SAFETY DATA SHEET

RESION TireProof Finish Hardener

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

1.1. Product identifier

Trade name
RESION TireProof Finish Hardener

Product no.
FS812

Unique formula identifier (UFI)
Q5F0-9084-C00C-UGW9

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

Relevant identified uses of the substance or mixture
Curing agent for resins

Use descriptors (REACH)

Sectors of use	Description
SU 19	Building and construction work
Product category	**Description**
PC 9a	Coatings and Paints, Fillers, Putties, Thinners
Process category	**Description**
PROC 10	Roller application or brushing
PROC 19	Hand-mixing with intimate contact and only PPE available
Article category	**Description**
AC 13	Plastic articles
Environmental release category	**Description**
ERC 5	Industrial use resulting in inclusion into or onto a matrix
ERC 8c	Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC 8f	Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Uses advised against
None known.

1.3. Details of the supplier of the safety data sheet

Company and address
Polyestershoppen BV
Oostbaan 680
2841 ML Moordrecht
Netherlands
+31 85 0220090

Contact person
-

E-mail
info@polyestershoppen.nl

Revision
16/08/2024

SDS Version
2.0

Date of previous version
30/11/2023 (1.0)

1.4. ▼Emergency telephone number

Healthcare professionals: Dial 0344 892 0111 to reach The National Poisons Information Service (NPIS) (24 hour service)
General public:
England - Dial 111 to reach NHS 111 (24 hour service)
Scotland - Dial 112 to reach NHS 24 (24 hour service)
Wales - Dial 111 or 0845 4647 to reach NHS Direct (24 hour service)
See section 4 “First aid measures”.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Skin Sens. 1; H317, May cause an allergic skin reaction.
Acute Tox. 4; H332, Harmful if inhaled.
STOT SE 3; H335, May cause respiratory irritation.
Aquatic Chronic 3; H412, Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard pictogram(s)

Signal word
Warning

Hazard statement(s)
May cause an allergic skin reaction. (H317)
Harmful if inhaled. (H332)
May cause respiratory irritation. (H335)
Harmful to aquatic life with long lasting effects. (H412)

Precautionary statement(s)

General
If medical advice is needed, have product container or label at hand. (P101)
Keep out of reach of children. (P102)

Prevention
Avoid breathing mist/vapour. (P261)
Wear eye protection/protective gloves/protective clothing. (P280)

Response
IF ON SKIN: Wash with plenty of water and soap. (P302+P352)
If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)

Storage
Store locked up. (P405)

Disposal
Dispose of contents/container in accordance with local regulation
(P501)

Hazardous substances
HDI oligomers, isocyanurate
Blocked Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)
Hexamethylene diisocyanate, oligomers
HDI oligomers, iminooxadiazindione
Cyclohexyldimethylamine

▼Additional labelling

EUH204, Contains isocyanates. May produce an allergic reaction.
Contains isocyanates. May produce an allergic reaction.
Adequate training is required before industrial or professional use.

UFI: Q5F0-9084-C00C-UGW9

2.3. Other hazards

Additional warnings

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.
This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable. This product is a mixture.

3.2. ▼Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
HDI oligomers, isocyanurate	CAS No.: 28182-81-2 EC No.: 931-274-8 UK-REACH: Index No.:	40-60%	Skin Sens. 1, H317 Acute Tox. 4, H332 STOT SE 3, H335	
Blocked Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)	CAS No.: 666723-27-9 EC No.: 679-494-0 UK-REACH: Index No.:	25-40%	Skin Sens. 1, H317 Acute Tox. 4, H332 STOT SE 3, H335 Aquatic Chronic 3, H412	[19]
Hexamethylene diisocyanate, oligomers	CAS No.: 28182-81-2 EC No.: 500-060-2 UK-REACH: Index No.:	3-5%	Skin Sens. 1, H317	
HDI oligomers, iminooxadiazindione	CAS No.: EC No.: 931-297-3 UK-REACH: Index No.:	3-5%	Skin Sens. 1, H317 Acute Tox. 4, H332 STOT SE 3, H335	
Cyclohexyldimethylamine	CAS No.: 98-94-2 EC No.: 202-715-5 UK-REACH: Index No.:	<0.25%	Flam. Liq. 3, H226 Acute Tox. 3, H301 Acute Tox. 3, H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Acute Tox. 3, H331 Aquatic Chronic 2, H411	

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

▼Other information

[19] UVCB = Unknown or variable composition, complex reaction products or of biological materials

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the injured person into fresh air. Make sure the injured person is continuously monitored. Prevent shock by keeping the injured person warm and calm. If breathing ceases, give mouth-to-mouth resuscitation. If unconscious, roll the injured person into recovery position. Call an ambulance.

Skin contact

IF ON SKIN: Wash with plenty of water and soap.
Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners.
If skin irritation occurs: Get medical advice/attention.

Eye contact

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

Ingestion

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.
In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

Burns

Not applicable.

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

Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact.
Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

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

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

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:
Nitrogen oxides (NO_x)
Carbon oxides (CO / CO2)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.
Ensure adequate ventilation, especially in confined areas.

Avoid inhalation of vapours from spilled material.
Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 “Disposal considerations” on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

It is recommended to install waste collection trays in order to prevent emissions to the waste water system and surrounding environment.
Smoking, drinking and consumption of food is not allowed in the work area.
See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage material

Keep only in original packaging.

Storage conditions

Dry, cool and well ventilated

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No substances are listed in the national list of substances with an occupational exposure limit.

DNEL

Cyclohexyldimethylamine

Duration:	Route of exposure:	DNEL:
Long term – Systemic effects - Workers	Dermal	600 µg/kgbw/day
Long term – Local effects - Workers	Inhalation	8.3 mg/m³
Long term – Systemic effects - Workers	Inhalation	530 µg/m³
Short term – Local effects - Workers	Inhalation	8.3 mg/m³

PNEC

Cyclohexyldimethylamine

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		3.5-12 µg/L
Freshwater sediment		36.92-2760 µg/kg
Intermittent release (freshwater)		35 µg/L
Marine water		350-1200 ng/L
Marine water sediment		3.69-276 µg/kg

Sewage treatment plant	20.6 mg/L
Soil	5.33-544 µg/kg

8.2. ▼Exposure controls

Apply general control to prevent unnecessary exposure

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Occupational exposure limits have not been defined for the substances in this product.

Appropriate technical measures

Apply standard precautions during use of the product. Avoid inhalation of vapours.

▼Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

Measures to avoid environmental exposure

Keep damming materials near the workplace. If possible, collect spillage during work.

Individual protection measures, such as personal protective equipment

Generally

Use only UKCA marked protective equipment.

Respiratory Equipment

Type	Class	Colour	Standards
A	Class 2 (medium capacity)	Brown	EN14387

Skin protection

Recommended	Type/Category	Standards
Dedicated work clothing should be worn. Wear a protective suit in the event of prolonged periods of work with the product.	-	-

Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards
Nitrile	0,2	> 240	EN374-2, EN374-3, EN388

Eye protection

Type	Standards
Safety glasses with side shields.	EN166

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state
Liquid

Colour
Colourless

Odour / Odour threshold
None

▼pH
No relevant or available data due to the nature of the product.

▼Density (g/cm^3)
No relevant or available data due to the nature of the product.

▼Kinematic viscosity
No relevant or available data due to the nature of the product.

Particle characteristics
Does not apply to liquids.

Phase changes

▼Melting point/Freezing point (°C)
No relevant or available data due to the nature of the product.

Softening point/range (°C)
Does not apply to liquids.

▼Boiling point (°C)
No relevant or available data due to the nature of the product.

▼Vapour pressure
No relevant or available data due to the nature of the product.

▼Relative vapour density
No relevant or available data due to the nature of the product.

▼Decomposition temperature (°C)
No relevant or available data due to the nature of the product.

Data on fire and explosion hazards

▼Flash point (°C)
No relevant or available data due to the nature of the product.

▼Flammability (°C)
No relevant or available data due to the nature of the product.

▼Auto-ignition temperature (°C)
No relevant or available data due to the nature of the product.

▼Lower and upper explosion limit (% v/v)
No relevant or available data due to the nature of the product.

Solubility

▼Solubility in water
No relevant or available data due to the nature of the product.

▼n-octanol/water coefficient (LogKow)
No relevant or available data due to the nature of the product.

▼Solubility in fat (g/L)
No relevant or available data due to the nature of the product.

9.2. Other information

Other physical and chemical parameters
No data available.

▼Oxidizing properties
No relevant or available data due to the nature of the product.

SECTION 10: Stability and reactivity

10.1. Reactivity
No data available.

10.2. Chemical stability
The product is stable under the conditions, noted in section 7 “Handling and storage”.

10.3. Possibility of hazardous reactions
None known.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products
The product is not degraded when used as specified in section 1.

SECTION 11: Toxicological information

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

Acute toxicity

Product/substance	HDI oligomers, isocyanurate
Species:	Rat
Route of exposure:	Oral
Test:	LD50
Result:	>2500 mg/kg

Product/substance	HDI oligomers, isocyanurate
Species:	Rat
Route of exposure:	Dermal
Result:	>2000 mg/kg

Product/substance	Blocked Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)
Species:	Rat
Route of exposure:	Oral
Result:	>5000 mg/kg

Product/substance	Hexamethylene diisocyanate, oligomers
Species:	Rat
Route of exposure:	Oral
Result:	>2000 mg/kg

Product/substance	Hexamethylene diisocyanate, oligomers
Species:	Rat
Route of exposure:	Inhalation
Test:	LD50
Result:	4500 ppmV

Product/substance	HDI oligomers, iminooxadiazindione
Species:	Rat
Route of exposure:	Oral
Test:	LD50
Result:	>2000 mg/kg

Product/substance	Cyclohexyldimethylamine
Species:	Rat
Route of exposure:	Oral
Test:	LD50

Result:	272-289 mg/kg

Product/substance	Cyclohexyldimethylamine
Species:	Rat
Route of exposure:	Dermal
Test:	LD50
Result:	380 mg/kg

Harmful if inhaled.

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

Serious eye damage/irritation
Based on available data, the classification criteria are not met.

Respiratory sensitisation
Based on available data, the classification criteria are not met.

Skin sensitisation
May cause an allergic skin reaction.

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

Product/substance	HDI oligomers, isocyanurate
Route of exposure:	Inhalation
Conclusion:	Adverse effect observed

Product/substance	Blocked Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)
Route of exposure:	Inhalation
Conclusion:	Adverse effect observed

Product/substance	Hexamethylene diisocyanate, oligomers
Conclusion:	Adverse effect observed

Product/substance	HDI oligomers, iminooxadiazindione
Route of exposure:	Inhalation
Conclusion:	Adverse effect observed

May cause respiratory irritation.

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

Long term effects
Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

Endocrine disrupting properties
This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

Other information
None known.

SECTION 12: Ecological information

12.1. Toxicity

Product/substance	Blocked Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)
Species:	Fish
Duration:	96 hours
Test:	LC50
Result:	95.2 mg/L

Product/substance	Blocked Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)
Species:	Crustacean, Daphnia magna
Duration:	48 hours
Test:	EC50
Result:	>100 mg/L

Product/substance	Blocked Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)
Species:	Algae, Desmodesmus subspicatus
Test:	EC50
Result:	72 mg/L

Harmful to aquatic life with long lasting effects.

12.2. ▼Persistence and degradability

Product/substance	HDI oligomers, isocyanurate
Conclusion:	Not biodegradable

Product/substance	HDI oligomers, iminooxadiazindione
Conclusion:	Not biodegradable

12.3. ▼Bioaccumulative potential

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

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. Other adverse effects

This product contains substances, which may cause adverse long-term effects to the aquatic environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product is covered by the regulations on hazardous waste. (*)
HP 5 - Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 6 - Acute toxicity
HP 13 – Sensitising
HP 14 – Ecotoxic
Dispose of contents/container to an approved waste disposal plant.
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

EWC code

08	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

* Packing group
** Environmental hazards

Additional information
Not dangerous goods according to ADR, IATA and IMDG.

14.6. Special precautions for user
Not applicable.

14.7. Maritime transport in bulk according to IMO instruments
No data available.

SECTION 15: Regulatory information

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

Restrictions for application
People under the age of 18 shall not be exposed to this product.

Demands for specific education
Use of this product requires dedicated training in work with polyurethane and epoxy products.

SEVESO - Categories / dangerous substances
Not applicable.

▼REACH, Annex XVII
Cyclohexyldimethylamine is subject to UK-REACH restrictions (entry 40).

Additional information
Tactile warning.

Sources
The Management of Health and Safety at Work Regulations 1999.
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.
Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

15.2. Chemical safety assessment
No

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3
H226, Flammable liquid and vapour.
H301, Toxic if swallowed.
H311, Toxic in contact with skin.
H314, Causes severe skin burns and eye damage.
H317, May cause an allergic skin reaction.
H318, Causes serious eye damage.
H331, Toxic if inhaled.
H332, Harmful if inhaled.

H335, May cause respiratory irritation.
H411, Toxic to aquatic life with long lasting effects.
H412, Harmful to aquatic life with long lasting effects.

The full text of identified uses as mentioned in section 1

SU 19 = Building and construction work
PROC 10 = Roller application or brushing
PROC 19 = Hand-mixing with intimate contact and only PPE available
PC 9a = Coatings and Paints, Fillers, Putties, Thinners
AC 13 = Plastic articles
ERC 5 = Industrial use resulting in inclusion into or onto a matrix
ERC 8c = Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC 8f = Wide dispersive outdoor use resulting in inclusion into or onto a matrix

▼Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne (European conformity)
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EuPCS = European Product Categorisation System
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
GWP = Global warming potential
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.
The classification of the substance/mixture in regard of environmental hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

The safety data sheet is validated by

H.A.B.

▼ Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.
Country-language: GB-en