



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

- **1.1 Product identifier**
- **Trade name:** HADALAN LF68 12P
- **Article number:** 50222 A
- **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**
Single component, solvent-free polyurethane resin for interior and exterior use as a bonding agent for natural stone and decorative quartz coatings.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Heinrich Hahne GmbH & Co. KG
Heinrich-Hahne-Weg 11
45711 Datteln Tel.: 02363/5663-0
- **Further information obtainable from:**
Abteilung: Produktsicherheit
Tel.: 02363 5663-0
Email: info@hahne-bautenschutz.de
- **1.4 Emergency telephone number:**
Giftnformationszentrum Nord (GIZ Nord) Universität Göttingen,
Tel.: 0551-19240

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
- 
GHS07
- Acute Tox. 4 H332 Harmful if inhaled.
 Skin Sens. 1 H317 May cause an allergic skin reaction.
 STOT SE 3 H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC Xi Irritant**
- **Information concerning particular hazards for human and environment:**
 R 20 Harmful by inhalation.
 R 37 Irritating to respiratory system.
 R 43 May cause sensitization by skin contact.
 Contains isocyanates. May produce an allergic reaction.
- **Classification system:**
 The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **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**
- 
GHS07
- **Signal word** Warning

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· **Hazard-determining components of labelling:**

Hexamethylendiisocyanat-Oligomer
hexamethylene diisocyanate

· **Hazard statements**

H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

· **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.

· **Additional information:**

Contains isocyanates. May produce an allergic reaction.

· **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:** Preparation based on aliphatic polyisocyanates

· **Dangerous components:**

| | | |
|------------------------------------|--|---------|
| CAS: 28182-81-2 | Hexamethylendiisocyanat-Oligomer ☒ Xn R20; ☒ Xi R37; ☒ Xi R43 ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335 | 50-100% |
| CAS: 822-06-0 EINECS: 212-485-8 | hexamethylene diisocyanate ☠ T R23; ☒ Xn R42/43; ☒ Xi R36/37/38 ⚠ Acute Tox. 3, H331; ⚠ Resp. Sens. 1, H334; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 | < 0.5% |

· **Additional information:**

For the wording of the listed risk phrases refer to section 16.
GISCODE: PU40

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Use fire extinguishing methods suitable to surrounding conditions.
Foam, carbon dioxide, dry chemical, water fog, water spray jet.
- **For safety reasons unsuitable extinguishing agents:** water jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire: formation of carbon monoxide, nitrogen oxides, isocyanate vapors and traces of hydrogen possible.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Do not breathe fumes.
Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Keep unprotected persons away.
Wear protective gloves, goggles and suitable protective clothing.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Provide adequate ventilation in the workplace.
Avoid contact with skin and eyes.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool, dry place.
- **Information about storage in one common storage facility:** Store separate from eatables.
- **Further information about storage conditions:**
Open containers carefully to prevent closing by reaction with atmospheric moisture.
- **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.

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· 8.1 Control parameters**· Ingredients with limit values that require monitoring at the workplace:****822-06-0 hexamethylene diisocyanate (< 0.5%)**

| | |
|-----|---|
| WEL | Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO |
|-----|---|

· Additional information: The lists valid during the making were used as basis.**· 8.2 Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:**

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· Respiratory protection: Not required if good ventilation**· Protection of hands:** Suitable materials: butyl rubber, nitrile, PVC**· Material of 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

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

· Eye protection: Goggles recommended during refilling**SECTION 9: Physical and chemical properties****· 9.1 Information on basic physical and chemical properties****· General Information****· Appearance:**

| | |
|----------------|------------------------|
| Form: | Fluid |
| Colour: | yellowish, transparent |
| Odour: | Characteristic |

· Change in condition**Melting point/Melting range:** Undetermined.**Boiling point/Boiling range:** Undetermined.**· Flash point:** 160 °C**· Self-igniting:** Product is not selfigniting.**· Danger of explosion:** Product does not present an explosion hazard.**· Density at 20 °C:** 1.14 g/cm³**· Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· Viscosity:**Dynamic at 20 °C:** 400 mPas**· 9.2 Other information** Reacts with water.

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SECTION 10: Stability and reactivity

- **10.3 Possibility of hazardous reactions**
Exothermic reactions with amines and alcohols.
Reacts with water -CO₂ development in containers, pressure build-up, risk of bursting.
- **10.4 Conditions to avoid** *No further relevant information available.*
- **10.5 Incompatible materials:** *No further relevant information available.*
- **10.6 Hazardous decomposition products:** *No dangerous decomposition products.*

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
Hexamethylene-1,6-diisocyanate homopolymer
LD50 for rats is > 5,000 mg / kg
Acute toxicity, by inhalation:
Hexamethylene-1,6-diisocyanate homopolymer:
LC50 rat, male: 543 mg/m³, 4 h
Method: OECD Test Guideline 403
LC50 rat, female: 390 mg/m³, 4 h
Method: OECD Test Guideline 403
It was manufactured in a form (ie, special particle size distribution) tested which of the forms as they are marketed and used in all likelihood, is different. On the basis of the "split-entry" Concept and the available data on particle size during the end use of the substance, a modified classification of acute inhalation toxicity is warranted.
Subacute, subchronic and prolonged toxicity:
Hexamethylene-1,6-diisocyanate homopolymer
Route of administration: Subacute inhalation toxicity, rat
Method: OECD Test Guideline 412
Test concentrations - 4.3, 14.7 and 89.8 mg of aerosol / m³
Exposure time - 3 weeks
(6 hours per day, 5 days per week)
4.3 mg / m³ without compensation tolerated concentration (NOEL)
14.7 mg / m³ increase in lung weight,
89.8 mg / m³ inflammatory changes in the respiratory tract.
References to other organ damage other than the respiratory organs were raised.
Genotoxicity in vitro:
Hexamethylene-1,6-diisocyanate homopolymer
Test Type: Salmonella / microsome test (Ames test)
Result: No evidence of a mutagenic effect.
Method: OECD Test Guideline 471
Test Type: in vitro chromosome aberration test
Result: negative
Method: OECD Test Guideline 473
Test Type: point mutation in mammalian cells (HPRT test)
Result: negative
Method: OECD Test Guideline 476
For more information:
Hexamethylene-1,6-diisocyanate homopolymer
Special properties / effects: Over-exposure - especially when spraying isocyanate paints without protection - there is a risk of concentration-dependent irritation of eyes, nose, throat and respiratory tract. Delayed appearance of symptoms and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. With hypersensitive people, reactions may be triggered at low isocyanate, also below the OEL.
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** *slightly irritating*

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- **on the eye:** slightly irritating
- **Sensitisation:** Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

SECTION 12: Ecological information

- **12.1 Toxicity**
toxicity
Acute toxicity to fish:
Hexamethylene-1,6-diisocyanate homopolymer
LC50 > 100 mg / l
Species: *Danio rerio* (zebrafish)
Exposure time: 96 h
Method: OECD Test Guideline 203
Sample preparation because of the reactivity of the substance with water:
Ultra turrax: 60 sec 8000 rpm, 24 magnetic stirrer; filtration.
Acute daphnia:
Hexamethylene-1,6-diisocyanate homopolymer
EC50 > 100 mg / l
Species: *Daphnia magna* (water flea)
Exposure time: 48 h
Method: OECD Test Guideline 202
Sample preparation because of the reactivity of the substance with water:
Ultra turrax: 60 sec 8000 rpm, 24 magnetic stirrer; filtration.
Acute Toxicity to algae:
Hexamethylene-1,6-diisocyanate homopolymer
IC50 > 100 mg / l
Tested on: *Scenedesmus subspicatus* Duration of test: 72 h
Method: OECD Test Guideline 201
Sample preparation because of the reactivity of the substance with water:
Ultra turrax: 60 sec 8000 rpm, 24 magnetic stirrer; filtration.
Acute bacterial toxicity:
Hexamethylene-1,6-diisocyanate homopolymer
EC50 > 1,000 mg / l
Tested on: Activated Sludge Test time: 3 hours
Method: OECD Test Guideline 209
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential**
Biodegradation: 0%, 28 d, i.e. not readily biodegradable
Method: OECD Guideline 301 C
Additional information on ecotoxicology:
The resin reacts with water at the interface with the formation of carbon dioxide to form a solid, high-melting and insoluble product (polyurea). this Reaction is accelerated by surfactants (eg detergents) or water-soluble Solvent strongly encouraged. Polyurea is inert Previous experience and not degradable.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Harmful to aquatic organisms
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

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Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **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.

- **European waste catalogue**

| | |
|-----------|---|
| 08 01 11* | waste paint and varnish containing organic solvents or other dangerous substances |
|-----------|---|

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

SECTION 14: Transport information

- | | |
|---|--|
| · 14.1 UN-Number | |
| · ADR, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name | |
| · ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not classified as dangerous in the meaning of transport regulations. |
| · UN "Model Regulation": | - |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **National regulations:**
 - **Technical instructions (air):**
- | Class | Share in % |
|-------|------------|
| I | 0.4 |
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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· **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**

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- R20 Harmful by inhalation.
- R23 Toxic by inhalation.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R37 Irritating to respiratory system.
- R42/43 May cause sensitisation by inhalation and skin contact.
- R43 May cause sensitisation by skin contact.

· **Recommended restriction of use**

From the European Committee of Paint, Printing Ink and Artists' Colours producers - CEPE - is given for isocyanate paints the following information: Ready paints containing isocyanates, may lead to irritation of the mucous membranes - particularly on the respiratory system - and exercise cause hypersensitivity reactions. Inhalation of vapor or spray mist may cause sensitization. When dealing with isocyanates all precautions required for solvent-containing paints must be followed carefully. In particular, spray mist or vapors are not inhaled. Allergies, asthma, and people who are prone to respiratory ailments should not work with paints containing isocyanates can not be used.

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organisation
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
 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)
 Acute Tox. 3: Acute toxicity, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3