

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

- **Product identifier**
- **Trade name:** HADALAN Topcoat M 12P, Komp. B
- **Article number:** 50239 A
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** 2-component matt-finish final seal
- **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
- **Emergency telephone number:**
Gif tinformat ionszentrum Nord (GIZ Nord) Universität Göttingen,
Tel.: 0551-19240

2 Hazards identification

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



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

· **Hazard description:** Xi Irritant

- **Information concerning particular hazards for human and environment:**

R 43 May cause sensitisation by skin contact.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Contains isocyanates. May produce an allergic reaction.

Contains hexamethylene diisocyanate. 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.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

- **Code letter and hazard designation of product:**



Xi Irritant

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

hexamethylene diisocyanate

Aliphatisches Polyisocyanat

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- **Risk phrases:**
 - 43 May cause sensitisation by skin contact.
 - 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Safety phrases:**
 - 24/25 Avoid contact with skin and eyes.
 - 29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
 - 37 Wear suitable gloves.
 - 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- **Special labelling of certain preparations:** Contains isocyanates. May produce an allergic reaction.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Aliphatic polyisocyanate.

- **Dangerous components:**

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%
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- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **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. If symptoms persist, consult a doctor.
- **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **Information for doctor:**
 - Most important symptoms and effects, both acute and delayed No further relevant information available.
 - Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
 - Use fire extinguishing methods suitable to surrounding conditions.
 - CO₂, foam, dry powder, water spray for large fires.
- **Special hazards arising from the substance or mixture**
 - In case of fire: Carbon monoxide, nitrogen oxide, isocyanate and traces of hydrogen cyanide.

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- **Advice for firefighters**
- **Protective equipment:**
During fire fighting respirator with independent air supply.
Contaminated water can not penetrate into the soil, groundwater and surface waters.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate / vent care. Remove persons not involved.
- **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.
- **Methods and material for containment and cleaning up:**
Mechanical, rest in touch with wet, absorbent material (sawdust, chemical binder, Sand) cover. Record after 1 hour to waste container and do not cover (CO₂ evolution). Keep damp in a safe ventilated area for several days. further disposal see chapter 13.
- **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.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure adequate / vent care. Contact with skin and eyes.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep container tightly closed in a cool, well-ventilated place.
- **Information about storage in one common storage facility:** Store separate from eatables
- **Further information about storage conditions:**
Store in a dry place.
Protect from frost.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

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

822-06-0 hexamethylene diisocyanate (< 2.5%)

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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- **Additional information:** The lists valid during the making were used as basis.
- **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.

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- **Respiratory protection:** Not required if good ventilation
- **Protection of hands:**
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **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.
Suitable protective gloves made from rubber, nitrile rubber, butyl rubber.
- **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
- **Body protection:** Protective clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Colour:	colorless
Odour:	weak, characteristic

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	300°C

· **Flash point:** 184°C

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density at 20°C:** 1.15 g/cm³

· **Solubility in / Miscibility with water:** Not miscible or difficult to mix.

· Viscosity:

Dynamic at 20°C:	1400 mPas
Other information	Reacts with water.

10 Stability and reactivity

· Reactivity

· Chemical stability

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· Possibility of hazardous reactions

Exothermic reactions with amines and alcohols with water gradual evolution of CO₂, in closed containers, pressure build-up and bursting.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

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· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

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

822-06-0 hexamethylene diisocyanate

Oral	LD50	746 mg/kg (rat)
Dermal	LD50	599 mg/kg (rab)

· **Specific symptoms in biological assay:**

Specific symptoms in animal studies:

Below us, the available toxicological data on components.

Acute toxicity, by oral route:

Aliphatic polyisocyanate rat LD50: > 2,000 mg / kg

Hexamethylene-1,6-diisocyanate homopolymer rat LD50: > 5,000 mg / kg

Acute toxicity, by inhalation:

Hexamethylene-1,6-diisocyanate homopolymer rat LC50: 158 mg / l, 4 h

Method: OECD Test Guideline 403

Hexamethylene-1,6-diisocyanate LC50 rat: 0.124 mg / l, 4 h

Concentration of the saturated vapor of 1,6-HDI at 25 ° C: 0.095 mg / l

Primary skin irritation:

Aliphatic polyisocyanate rabbit Result: slightly irritating

Hexamethylene-1,6-diisocyanate homopolymer rabbit Result: slightly irritating

Method: OECD Test Guideline 404

Hexamethylene-1,6-diisocyanate rabbit Result: strong irritant

Primary eye irritation:

Aliphatic polyisocyanate rabbit Result: slightly irritating

Hexamethylene-1,6-diisocyanate homopolymer rabbit Result: slightly irritating

Method: OECD Test Guideline 405

Hexamethylene-1,6-diisocyanate rabbit Result: strong irritant

· **Primary irritant effect:**

· **on the skin:** slightly irritating

· **on the eye:** slightly irritating

· **Sensitization:** Sensitization possible through skin contact.

· **Other information (about experimental toxicology):**

sensitization:

aliphatic polyisocyanate

Skin sensitization of Magnusson / Kligman (maximization test): guinea pig

Result: positive

Method: OECD Test Guideline 406

Hexamethylene-1,6-diisocyanate homopolymer

Skin sensitization of Magnusson / Kligman (maximization test): guinea pig

Result: The product works on the guinea pig sensitization.

Method: OECD Test Guideline 406

No pulmonary sensitization in animal studies.

Both after intradermal as well as with inhalational induction was based polyisocyanate

Hexamethylene diisocyanate in guinea pigs not lungensensibilisierendes potential

be determined.

Hexamethylene-1,6-diisocyanate

Skin sensitization of Magnusson / Kligman (maximization test): guinea pig

Result: positive

Method: OECD Test Guideline 406

Genotoxicity in vitro:

Aliphatic polyisocyanate Ames test Result: negative

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Method: OECD Test Guideline 471

Toxicological studies of a comparable product.

Hexamethylene-1,6-diisocyanate homopolymer Ames test Result: negative

Method: OECD Test Guideline 471

Hexamethylene-1,6-diisocyanate

Salmonella / microsome test (Ames test): Result: negative

· **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

· **Repeated dose toxicity**

Over-exposure 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. By prolonged contact with skin tanning and irritating effects are possible. Animal studies and other studies indicate that skin contact could play with diisocyanates in isocyanate sensitization and respiratory reactions involved.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability**

Toxicity to fish:

aliphatic polyisocyanate

LC50 28.3 mg / l

Test species: Danio rerio (zebrafish) Duration of test: 96 h

Method: OECD Test Guideline 203

Hexamethylene-1,6-diisocyanate

LC0 > 82.8 mg / l

Test species: Danio rerio (zebrafish) Duration of test: 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:

aliphatic polyisocyanate

EC50 > 100 mg / l

Test species: Daphnia magna (water flea) Duration of test: 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.

Hexamethylene-1,6-diisocyanate

EC0 > 89.1 mg / l

Test species: Daphnia magna (water flea) Duration of test: 48 h

Sample preparation because of the reactivity of the substance with water:

Ultra turrax: 60 sec 8000 rpm, 24 magnetic stirrer; filtration.

Acute bacterial toxicity:

aliphatic polyisocyanate

EC50 > 10,000 mg / l

Method: OECD Test Guideline 209

Hexamethylene-1,6-diisocyanate

EC50 842 mg / l

Tested on: Activated Sludge Test time: 3 hours

Method: OECD Guideline for Testing of Chemicals, No.209

Acute Toxicity to algae:

aliphatic polyisocyanate

IC50 > 100 mg / l

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Tested on: Scenedesmus subspicatus Duration of test: 72 h

Method: OECD Test Guideline 201

Other information:

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 solvents. Previous experience shows that polyurea is inert and non-degradable.

Behaviour in environmental systems:

Bioaccumulative potential *No further relevant information available.*

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

Results of PBT and vPvB assessment

PBT: *Not applicable.*

vPvB: *Not applicable.*

Other adverse effects *No further relevant information available.*

13 Disposal considerations

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
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Uncleaned packaging:

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

14 Transport information

UN-Number

ADR, ADN, IMDG, IATA Void

UN proper shipping name

ADR Void

ADN, IMDG, IATA Void

Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class Void

Packing group

ADR, IMDG, IATA Void

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

UN "Model Regulation":

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GB

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
I	0.1

· **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

Das Produkt unterliegt RL 2004/42/EG.

EU-Grenzwert für den VOC-Gehalt dieses Produktes ist im gebrauchsfertigen Zustand: 140 g/l (2010).

Das Produkt enthält im gebrauchsfertigen Zustand: < 10 g/l VOC.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

R23 Toxic by inhalation.

R36/37/38 Irritating to eyes, respiratory system and skin.

R42/43 May cause sensitisation by inhalation and skin contact.

· **Abbreviations and acronyms:**

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (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 Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent