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## SAFETY DATA SHEET

## HARDENER 1.0

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

## 1.1. Product identifier

## Trade name

HARDENER 1.0

## Unique formula identifier (UFI)

35Q2-E0P7-U001-3CWP

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

## ▼ Relevant identified uses of the substance or mixture

Hardener for 2-component surface treatment of floors.  
Restricted to professional users.

## Uses advised against

None known.

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

## Company and address

**Junckers Industrier A/S**

Vaerftsvej 4  
4600 Koege  
Denmark  
Tel. +45 70 80 30 00

## ▼ Importer

**Junckers Ltd.**

Warren Park, 5 Warren Yard, Wolverton Mill  
Milton Keynes MK12 5NW  
Tel. 0 1376 534 700

## E-mail

productsafety@junckers.dk

## Revision

28/08/2023

## SDS Version

4.0

## Date of previous version

23/03/2023 (4.0)

## 1.4. Emergency telephone number

National Poisons Information Service (NPIS): Call 111 (24 h service).

See section 4 for first aid measures.

## SECTION 2: Hazards identification

Classified according to Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

## 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

According to REACH Regulation (EC) No 1907/2006, as retained and amended SI 2019/758 and and SI 2020/1577

#### 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

Wear eye protection/protective gloves/protective clothing. (P280)  
 Avoid breathing vapour. (P261)  
 Avoid release to the environment. (P273)

##### Response

If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)  
 Call a POISON CENTER/doctor if you feel unwell. (P312)

##### Storage

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

##### Disposal

-

#### ▼ Hazardous substances

Hydrophilic, aliphatic polyisocyanate  
 Hexamethylene-1,6-di-isocyanate

#### Additional labelling

UFI: 35Q2-E0P7-U001-3CWP

### 2.3. Other hazards

#### Additional warnings

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

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
Hydrophilic, aliphatic polyisocyanate	CAS No.: 160994-68-3 EC No.: UK-REACH: Index No.:	60-70%	Skin Sens. 1B, H317 Acute Tox. 4, H332 STOT SE 3, H335 Aquatic Chronic 3, H412	
Hexamethylene-1,6-di-isocyanate	CAS No.: 822-06-0 EC No.: 212-485-8 UK-REACH: Index No.: 615-011-00-1	<0.1%	Acute Tox. 4, H302 (ATE: 746.00 mg/kg) [3] Skin Irrit. 2, H315 Skin Sens. 1, H317 (SCL: 0.50 %) Eye Irrit. 2, H319 Acute Tox. 1, H330 (ATE: 0.124 mg/L) Resp. Sens. 1, H334 (SCL: 0.50 %) STOT SE 3, H335	

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

#### Other information

[3] According to UK REACH, Annex XVII, the substance is subject to restrictions.

## 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.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Carbon oxides (CO / CO<sub>2</sub>)

#### 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

Use sand, sawdust, soil, vermiculite or similar to collect liquid material. Subsequently, place in a suitable waste container.

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 temperature

Store in cool, dry conditions in well sealed receptacles.

#### 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

Hexamethylene-1,6-di-isocyanate

Long term exposure limit (8 hours) (mg/m<sup>3</sup>): 0,02

Short term exposure limit (15 minutes) (mg/m<sup>3</sup>): 0,07

Annotations:

Sen = Capable of causing occupational asthma.

The Control of Substances Hazardous to Health Regulations 2002. SI 2002/2677 The Stationery Office 2002. EH40/2005 Workplace exposure limits (Fourth Edition 2020).

#### ▼ DNEL

Hexamethylene-1,6-di-isocyanate

Duration:	Route of exposure:	DNEL:
Long term – Local effects - Workers	Inhalation	0,035 mg/m <sup>3</sup>
Short term – Local effects - Workers	Inhalation	0,07 mg/m <sup>3</sup>

#### PNEC

Hexamethylene-1,6-di-isocyanate

Route of exposure:	Duration of Exposure:	PNEC:
Sewage treatment plant		8,42 mg/l

### 8.2. ▼ Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

#### 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

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

According to REACH Regulation (EC) No 1907/2006, as retained and amended SI 2019/758 and and SI 2020/1577

#### ▼ Appropriate technical measures

The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked.

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. Always wash 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


Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (e.g. type A1 according to standard EN 14387) is used.

Use only UKCA marked protective equipment.


##### Respiratory Equipment

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


##### Skin protection

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

##### Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0,4	> 480	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

Faint

#### pH

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

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

1,06

#### 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 (waxes and pastes) (°C)

Does not apply to liquids.

##### Boiling point (°C)

175

##### 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)

61

##### Flammability (°C)

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

##### Auto-ignition temperature (°C)

300

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

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

#### Solubility

##### Solubility in water

Insoluble

##### n-octanol/water coefficient

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

##### Oxidizing properties

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

##### Other physical and chemical parameters

No data available.

### 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

Do not expose to any forms of heat (e.g. solar radiation). May lead to excess pressure.

#### 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 as retained and amended in UK law

##### ▼ Acute toxicity

Product/substance      Hexamethylene-1,6-di-isocyanate

Test method:            OECD 403

Species:                    Rat, Wistar, male/female

According to REACH Regulation (EC) No 1907/2006, as retained and amended SI 2019/758 and and SI 2020/1577

Route of exposure:	Inhalation
Test:	LC50
Result:	0,124 mg/l

Product/substance	Hexamethylene-1,6-di-isocyanate
Test method:	OECD 401
Species:	Rat, Albino, male
Route of exposure:	Oral
Test:	LD50
Result:	746 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

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

Not applicable.

#### Other information

None known.

## SECTION 12: Ecological information

### 12.1. ▼ Toxicity

Product/substance	Hydrophilic, aliphatic polyisocyanate
Test method:	OECD 203
Species:	Danio rerio
Duration:	96 hours
Test:	LC50
Result:	28,3 mg/l

Harmful to aquatic life with long lasting effects.

### 12.2. ▼ Persistence and degradability

Product/substance	Hydrophilic, aliphatic polyisocyanate
Biodegradable:	No
Test method:	OECD 301 F
Result:	2 %

Product/substance	Hexamethylene-1,6-di-isocyanate
Biodegradable:	No
Test method:	OECD 301 F
Result:	42 %



According to REACH Regulation (EC) No 1907/2006, as retained and amended SI 2019/758 and and SI 2020/1577

### 12.3. Bioaccumulative potential

Product/substance Hexamethylene-1,6-di-isocyanate  
 Test method:  
 Potential bioaccumulation: No  
 LogPow: 3,2  
 BCF: 58  
 Other information:

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

### 12.6. Endocrine disrupting properties

Not applicable.

### 12.7. Other adverse effects

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

## SECTION 13: Disposal considerations

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

### ▼ Specific labelling

### 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 be exposed to this product.

#### Demands for specific education

No specific requirements.

#### SEVESO - Categories / dangerous substances

Not applicable.

#### UK-REACH, Annex XVII

Hexamethylene-1,6-di-isocyanate is subject to restrictions, UK-REACH annex XVII (entry 74).

#### Additional information

Not applicable.

#### 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

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.

#### 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

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 = CLP-specific hazard statement

EWG = European Waste Catalogue

GHS = Globally Harmonized System of classification and labelling of chemicals

IARC = International Agency for Research on Cancer

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

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 = 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

According to REACH Regulation (EC) No 1907/2006, as retained and amended SI 2019/758 and and SI 2020/1577

UN = United Nations

UVCB = Substances of Unknown or Variable composition, Complex reaction products or 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

ULS

#### Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue 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