

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 19.09.2017

Version number 1

Revision: 19.09.2017

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

- **1.1 Product identifier**
- **Trade name:** 370 Härter
- **Article number:** 49372
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Hardening agent/ Curing agent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
FORBO Eurocol Deutschland GmbH
August-Roebing-Str. 2
D-99091 Erfurt
Tel.: +49 (0)361 73041-0
Fax: +49 (0)361 73041-92
Website: <http://www.forbo-bonding.de>
- **Further information obtainable from:**
Laboratory
Ronny Dorna
Ronny.Dorna@forbo.com
- **1.4 Emergency telephone number:** GGIZ +49-361-730730 (for Germany)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05 GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
polyoxypropylene diamine
2-methylpentane-1,5-diamine
1,3-Cyclohexanedimethanamine

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· Hazard statements

H314 Causes severe skin burns and eye damage.
H411 Toxic to aquatic life with long lasting effects.

· Precautionary statements

P260 Do not breathe dusts or mists.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Additional information:

Restricted to professional users.
Safety data sheet available on request.

· 2.3 Other hazards**· Results of PBT and vPvB assessment**

· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients**· 3.2 Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 9046-10-0	polyoxypropylene diamine ⚠ Asp. Tox. 1, H304; ⚠ Skin Corr. 1C, H314; Eye Dam. 1, H318; ⚠ Aquatic Chronic 2, H411	≥ 25 - < 50%
CAS: 15520-10-2 EINECS: 239-556-6	2-methylpentane-1,5-diamine ⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	10 - < 20%
CAS: 2579-20-6 EINECS: 219-941-5	1,3-Cyclohexanedimethanamine ⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Aquatic Chronic 3, H412	≥ 3 - < 5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**· 4.1 Description of first aid measures****· General information:**

Take affected persons out of danger area and lay down.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

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- **After skin contact:** Seek medical treatment.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
Seek medical treatment.
- **After swallowing:**
A person vomiting while laying on their back should be turned onto their side.
Do not induce vomiting; call for medical help immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
Skin corrosion / irritation Serious eye damage / irritation
- **4.3 Indication of any immediate medical attention and special treatment needed**
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Carbon dioxide
Ammonia
- **5.3 Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow to enter drains/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Do not breathe gas/fumes/vapour/spray

· **Information about fire - and explosion protection:**

Keep ignition sources away.



Keep ignition sources away - Do not smoke.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

· **Recommended storage temperature:** +5 °C - +30 °C

· **Storage class:** 8 A

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Filter A/P2

Suitable respiratory protective device recommended.

Use suitable respiratory protective device in case of insufficient ventilation.

· **Recommended filter device for short term use:** Filter A

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

Fluorocarbon rubber (Viton)

Butyl rubber, BR

Chloroprene rubber, CR

PVC gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6).

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** *Protective work clothing*

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Fluid

Colour: Yellow

- **Odour:** *Amine-like*

- **pH-value:** *Undetermined.*

- **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: 200°C

- **Flash point:** *>100°C*

- **Flammability (solid, gas):** *Not applicable.*

- **Ignition temperature:** *Undetermined.*

- **Decomposition temperature:** *Undetermined.*

- **Auto-ignition temperature:** *Product is not selfigniting.*

- **Explosive properties:** *Product does not present an explosion hazard.*

- **Vapour pressure at 50°C:** *<5hPa*

- **Density at 20°C:** *1.02g/cm³*

- **Evaporation rate** *Not determined.*

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· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Undetermined.
· Viscosity: Dynamic at 20°C:	280mPas
· Solvent content: VOC (CE)	0,0%
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Stable under recommended storage conditions.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with strong acids.
Reacts with oxidising agents.
- **10.4 Conditions to avoid** At high temperatures, dangerous decomposition products may formed
- **10.5 Incompatible materials:** Reacts with strong oxidising agents.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

9046-10-0 polyoxypropylene diamine

Oral	LD50	2885 mg/kg (rat)
Dermal	LD50	2980 mg/kg (rabbit)

1477-55-0 m-phenylenebis(methylamine)

Oral	LD50	1040 mg/kg (rat)
Inhalative	LC50/4h	2.4 mg/l (rat)

15520-10-2 2-methylpentane-1,5-diamine

Oral	LD50	1690 mg/kg (rat)
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61788-44-1 Phenol, styrenated

Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>7940 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
No test data in accordance with Regulation (EC) No 465/2008 so far.

61788-44-1 Phenol, styrenated

LC50/96h	1-10 mg/l (zebrafish (<i>Brachydanio rerio</i>))
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- **12.2 Persistence and degradability** No further relevant information available.

- **Degree of elimination:**

61788-44-1 Phenol, styrenated

Biodegradability	7 % / 28d (activated sludge)
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- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Behaviour in sewage processing plants:**

- **Type of test** **Effective concentration** **Method** **Assessment**

61788-44-1 Phenol, styrenated

EC50/3h	362 mg/l (activated sludge) (OECD 209)
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- **Additional ecological information:**

- **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Harmful to aquatic organisms

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packaging:**

- **Recommendation:** Disposal must be made according to official regulations.

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SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN2735
· 14.2 UN proper shipping name · ADR · IMDG · IATA	2735 AMINES, LIQUID, CORROSIVE, N.O.S. (2-methylpentane-1,5-diamine), ENVIRONMENTALLY HAZARDOUS AMINES, LIQUID, CORROSIVE, N.O.S. (2-methylpentane-1,5-diamine), MARINE POLLUTANT AMINES, LIQUID, CORROSIVE, N.O.S. (2-methylpentane-1,5-diamine)
· 14.3 Transport hazard class(es) · ADR	
 	
· Class · Label	8 (C7) Corrosive substances. 8
· IMDG	
 	
· Class · Label	8 Corrosive substances. 8
· IATA	
	
· Class · Label	8 Corrosive substances. 8
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: polyoxypropylene diamine
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups · Stowage Category	Warning: Corrosive substances. 80 F-A,S-B Alkalis A

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· Segregation Code	SG35 Stow "separated from" acids.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1L
· UN "Model Regulation":	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (2-METHYLPENTANE-1,5-DIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category E2** Hazardous to the Aquatic Environment
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations:**
Harmful to aquatic organisms
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed. (94/33/EC)
Employment restrictions concerning pregnant and lactating women must be observed. (92/85/EC)
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
- **Department issuing SDS:** Laboratory

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· Contact:*Dr. Amina Chnirheb**Amina.Chnirheb@forbo.com***· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 4: Acute toxicity – Category 4**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Skin Corr. 1C: Skin corrosion/irritation – Category 1C**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Asp. Tox. 1: Aspiration hazard – Category 1**Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2**Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3*