



SAFETY DATA SHEET

Hardener



The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued 01.03.2017

1.1. Product identifier

Product name Hardener

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

Use of the substance/preparation Hardener for waterborne floor finishes.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name	Arboritec AB
Postal address	Olof Wijksväg 9
Postcode	SE-444 65
City	Jörlanda
Country	Sverige
Tel	0303-563 30
Fax	0303-563 32
E-mail	post@arboritec.com
Website	http://www.arboritec.com
Contact person	Jörgen Kaldemark

1.4. Emergency telephone number

Emergency telephone Tel: 112
Description: In case of medical emergency call

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

2.2. Label elements

Hazard Pictograms (CLP)



Composition on the label Aliphatic polyisocyanat 60 – 70, Dipropylene glycol Dimethyl ether 30 – 40 %
Signal word Warning

Hazard statements	H317 May cause an allergic skin reaction. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P261 Avoid breathing dust / fume / gas / mist / vapours / spray. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves / protective clothing / eye protection / face protection. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P333+P313 If skin irritation or rash occurs: Get medical advice / attention. P363 Wash contaminated clothing before reuse. P501 Innehållet/behållaren lämnas till godkänd mottagare av farligt avfall.

2.3. Other hazards

Other hazards	When spray applying see section 8.
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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents
Aliphatic polyisocyanat	CAS no.: 160994-68-3	Acute tox. 4; H332 Skin Sens. 1; H317 STOT SE3; H335 Aquatic Chronic 3; H412	60 – 70
Dipropylene glycol Dimethyl ether	CAS no.: 111109-77-4 EC no.: 404-640-5		30 – 40 %

SECTION 4: First aid measures

4.1. Description of first aid measures

General	Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.
Inhalation	Use with adequate ventilation.
Skin contact	Remove/Take off immediately all contaminated clothing. IF ON SKIN: Wash with plenty of soap and water. Do NOT use solvents or thinners.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

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

General symptoms and effects	No specific symptoms exist.
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4.3. Indication of any immediate medical attention and special treatment needed

Medical treatment	No specific treatment necessary.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Recommended extinguishing media : alcohol resistant foam, CO2, powders, water spray. Do not use water jet.
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5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	Fire will produce dense black smoke. Decomposition products can be hazardous. At high temperatures create: Carbon monoxide (CO), carbon dioxide (CO ₂), smoke, nitrogen gases (NO _x).
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5.3. Advice for firefighters

Personal protective equipment	Wear respiratory protection.
Other Information	Eliminate all ignition sources if safe to do so. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Refer to protective measures listed in sections 7 and 8.
Personal protection measures	In case of inadequate ventilation wear respiratory protection. Wear fire / flame resistant / retardant clothing. Use personal protective equipment as required. Wear cold insulating gloves / face shield / eye protection. Wear protective gloves / protective clothing / eye protection / face protection. Avoid breathing dust / fume / gas / mist / vapours / spray. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

6.2. Environmental precautions

Environmental precautionary measures	Collect spillage. Avoid release to the environment. If the product contaminates lakes, rivers or sewers, inform appropriate authorities in accordance with local regulations.
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6.3. Methods and material for containment and cleaning up

Cleaning method	The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13).
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6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Examination of lung function should be carried out on a regular basis on persons spraying this preparation. Vapours may form explosive mixtures with air. Avoid spilling, skin- and eye contact. Avoid breathing dust / fume / gas / mist / vapours / spray. Avoid breathing dust.
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Protective Safety Measures

Protective Safety Measures	Remove contaminated clothing and protective gear before you get to an area where meals are taken.
Safety Measures To Prevent fire	Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.

Additional information	In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Preparation may charge electrostatically: always use earthing leads when transferring from one container to another. Never use pressure to empty : container is not a pressure vessel. For personal protection see Section 8.
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7.2. Conditions for safe storage, including any incompatibilities

Storage	Keep only in original container. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Protect from sunlight. Store in a dry place. Ensure that the safety legislation laws are followed. Store in accordance with applicable regulations for good chemical practice.
Conditions to avoid	Keep away from heat / sparks / open flames / hot surfaces. — No smoking. Protect from sunlight. Prevent unauthorized access. Keep away from oxidizing agents, from strongly alkaline and strongly acid materials. Use only non-sparking tools.

Conditions for safe storage

Storage Temperature	Value: 5 – 20 grader Celsius
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7.3. Specific end use(s)

Recommendations	Do not handle until all safety precautions have been read and understood.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Substance	Identification	Value	TWA Year
Aliphatic polyisocyanat	CAS no.: 160994-68-3		
Dipropylene glycol Dimethyl ether	CAS no.: 111109-77-4	TWA (8h): 20 ppm	

8.2. Exposure controls

Precautionary measures to prevent exposure

Appropriate engineering controls	Use with adequate ventilation. If possible this should be achieved by local extraction and good exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory equipment.
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Eye / face protection

Suitable Eye Protection	Wear cold insulating gloves / face shield / eye protection.
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Hand protection

Hand protection	Wear cold insulating gloves / face shield / eye protection.
Skin-/ hand protection, long term contact	For prolonged or repeated contact use gloves made of butyl rubber.
Suitable materials	Barrier creams may help to protect the skin, but they should however not be used once exposure has occurred.

Skin protection

Skin protection (except hands)	Wear fire / flame resistant / retardant clothing.
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Respiratory protection

Respiratory protection	Respiratory protection with gas filter (brown A) must be used if air concentration exceeds acceptable level (OEL).
Mask type	When spraying, use half-or full face mask with filter P2 (Iib) to spray.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Odour	Faint.
Odour limit	Comments: Not applicable.
pH	Status: In delivery state Comments: Not determined.
	Status: In aqueous solution Comments: Not determined .
Melting point/melting range	Comments: Not determined.
Boiling point / boiling range	Comments: Not determined.
Flash point	Value: 97 °C
Evaporation rate	Comments: Not determined.
Flammability (solid, gas)	Not determined
Vapour pressure	Comments: Not determined.
Vapour density	Comments: Not determined.
Specific gravity	Value: 1,1 g/ml Method: ASTM 6450 Temperature: 23 °C
Solubility in water	unlimited.
Partition coefficient: n-octanol/water	Comments: Not applicable.
Decomposition temperature	Comments: Not determined
Viscosity	Comments: Not determined. Does not affect the assessment.
Explosive properties	Not explosive.
Oxidising properties	Not Oxidising.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No reactive.
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10.2. Chemical stability

Stability	Stable under recommended storage and handling conditions (see section 7).
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No dangerous if handled according to Technical Information.
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10.4. Conditions to avoid

Conditions to avoid	No applicable.
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10.5. Incompatible materials

Materials to avoid	Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reaction.
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10.6. Hazardous decomposition products

Hazardous decomposition products	When exposed to high temperature may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.
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Other information

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance	Aliphatic polyisocyanat
Acute toxicity	<p>Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Oral Value: > 2000 mg/kg Animal test species: Rat Comments: Studies of comparable product.</p> <p>Type of toxicity: Acute Effect Tested: LC50 Route of exposure: Inhalation. Duration: 4 h Value: > 0,39 mg/l Animal test species: Rat, female Test reference: Dust/mist Comments: Converted point estimate for acute toxicity of 1.5 mg / l. Studies of comparable product.</p>
Substance	Dipropylene glycol Dimethyl ether
Acute toxicity	<p>Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Oral Value: 3 300 mg/kg Animal test species: Rat</p> <p>Type of toxicity: Acute Effect Tested: LC50 Route of exposure: Inhalation. Duration: 4h Value: > 5,25 mg/l Animal test species: Råtta</p> <p>Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Dermal Value: > 2 000 mg/kg Animal test species: rat</p>

Other information regarding health hazards

General	There is no data available on the preparation itself. The preparation has been assessed and classified according to EU regulations.
Inhalation	Based on the properties of the isocyanate components and considering toxicological data on similar substances, this product may cause acute irritation and / or sensitization of the respiratory tract, leading to an asthmatic condition, wheezing and tightness in the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure can cause permanent damage to the respiratory tract.
Skin contact	May cause an allergic skin reaction.
Eye contact	May cause irritation in eyes.
Skin corrosion / irritation, other information	No information available.
Eye damage or irritation other info	If splashed in the eyes, the liquid may cause irritation and reversible damage.
General respiratory or skin sensitisation	Prolonged or repeated contact may defat the skin, resulting in non-allergic contact eczema and absorption through the skin.
Germ Cell Mutagenicity, human experience	No information available.
Carcinogenicity human experience	No information is available.
Reproductive toxicity	No information available.
STOT-single exposure	No information available.
STOT-repeated exposure	No information available.
Aspiration hazard, comments	When applying see section 8.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Aliphatic polyisocyanat
Acute aquatic, fish	Value: 28,3 mg/l Test duration: 96 h Species: Danio rerio Method: LC50 Test reference: OECD:s guidelines for test 203
Substance	Dipropylene glycol Dimethyl ether
Acute aquatic, fish	Value: > 1000 mg/l Test duration: 96h Species: Poecilia reticulata (Guppy) Method: LC50
Substance	Aliphatic polyisocyanat
Acute aquatic, algae	Value: > 100 mg/l Test duration: 72 h Species: Scenedesmus subspicatus Method: ErC50 Test reference: OECD TG 201
Substance	Aliphatic polyisocyanat
Acute aquatic, Daphnia	Value: > 100 mg/l Test duration: 48 h Species: Daphnia magna

	Method: EC50 Test reference: OECD TG 202
Substance	Dipropylene glycol Dimethyl ether
Acute aquatic, Daphnia	Value: > 1000 mg/l Test duration: 24h Species: Daphnia magna Method: LC50 Test reference: immobilising
Substance	Aliphatic polyisocyanat
Toxicity to bacteria	Toxicity type: Akut Value: > 10000 mg/l Effect dose concentration : OECD TG 209
Substance	Dipropylene glycol Dimethyl ether
Toxicity to earthworm	Toxicity type: Acute Value: > 1000 mg/kg Species: Eisenia fetida Method: LC50
Ecotoxicity	Not ecotoxic.

12.2. Persistence and degradability

Substance	Aliphatic polyisocyanat
Biodegradability	Value: 2 % Method: OECD TG 301 F Comments: Not easily degradable. Test period: 28 days
Persistence and degradability	Not determined.

12.3. Bioaccumulative potential

Substance	Dipropylene glycol Dimethyl ether
Bioconcentration factor (BCF)	Value: 4 Comments: Bioconcentration potential is low. Log Pow <3
Bioaccumulation, evaluation	Not determined.

12.4. Mobility in soil

Mobility	Not determined.
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12.5. Results of PBT and vPvB assessment

PBT assessment results	Not classified as PBT / vPvB of current EU criteria.
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12.6. Other adverse effects

Other adverse effects / Remarks	None known.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	Collect spillage. Avoid release to the environment. Wastes and empty containers should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act.
Product classified as hazardous waste	Yes
EWC waste code	EWC: 08 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS, National waste code: 01, National wastegroup: 11

SECTION 14: Transport information

14.1. UN number

Comments	Not dangerous goods. Transport in accordance with national law and ADR for road, RID for rail, IMDG for sea and ICAO / IATA for air. For complete information on transport, see transport document.
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14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

IMDG Marine pollutant	No
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14.6. Special precautions for user

14.7. Transport in bulk according to 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

Legislation and regulations	Classification and labeling of substances under Directive 67/548/EC, 1999/45/EC, see section 3. Classification and labeling of substances according to Regulation (EC) 1272/2008 (CLP) is in section 3. The labeling of the product according to EC directives 67/548/EEC, 1999/45/EC, see section 2. Safety data sheet is designed according to EU Commission Regulation No. 1907/2006.
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15.2. Chemical safety assessment

Chemical safety assessment performed	No
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SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3).	H317 May cause an allergic skin reaction. H332 Harmful if inhaled. H335 May cause respiratory irritation.
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Comments	<p>H412 Harmful to aquatic life with long lasting effects.</p> <p>The information of this SDS is based on the present state of our knowledge and on current EU and national laws. The product is not to be used for other purposes than those specified under section 1 without first obtaining written handling instruction. It is always the responsibility of the user to take all necessary steps in order to fulfill the demand laid down in the local rules and legislation. The information in this SDS is meant as a description of the safety requirements of our product : it is not to be considered as a guarantee of the products' properties.</p>
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