045 mg/L	-	-
Cyclohexanone 108-94-1	0.0329 mg/L	0.329 mg/L	0.00329 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Oxydipropanol 25265-71-8	0.238 mg/kg sediment dw	0.0238 mg/kg sediment dw	1000 mg/L	0.0253 mg/kg soil dw	313 mg/kg food
Glycol Propylene Oxide Polymer 25791-96-2	0.52 mg/kg sediment dw	0.052 mg/kg sediment dw	1000 mg/L	0.0665 mg/kg soil dw	-
Di-''isononyl'' phthalate 28553-12-0	-	-	-	30 mg/kg soil dw	-
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane 2530-83-8	1.6 mg/kg sediment dw	0.16 mg/kg sediment dw	8.2 mg/L	0.063 mg/kg soil dw	-
Cyclohexanone 108-94-1	0.249 mg/kg sediment dw	0.0249 mg/kg sediment dw	10 mg/L	0.0304 mg/kg soil dw	-

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	black
Odour	Characteristic.
Odour threshold	No information available

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	30000 mPa s @ 23°C/73.4°F	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	No data available	None known
Bulk density	1.53 kg/l	
Liquid Density	No data available	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regards to physical hazard classes

Not applicable

Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity
No information available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	5,396.70 mg/kg
ATEmix (dermal)	4,031.50 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapour)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2. Other information

Other adverse effects	No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

12.2. Persistence and degradability

Persistence and degradability	No information available.

12.3. Bioaccumulative potential

Bioaccumulation	There is no data for this product.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

12.6. Endocrine disrupting properties

Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

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

Water hazard class (WGK) slightly hazardous to water (WGK 1)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)

European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 20/10/2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Safety data sheet according to Regulation (EC) 2020/878

Revision date 20/10/2023 **Revision Number** 1.72

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

1.1. Product identifier

Product Name Polyurethane Resin UR5097, Part B

Product Code(s) UR5097B, EUR5097RP250G, EUR5097K5K, EUR5097K10K, EUR5097K25K, EUR5097BB5K, ZE

Safety data sheet number 01544

Unique Formula Identifier (UFI) 4J84-T0DE-R00Y-DPDJ

Pure substance/mixture Mixture

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

Recommended use Hardener

Uses advised against No specific uses advised against are identified

1.3. Details of the supplier of the safety data sheet

Manufacturer

ELECTROLUBE
MacDermid Alpha Electronics Solutions
ASHBY PARK, COALFIELD WAY,
ASHBY DE LA ZOUCH,
LEICESTERSHIRE LE65 1JR
UNITED KINGDOM

+44 (0)1530 419600
+44 (0)1530 416640
info@electrolube.com

Supplier

HK WENTWORTH LIMITED
32 RUE DE TOURNENFILS
91540 MENNECY
FRANCE

+33 (0) 1 82 88 47 94

info@electrolube.com

For further information, please contact

E-mail address info@electrolube.com

1.4. Emergency telephone number

Emergency Telephone POISON INFORMATION CENTRE (Beaumont Hospital, Republic of Ireland only) +353 (0)1 809 2166 (08:00 - 22:00)

Emergency Telephone - IN CASE OF EMERGENCY CALL: +44 1865 407333 (24hr, Provided by Carechem 24)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity - Inhalation (Vapours)	Category 4 - (H332)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Respiratory sensitisation	Category 1 - (H334)
Skin sensitisation	Category 1 - (H317)
Carcinogenicity	Category 2 - (H351)
Specific target organ toxicity — single exposure	Category 3 - (H335)
Category 3 Respiratory irritation	
Specific target organ toxicity — repeated exposure	Category 2 - (H373)

2.2. Label elements

Contains methylenediphenyl diisocyanate, Diphenylmethane-4,4-Diisocyanate (MDI) Isomers



Signal word

Danger

Hazard statements

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - In case of inadequate ventilation wear respiratory protection.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
methylenediphenyl diisocyanate 26447-40-5	60-100	No data available	247-714-0	Acute Tox. 4 (H332) Skin Sens. 1 (H317) STOT RE 2 (H373) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Irrit. 2 (H315) Carc. 2 (H351) STOT SE 3 (H335)	Eye Irrit. 2 :: C>=5% Resp. Sens. 1 :: C>=0.1% Skin Irrit. 2 :: C>=5% STOT SE 3 :: C>=5%	-	-
Diphenylmethane-4, 4-Diisocyanate (MDI) Isomers 9016-87-9	30-60	No data available	618-498-9	Acute Tox. 4 (H332) Skin Sens. 1 (H317) STOT RE 2 (H373) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Irrit. 2 (H315) Carc. 2 (H351) STOT SE 3 (H335)	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
methylenediphenyl diisocyanate 26447-40-5	10000	10000	No data available	No data available	No data available
Diphenylmethane-4,4-Diisocyanate (MDI) Isomers 9016-87-9	49000	9400	0.49	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

Inhalation May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical attention.

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. Wash off immediately with soap and plenty of water for at least 15 minutes.
Ingestion	May produce an allergic reaction. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information. Avoid breathing vapours or mists.

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

Symptoms	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. Difficulty in breathing.
Effects of Exposure	No information available.

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

Note to doctors	May cause sensitisation in susceptible persons. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Product is or contains a sensitiser. May cause sensitisation by inhalation. May cause sensitisation by skin contact.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away

from and upwind of spill/leak. Avoid breathing vapours or mists.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Avoid breathing vapours or mists.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia

methylenediphenyl diisocyanate 26447-40-5	-	TWA: 0.005 ppm TWA: 0.05 mg/m³ STEL 0.01 ppm STEL 0.1 mg/m³ Sa+ Sh+	-	STEL: 0.07 mg/m³ TWA: 0.05 mg/m³	TWA: 0.02 mg/m³ STEL: 0.07 mg/m³

Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
methylenediphenyl diisocyanate 26447-40-5	-	-	-	S+ TWA: 0.005 ppm STEL: 0.01 ppm	STEL: 0.035 mg/m³

Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
methylenediphenyl diisocyanate 26447-40-5	-	-	-	TWA: 0.02 ppm TWA: 0.2 mg/m³ STEL: 0.02 ppm STEL: 0.2 mg/m³	-
Diphenylmethane-4,4-Diisocyanate (MDI) Isomers 9016-87-9	-	Sa+ TWA: 0.05 mg/m³ Sh+ H*	TWA: 0.05 mg/m³ Peak: 0.05 mg/m³ * respiratory and skin sensitizer inhalable fraction	-	-

Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
methylenediphenyl diisocyanate 26447-40-5	TWA: 0.02 mg/m³ STEL: 0.07 mg/m³ Sens+	-	-	-	Ceiling: 0.01 ppm Ceiling: 0.1 mg/m³ J+ TWA: 0.005 ppm TWA: 0.05 mg/m³

Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
methylenediphenyl diisocyanate 26447-40-5	-	-	-	TWA: 0.005 ppm A+ STEL: 0.01 ppm	STEL: 0.09 mg/m³ TWA: 0.03 mg/m³

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Diphenylmethane-4,4-Diisocyanate (MDI) Isomers 9016-87-9	-	-	-	TWA: 0.05 mg/m³ STEL: 0.05 mg/m³ K*	-

Chemical name	Sweden	Switzerland	United Kingdom
methylenediphenyl diisocyanate 26447-40-5	S+ : NGV: 0.002 ppm	S+ TWA: 0.02 mg/m³ STEL: 0.02 mg/m³	TWA: 0.02 mg/m³ STEL: 0.07 mg/m³ Sen+

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
methylenediphenyl diisocyanate 26447-40-5	-	10 µg/g Creatinine (urine - 4,4'-Diaminodiphenylmethane after end of work day, at the end of a work week/end of the shift) (-)	-	-	-

Chemical name	Hungary	Ireland	Italy MDLPS	Italy AIDII
methylenediphenyl diisocyanate 26447-40-5	-	1 µmol/mol Creatinine (urine - urinary Diamine post task)	-	-

Chemical name	Slovenia	Spain	Switzerland	United Kingdom
methylenediphenyl diisocyanate 26447-40-5	-	-	-	1 mmol isocyanate-derived diamine/mol creatinine - () - end of the period of exposure

Derived No Effect Level (DNEL) - Workers

Derived No Effect Level (DNEL) - General Public .

Predicted No Effect Concentration (PNEC) .

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	brown
Odour	No characteristic odour.
Odour threshold	No information available

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	> 300 °C	> 300°C
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive	No data available	

limits		
Flash point	203 °C	Open cup
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	Reacts with water
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	25 mPa s @ 25°C	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	1.2 @ 25°C	None known
Bulk density	1.21 g/cm3	
Liquid Density	No data available	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regards to physical hazard classes

Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Excessive heat.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause sensitisation in susceptible persons. (based on components). May cause irritation of respiratory tract. Harmful by inhalation.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitisation by skin contact. Causes skin irritation.

Ingestion Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation". Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

Acute toxicity

Numerical measures of toxicity
No information available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	13,136.70 mg/kg
ATEmix (dermal)	9,812.10 mg/kg
ATEmix (inhalation-gas)	4,500.00 ppm
ATEmix (inhalation-vapour)	11.00 mg/l
ATEmix (inhalation-dust/mist)	1.50 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
methylenediphenyl diisocyanate	> 10000 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	= 490 mg/m³ (Rat) 4 h
Diphenylmethane-4,4-Diisocyanate (MDI) Isomers	= 49 g/kg (Rat)	> 9.4 g/kg (Rabbit)	= 490 mg/m³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes skin irritation.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

Respiratory or skin sensitisation May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

Chemical name	European Union
methylenediphenyl diisocyanate	Carc. 2

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT - single exposure May cause respiratory irritation.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient

methylenediphenyl diisocyanate	4.5

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

12.6. Endocrine disrupting properties

Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user Special Provisions None
14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

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

Chemical name	French RG number
methylenediphenyl diisocyanate - 26447-40-5	RG 62

Water hazard class (WGK) slightly hazardous to water (WGK 1)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
methylenediphenyl diisocyanate - 26447-40-5	Use restricted. See item 56. Use restricted. See item 75.	-

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status

EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
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PICCS	Contact supplier for inventory compliance status
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Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
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EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

Legend
SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method

Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
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End of Safety Data Sheet