

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

1.1. Product identifier

Product form : Article
Product name : Altro Seal Water-based Matt Hardener
Product code : SUVRWB_H
Product group : End product

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
Use of the substance/mixture : Polyurethane Hardener - Industrial floor coating

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Altro Resin Systems
Unit 3 Station Road Industrial Estate
Station Road
GB- DT2 0AE Maiden Newton Dorchester
T 01300 320620
sds@altro.com - www.altro.com

1.4. Emergency telephone number

Emergency number : 01462 480480
Monday - Friday 09:00 - 17:00

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GB CLP (SI 2019:720 as amended)

Acute toxicity (inhalation:dust,mist) Category 4 H332
Skin sensitisation, Category 1 H317
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation H335
Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to GB CLP (SI 2019:720 as amended)

Hazard pictograms (GB CLP) :



GHS07

Signal word (GB CLP) : Warning
Contains : hexamethylene-di-isocyanate; hexamethylene-1,6-diisocyanate homopolymer; Hydrophilic aliphatic polyisocyanate
Hazard statements (GB CLP) : H317 - May cause an allergic skin reaction.
H332 - Harmful if inhaled.

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Precautionary statements (GB CLP)	H335 - May cause respiratory irritation. H412 - Harmful to aquatic life with long lasting effects. : P261 - Avoid breathing fume, vapours. P271 - 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, protective clothing, protective gloves. P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
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2.3. Other hazards

Results of PBT and vPvB assessment

This substance does not meet the PBT criteria of UK REACH regulation, annex XIII

This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII

Component	
Substance(s) not meeting the PBT criteria of UK REACH regulation, in accordance with Annex XIII	hexamethylene-di-isocyanate (822-06-0), hexamethylene-1,6-diisocyanate homopolymer (28182-81-2), Hydrophilic aliphatic polyisocyanate (160994-68-3)
Substance(s) not meeting the vPvB criteria of UK REACH regulation, in accordance with Annex XIII	hexamethylene-di-isocyanate (822-06-0), hexamethylene-1,6-diisocyanate homopolymer (28182-81-2), Hydrophilic aliphatic polyisocyanate (160994-68-3)

Results of Endocrine Disruptor assessment

The substance is not included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP

Component	
Substance(s) not considered as endocrine disrupting. They are not included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, nor identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP	Hydrophilic aliphatic polyisocyanate(160994-68-3), hexamethylene-1,6-diisocyanate homopolymer(28182-81-2), hexamethylene-di-isocyanate(822-06-0)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to GB CLP (SI 2019:720 as amended)
Hydrophilic aliphatic polyisocyanate	CAS-No.: 160994-68-3	100	Acute Tox. 4 (Inhalation:dust,mist), H332 (ATE=0.39 mg/l/4h) Skin Sens. 1B, H317 STOT SE 3, H335 Aquatic Chronic 3, H412
hexamethylene-1,6-diisocyanate homopolymer	CAS-No.: 28182-81-2 EC-No.: 931-274-8	≥ 75	Acute Tox. 4 (Inhalation), H332 (ATE=1.5 mg/l/4h) Skin Sens. 1, H317 STOT SE 3, H335

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Name	Product identifier	%	Classification according to GB CLP (SI 2019:720 as amended)
hexamethylene-di-isocyanate	CAS-No.: 822-06-0 EC-No.: 212-485-8 UK Index-No.: 615-011-00-1	≥ 0.1 – < 1	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Acute Tox. 2 (Inhalation:dust,mist), H330 (ATE=0.124 mg/l/4h) Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
hexamethylene-di-isocyanate	CAS-No.: 822-06-0 EC-No.: 212-485-8 UK Index-No.: 615-011-00-1	(0.5 ≤ C ≤ 100) Resp. Sens. 1; H334 (0.5 ≤ C ≤ 100) Skin Sens. 1; H317

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Take off all contaminated clothing and wash its before reuse.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Take off contaminated clothing. Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do not induce vomiting. Get medical advice/attention if you feel unwell.

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

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: irritation (itching, redness, blistering).
Symptoms/effects after eye contact	: Causes eye irritation. redness, itching, tears.
Symptoms/effects after ingestion	: May cause irritation to the digestive tract.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: For large fire: Water spray. Foam. Carbon dioxide (CO ₂). Dry powder.
Unsuitable extinguishing media	: Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: In case of fire and/or explosion do not breathe fumes. On burning: release of toxic gases/vapours. Carbon oxides (CO, CO ₂). Nitrogenous substances.
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5.3. Advice for firefighters

Firefighting instructions	: Control run-off water by containing and keeping it out of sewers and watercourses.
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Protection during firefighting : Use self-contained breathing apparatus and chemically protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide local exhaust or general room ventilation. Avoid contact with skin and eyes. Contaminated work clothing should not be allowed out of the workplace. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Keep only in original container. Keep cool. Store in a dry place. Store in a closed container. Store in a well-ventilated place. Keep container tightly closed.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

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8.1.4. DNEL and PNEC

hexamethylene-di-isocyanate (822-06-0)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	0.07 mg/m ³
Long-term - local effects, inhalation	0.035 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	0.049 mg/l
PNEC aqua (marine water)	0.0049 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.674 mg/kg dwt
PNEC sediment (marine water)	0.0674 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.523 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	8.42 mg/l
hexamethylene-1,6-diisocyanate homopolymer (28182-81-2)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	1 mg/m ³
Long-term - local effects, inhalation	0.5 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	0.127 mg/l
PNEC aqua (marine water)	0.0127 mg/l
PNEC aqua (intermittent, freshwater)	1.27 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	266701 mg/kg dwt
PNEC sediment (marine water)	26670 mg/kg dwt
PNEC (Soil)	
PNEC soil	53183 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	88 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Provide local exhaust or general room ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

8.2.2. Personal protection equipment

Personal protective equipment:

Gloves. Safety glasses. Protective clothing.

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Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Wear eye protection

8.2.2.2. Skin protection

Skin and body protection:

Avoid contact with skin

Hand protection:

Standard EN 374 - Protective gloves against chemicals.

Other skin protection**Materials for protective clothing:**

Keep work clothing separately

8.2.2.3. Respiratory protection

Respiratory protection:

Wear suitable respiratory equipment in case of insufficient ventilation

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Odour	: Not available
Odour threshold	: Not available
pH	: Not available.
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flash point	: ~ 195°C
Flammability	: Not available
Explosive limits	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Relative vapour density at 20°C	: Not available
Relative density	: Not available
Density	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
Viscosity, kinematic	: Not available
Explosive properties	: Not available

9.2. Other information

Particle characteristics	: Not applicable
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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

None under normal use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Not known.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Inhalation:dust,mist: Harmful if inhaled.

Altro Seal Water-based Matt Hardener	
ATE UK (dust, mist)	1.5 mg/l/4h
hexamethylene-di-isocyanate (822-06-0)	
LD50 dermal rat	> 7000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	0.124 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), 95% CL: 111 - 140
hexamethylene-1,6-diisocyanate homopolymer (28182-81-2)	
LD50 oral rat	> 2500 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: other:
Hydrophilic aliphatic polyisocyanate (160994-68-3)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	0.39 mg/l/4h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Not available.
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Not available.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

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Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: May cause respiratory irritation.

hexamethylene-di-isocyanate (822-06-0)

STOT-single exposure	May cause respiratory irritation.
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hexamethylene-1,6-diisocyanate homopolymer (28182-81-2)

STOT-single exposure	May cause respiratory irritation.
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Hydrophilic aliphatic polyisocyanate (160994-68-3)

STOT-single exposure	May cause respiratory irritation.
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STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	: Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic)	: Harmful to aquatic life with long lasting effects.

hexamethylene-1,6-diisocyanate homopolymer (28182-81-2)

EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): other:
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Hydrophilic aliphatic polyisocyanate (160994-68-3)

LC50 - Fish [1]	28.3 mg/l Test species:- Zebrafish
EC50 - Crustacea [1]	> 100 mg/l Test species:- Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test species:- Scenedesmus subspicatus

12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable
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hexamethylene-di-isocyanate (822-06-0)

Persistence and degradability	Not rapidly degradable
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hexamethylene-1,6-diisocyanate homopolymer (28182-81-2)

Persistence and degradability	Not rapidly degradable
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Hydrophilic aliphatic polyisocyanate (160994-68-3)

Persistence and degradability	Not rapidly degradable
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

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12.5. Results of PBT and vPvB assessment

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This substance does not meet the PBT criteria of UK REACH regulation, annex XIII

This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII

Component

hexamethylene-di-isocyanate (822-06-0)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
hexamethylene-1,6-diisocyanate homopolymer (28182-81-2)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Hydrophilic aliphatic polyisocyanate (160994-68-3)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII

12.6. Other adverse effects

Ozone : Not classified (Based on available data, the classification criteria are not met)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Must follow special treatment according to local regulation.
HP Code : HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.
HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.
HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.
HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Transport document description				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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ADR	IMDG	IATA	ADN	RID
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. National regulations

UK REACH Annex XVII (Restriction List)

This product contains no substance(s) listed on UK REACH Annex XVII (Restriction List) equal to or above the level of SDS disclosure

UK REACH Annex XIV (Authorisation List)

This product contains no substance(s) listed on UK REACH Annex XIV (Authorisation List) equal to or above the 0.1% level of disclosure

UK REACH Candidate List (SVHC)

This product contains no substance(s) listed on the UK REACH Candidate List (SVHC).

GB PIC Regulation (Prior Informed Consent)

This product contains no substance(s) listed on the GB PIC List equal to or above the level of SDS disclosure

POP Regulation (Persistent Organic Pollutants)

This product contains no substance(s) listed on the GB POP List equal to or above the level of SDS disclosure

Ozone Regulation (S.I. No. 168 of 2015)

This product contains no substance(s) listed on the GB Ozone Depletion List equal to or above the level of SDS disclosure

Control of Poisons and Explosives Precursors Act

This product contains no substance(s) listed as a reportable poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains no substance(s) listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains no substance(s) listed as a reportable explosive precursor on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This substance is not listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations

Drug Precursors Regulation (EC 273/2004)

This product contains no substance(s) listed on the GB Drug Precursors List equal to or above the level of SDS disclosure

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15.1.2. Other Information

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Safety Data Sheet (SDS), UK

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