



SAFETY DATA SHEET

Altro Flexiflow standard/slip resistant top-coat hardener

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

1.1. Product identifier

Product name Altro Flexiflow standard/slip resistant top-coat hardener

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

Identified uses Industrial flooring - hardener

1.3. Details of the supplier of the safety data sheet

Supplier Altro Resin Systems Ltd
 Unit 3 Station Rd Industrial Estate
 Maiden Newton
 Dorchester
 Dorset
 DT2 0AE
 Tel: 01300320620
 Fax: 01300321122
 info@altro.com

1.4. Emergency telephone number

Emergency telephone +44(0)1462480480 (Monday-Friday 09.00-17.00)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H332 Skin Sens. 1 - H317 STOT SE 3 - H335

Environmental hazards Not Classified

2.2. Label elements

Pictogram



Signal word Warning

Hazard statements H317 May cause an allergic skin reaction.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.

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Precautionary statements

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.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations

Supplemental label information

EUH204 Contains isocyanates. May produce an allergic reaction.

Contains

HDI oligomers, isocyanurate, hydrophilic aliphatic polyisocyanate

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

HDI oligomers, isocyanurate	60-100%
CAS number: 28182-81-2	EC number: 931-274-8

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H332	Xn;R20. Xi;R37. R43.
Skin Sens. 1 - H317	
STOT SE 3 - H335	

hydrophilic aliphatic polyisocyanate	10-30%
CAS number: 666723-27-9	

Classification
Acute Tox. 3 - H331
Skin Sens. 1 - H317
STOT SE 3 - H335
Aquatic Chronic 3 - H412

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off all contaminated clothing immediately.

Inhalation

Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing, medical advice is required

Ingestion

DO NOT induce the patient to vomit, medical advice is required.

Skin contact

In case of skin contact wash affected areas thoroughly with soap and plenty of water. Consult a doctor in the event of a skin reaction.

Eye contact

Hold the eyes open and rinse with preferably lukewarm water for a sufficiently long period of time (at least 10 minutes). Contact an ophthalmologist.

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

General information

Basic first aid, decontamination, symptomatic treatment.

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

Notes for the doctor Basic first aid, decontamination, symptomatic treatment. No further information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Carbon dioxide (CO₂), Foam, extinguishing powder, in cases of larger fires, water spray should be used.

Unsuitable extinguishing media High Volume Water Jet

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters

Special protective equipment for firefighters During fire-fighting respirator with independent air-supply and airtight garment is required; Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Put on protective equipment (see section 8). Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

6.2. Environmental precautions

Environmental precautions Do not allow to escape into waterways, waste water or soil.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO₂!). Keep damp in a safe ventilated area for several days.

6.4. Reference to other sections

Reference to other sections For further disposal measures see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Provide sufficient air exchange and/or exhaust in work rooms. Exhaust ventilation necessary if product is sprayed. Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at the end of workday. Keep working clothes separately. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container dry and tightly closed in a cool and well ventilated place. Further information on the storage conditions which must be observed to preserve quality can be found in our product information sheet.
Storage class (TRGS 510) :
10: Combustible liquids

7.3. Specific end use(s)

Specific end use(s) No information available.

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SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

No specific assessment has been carried out for the mixture

8.2. Exposure controls

Eye/face protection	Wear eye protection. Wear face protection.
Hand protection	Suitable materials for safety gloves; EN 374: Laminate glove - PE/EVAL/PE; breakthrough time ≥ 480 min. Recommendation: contaminated gloves should be disposed of. Suitable materials for safety gloves; EN 374: Fluorinated rubber - FKM: thickness $\geq 0,4$ mm; breakthrough time ≥ 480 min. Butyl rubber - IIR: thickness $\geq 0,5$ mm; breakthrough time ≥ 480 min. Recommendation: contaminated gloves should be disposed of.
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination.
Respiratory protection	Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter is recommended. In case of hypersensitivity of the respiratory tract and skin (e.g. asthmatics and those who suffer from chronic bronchitis and chronic skin complaint) it is inadvisable to work with the product

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Yellowish.
Odour	Almost odourless.

9.2. Other information

Other information	The indicated values do not necessarily correspond to the product specification. Please refer to the technical information sheet for specification data.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	This information is not available.
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10.2. Chemical stability

Stability	This information is not available.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Exothermic reaction with amines and alcohols; reacts slowly with water forming CO ₂ , in closed containers risk of bursting owing to increase of pressure
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10.4. Conditions to avoid

Conditions to avoid	This information is not available.
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10.5. Incompatible materials

Materials to avoid	This information is not available.
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10.6. Hazardous decomposition products

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Hazardous decomposition products No hazardous decomposition products when stored and handled correctly.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects No information available on the mixture

Acute toxicity - oral

Notes (oral LD₅₀) No information available on the mixture

Acute toxicity - dermal

Notes (dermal LD₅₀) No information available on the mixture

Acute toxicity - inhalation

ATE inhalation (gases ppm) 4,500.0

ATE inhalation (vapours mg/l) 11.0

ATE inhalation (dusts/mists mg/l) 1.5

Skin corrosion/irritation

Skin corrosion/irritation No information available on the mixture

Serious eye damage/irritation

Serious eye damage/irritation No information available.

Respiratory sensitisation

Respiratory sensitisation No information available on the mixture

Skin sensitisation

Skin sensitisation No information available on the mixture

Germ cell mutagenicity

Genotoxicity - in vitro No information available on the mixture

Genotoxicity - in vivo No data available

Carcinogenicity

Carcinogenicity No information available on the mixture

Reproductive toxicity

Reproductive toxicity - fertility No information available on the mixture

Specific target organ toxicity - single exposure

STOT - single exposure No information available on the mixture

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available on the mixture

Aspiration hazard

Aspiration hazard No information available on the mixture

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General information	Special properties/effects: Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails risk of concentration-dependent irritating effects on eyes, nose, throat, and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the UK Workplace Exposure Limit (WEL). Prolonged contact with the skin may cause tanning and irritant effects.
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SECTION 12: Ecological Information

Ecotoxicity	Do not allow to escape into waterways, waste water or soil.
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12.1. Toxicity

Toxicity	No information available on the mixture
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12.2. Persistence and degradability

Persistence and degradability	No information available on the mixture
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12.3. Bioaccumulative potential

Bioaccumulative potential	No information available on the mixture
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12.4. Mobility in soil

Mobility	No information available on the mixture
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12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	No information available on the mixture
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12.6. Other adverse effects

Other adverse effects	Isocyanate reacts with water at the interface forming CO ₂ and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents. Previous experience shows that polyurea is inert and non-degradable.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.
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SECTION 14: Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).
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14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

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14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

National regulations Any national regulations for the handling of hazardous substances must be observed.

15.2. Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Revision date	05/01/2018
Revision	1
SDS number	21915
Hazard statements in full	H317 May cause an allergic skin reaction. H331 Toxic if inhaled. H332 Harmful if inhaled. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.