

## SAFETY DATA SHEET

## Hardener

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

## 1.1. Product identifier

## Trade name

Hardener

## ▼ Unique formula identifier (UFI)

4M1R-W81F-GAHX-961F

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

## Relevant identified uses of the substance or mixture

Hardener

Restricted to professional users.

## Uses advised against

None known.

## 1.3. Details of the supplier of the safety data sheet

## Company and address

**Arboritec**

Olof Wijksväg 9

SE-444 65 Jörlanda

Sweden

## E-mail

info@arboritec.com

## Revision

28/06/2024

## SDS Version

2.0

## Date of previous version

22/02/2024 (1.0)

## 1.4. Emergency telephone number

In urgent situations: Call 112 and request the poison information centre. (24h service)

In less severe situations: Call 010-456 6700 (24h service)

See also 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

-

##### Prevention

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

##### Response

- If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)
- Take off contaminated clothing and wash it before reuse. (P362+P364)

##### Storage

- Store in a well-ventilated place. Keep container tightly closed. (P403+P233)

##### Disposal

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

#### Hazardous substances

- Aliphatic polyisocyanat
- hexamethylene-di-isocyanate

#### ▼ Additional labelling

- EUH204, Contains isocyanates. May produce an allergic reaction.

UFI: 4M1R-W81F-GAHX-961F

### 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
Aliphatic polyisocyanat	CAS No.: 160994-68-3 EC No.: REACH: Index No.:	60 - 70%	Skin Sens. 1, H317 Acute Tox. 4, H332 STOT SE 3, H335 Aquatic Chronic 3, H412	[19]

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

Call a POISON CENTER/doctor if you feel unwell.

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.

### 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

- Always store in containers of the same material as the original container.

#### Storage conditions

#### 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

- No data available.

#### PNEC

- No data available.

### 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 CE marked protective equipment.


#### Respiratory Equipment

Work situation	Type	Class	Colour	Standards	
In case of inadequate ventilation	Combination Filter A1B1E1K1	Class 1 (low capacity)	Brown/Gray/Yellow/Green	EN14387	


#### Skin protection

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

#### Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Butyl	0,3	> 480	EN374-2, EN374-3, EN388	

#### Eye protection

Work situation	Type	Standards	
When there is risk of splash- / intermittent exposure	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

Testing not relevant or not possible due to the nature of the product.

#### Odour / Odour threshold

Faint

#### pH

Testing not relevant or not possible due to the nature of the product.

#### Density (g/cm<sup>3</sup>)

-

#### Relative density

1,1 g/ml (23 °C)

#### Kinematic viscosity

Testing not relevant or not possible due to the nature of the product.

#### Particle characteristics

Does not apply to liquids.

#### Phase changes

##### Melting point/Freezing point (°C)

Testing not relevant or not possible due to the nature of the product.

##### Softening point/range (°C)

Does not apply to liquids.

##### Boiling point (°C)

Testing not relevant or not possible due to the nature of the product.

##### Vapour pressure

Testing not relevant or not possible due to the nature of the product.

##### Relative vapour density

Testing not relevant or not possible due to the nature of the product.

##### Decomposition temperature (°C)

Testing not relevant or not possible due to the nature of the product.

#### Data on fire and explosion hazards

##### Flash point (°C)

97 °C

##### Flammability (°C)

Testing not relevant or not possible due to the nature of the product.

##### Auto-ignition temperature (°C)

Testing not relevant or not possible due to the nature of the product.

##### Lower and upper explosion limit (% v/v)

Testing not relevant or not possible due to the nature of the product.

#### Solubility

##### Solubility in water

Testing not relevant or not possible due to the nature of the product.

##### n-octanol/water coefficient (LogKow)

Testing not relevant or not possible due to the nature of the product.

##### Solubility in fat (g/L)

Testing not relevant or not possible due to the nature of the product.

#### 9.2. Other information

##### Other physical and chemical parameters

No data available.

##### Oxidizing properties

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### 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	Aliphatic polyisocyanat
Species:	Rat
Test:	LD50
Result:	> 2000 mg/kg

Product/substance	Aliphatic polyisocyanat
Route of exposure:	Inhalation
Test:	LC50
Result:	> 0,39 mg/l

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

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	Aliphatic polyisocyanat
Species:	Bacteria
Duration:	No data available.
Test:	OECD TG 209
Result:	> 10000 mg/l

Product/substance	Aliphatic polyisocyanat
Test method:	LC50
Species:	Fish, Danio rerio
Duration:	No data available.
Result:	28,3 mg/l

Product/substance	Aliphatic polyisocyanat
Test method:	ErC50
Species:	Algae, Scenedesmus subspicatus
Duration:	No data available.
Result:	> 100 mg/l

Product/substance	Aliphatic polyisocyanat
Test method:	EC50
Species:	Crustacean, Daphnia magna
Duration:	No data available.
Result:	> 100 mg/l

Harmful to aquatic life with long lasting effects.

### 12.2. Persistence and degradability

Product/substance	Aliphatic polyisocyanat
Result:	2 %
Conclusion:	-
Test:	OECD 301 F

### 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.  
 Waste regulation (SFS 2020:614).

**EWC code**

08 01 11\* Waste paint and varnish containing organic solvents or other dangerous substances

**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**

Restricted to professional users.

People under the age of 18 shall not work with this product. This does not apply if the working task is:

- performed by young people who have completed upper secondary education or equivalent education for the task or
- included in teaching that is located in a school premises or other place that is specially arranged for teaching, or
- included in supervisor-led internships for young people.

**Demands for specific education**

Use of this product requires dedicated training in work with polyurethane and epoxy products.

**SEVESO - Categories / dangerous substances**

Not applicable.

**Additional information**

Not applicable.

**▼ Sources**

The Swedish Work Environment Authority's provisions on young peoples' work environment (AFS 2012:3).

Waste regulation (SFS 2020:614).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

## 15.2. Chemical safety assessment

No

### SECTION 16: Other information

#### ▼ Full text of H-phrases as mentioned in section 3

H317, May cause an allergic skin reaction.

H332, Harmful if inhaled.

H335, May cause respiratory irritation.

H412, Harmful to aquatic life with long lasting effects.

#### 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 mixture in regard of health hazards is in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP).

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).

▼ The safety data sheet is validated by

Synteko AB

▼ 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: SE-en