

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 21.06.2021

Version number 20

Revision: 10.05.2021

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

- **1.1 Product identifier**
- **Trade name:** **PROTEGOL PU Repair - Standard comp. B**
- **Article number:** 206639
- **UFI:** JYNV-VR83-8F29-SDXA
- **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** Anticorrosion additive
- **Uses advised against** Restriction under Regulation 1907/2006 (REACH), Annex XVII
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
TIB Chemicals AG
Muelheimer Str. 16-22
D-68219 Mannheim /Germany
Tel.: +49 621 8901-700
- **Informing department:**
PRODUKTSERVICE
e-mail: produktservice@tib-chemicals.com
Mo–Fr 9:00 AM – 3:00 PM: Tel.: +49(0)621 8901 710
- **1.4 Emergency telephone number:**
24 h Tel.: +49(0)621 8901 700 Fax.: +49(0)621 8901 900

SECTION 2: Hazards identification

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



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 H351 Suspected of causing cancer. Route of exposure: Inhalation.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

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· 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 GHS08

· Signal word Danger**· Hazard-determining components of labelling:**4,4'-diphenylmethanediisocyanate, isomere, homologue and mixtures
diphenylmethane-4,4'-di-isocyanate**· Hazard statements**

H332 Harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer. Route of exposure: Inhalation.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

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.

P312 Call a POISON CENTER/doctor if you feel unwell.

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

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 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.

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SECTION 3: Composition/information on ingredients

Two component coating: isocyanate component

• 3.2 Chemical characterisation: Mixtures

• **Description:** Mixture of the substances listed below and harmless substances.

• Dangerous components:

CAS: 9016-87-9 EC number: 618-498-9 Index number: 615-005-00-9	4,4'-diphenylmethanediisocyanate, isomere, homologue and mixtures ⚠ Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-75%
CAS: 101-68-8 EINECS: 202-966-0 Index number: 615-005-00-9	diphenylmethane-4,4'-di-isocyanate ⚠ Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	20-50%

• **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

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 and call for doctor for safety reasons.

In case of unconsciousness bring patient into stable side position for transport.

• After skin contact

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

• After eye contact

Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

• After swallowing In case of persistent symptoms consult doctor.

• 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.

SECTION 5: Firefighting measures

• 5.1 Extinguishing media

• **Suitable extinguishing agents** CO₂, sand, extinguishing powder. Do not use water.

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- **For safety reasons unsuitable extinguishing agents** Water.
- **5.2 Special hazards arising from the substance or mixture**
Isocyanate gas
Traces of hydrogen cyanide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Bring persons out of danger.
Wear protective equipment. Keep unprotected persons away.
Use breathing protection against the effects of fumes/dust/aerosol.
Avoid contact with skin and eyes.
Do not inhale vapors / mist / gas.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Avoid release to the environment.
Do not allow to enter drainage system, 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).
Wipe up and place in suitable container.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Measure the concentration of MDI vapors in the air.
Absorb with liquid-binding material. After a waiting period of approx. 1 hour put it in an open container. Do not close the container, because the formation of carbon dioxide - building up pressure - risk of bursting!
Disposal according item 13 after a storage time of a few days.
- **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 information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
No special measures required.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical systems:**
Provide ventilation or other engineering controls to keep the airborne vapors below their respective exposure limits.
MDI is only noticeable by smell if the Occupational Exposure Limit value has been significantly exceeded.
- **Components 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.

· DNELs

101-68-8 diphenylmethane-4,4'-di-isocyanate

Oral	Consumer: acute systemic effects	20 mg/kg bw/d (human (calculated))
	Dermal	Consumer: acute local effects
Inhalative	Consumer: acute systemic effects	25 mg/kg bw/d (human (calculated))
	Worker: acute local effect	28.7 mg/cm ² (human (calculated))
	Worker: acute systemic effects	50 mg/kg bw/d (human (calculated))
	Consumer: long-term local effects	0.025 mg/m ³ (human (calculated))
	Consumer: long-term systemic effects	0.025 mg/m ³ (human (calculated))
	Consumer: acute local effects	0.05 mg/m ³ (human (calculated))
	Consumer: acute systemic effects	0.05 mg/m ³ (human (calculated))
	Worker: long-term local effects	0.05 mg/m ³ (human (calculated))
	Worker: long-term systemic effects	0.05 mg/m ³ (human (calculated))
	Worker: acute systemic effects	0.1 mg/m ³ (human (calculated))

· PNECs

101-68-8 diphenylmethane-4,4'-di-isocyanate

Freshwater ecosystem: Freshwater organisms	1,000 µg/l (Freshwater organisms)
Marine ecosystem: Marine water organisms	100 µg/l (Marine water organisms)

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Sewage treatment plant (STP): Microorganisms	1 mg/l (Microorganisms)
Terrestrial ecosystem: Agricultural soil organisms	1 mg/kg soil dw (Agricultural soil organisms)

• **Additional information:**

The lists that were valid during the compilation were used as basis.

• **8.2 Exposure controls**

• **Personal protective equipment**

• **General protective and hygienic measures**

Keep away from foodstuffs, beverages and food.

Take off immediately all contaminated clothing

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Do not eat, drink or smoke when working

• **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Filter A

Use breathing protection in case of insufficient 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.

Material testing according to the standard CEN / TC 162 / WG 8 - protective gloves nitrile rubber

Fluorocarbon rubber (Viton)

Butyl rubber, BR

Polyvinyl chloride (PVC)

Chloroprene rubber (e.g. neoprene)

Recommended thickness of the material: ≥ 0.4 mm

• **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:** Tightly sealed safety glasses.

• **Body protection:** Protective work clothing.

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SECTION 9: Physical and chemical properties
· 9.1 Information on basic physical and chemical properties
· General Information
· Appearance:

Form:	Pasty
Colour:	Brown
· Odour:	Mild
· Odour threshold:	Not determined.

· pH-value:	Not determined.
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· Change in condition

Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined

· Flash point:	>100 °C
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· Inflammability (solid, gaseous)	Not applicable.
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· Decomposition temperature:	Not determined.
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· Self-inflammability:	Product is not selfigniting.
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· Explosive properties:	Product is not explosive.
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· Explosion limits:

Lower:	0.4 Vol %
Upper:	Not determined.

· Vapour pressure:	Not determined.
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· Density:	Not determined
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· Density [23 °C]:	1.19-1.25 g/cm ³
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· Relative density	Not determined.
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· Vapour density	Not determined.
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· Evaporation rate	Not determined.
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· Solubility in / Miscibility with

Water:	Reaction with water.
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· Partition coefficient: n-octanol/water:	Not determined.
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· Viscosity:

dynamic:	Not determined.
dynamic [25 °C]:	3000-5000 mPa*s
kinematic:	Not determined.

· 9.2 Other information	No further relevant information available.
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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Isocyanate
Hydrogen cyanide (prussic acid)
- **Additional information:**
Two component reaction-plastic: cured with component B the product leads to a high molecular compound and is nearly inert.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity**
Harmful if inhaled.

- **LD/LC50 values that are relevant for classification:**

9016-87-9 4,4'-diphenylmethanediisocyanate, isomere, homologue and mixtures

Oral	LD50	>15,000 mg/kg (rat)
Dermal	LD50	>9,400 mg/kg (rabbit) (Acute Dermal Toxicity)
Inhalative	LC50/4 h	0.31 mg/l (rat) (Acute Inhalation Toxicity)

101-68-8 diphenylmethane-4,4'-di-isocyanate

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	0.49 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Suspected of causing cancer. Route of exposure: Inhalation.

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- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.

SECTION 12: Ecological information

· 12.1 Toxicity

· **Aquatic toxicity:**

9016-87-9 4,4'-diphenylmethanediisocyanate, isomere, homologe and mixtures

EC50/24 h	>1,000 mg/l (Daphnia magna (water flea)) (Daphnia sp. Acute Immobilisation Test)
LC50/96 h	>1,000 mg/l (Danio rerio (zebrafish)) (Fish, Acute Toxicity Test)
EC50/3 h	>100 mg/l (activated sludge) (Activated Sludge, Respiration Inhibition Test)

101-68-8 diphenylmethane-4,4'-di-isocyanate

EC50/48 h	>1,000 mg/l (Daphnia magna (water flea))
LC50/96 h	>1,000 mg/l (Brachydanio rerio (zebrafish))

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies 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 be specially treated under adherence to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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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:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- EU regulations/legislation
- Regulation (EC) No 1907/2006 (REACH), Annex XIV not applicable
- Regulation (EC) No 1907/2006 (REACH), Annex XVII
- Restrictions must be observed for:
 - dangerous liquid substances or mixtures (no. 3)
 - Methylenediphenyl diisocyanate (MDI) (no. 56)
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 56a, 74
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II
- None of the ingredients is listed.

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- **REGULATION (EU) 2019/1148**

- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **National regulations**

- **Decree to be applied in case of technical fault:**

Class	Share in %
I	92.0

- **Water hazard class:**

Water hazard class 1 (German Regulation) (Self-classification) : slightly hazardous for water

- **Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The information contained herein 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.

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

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 Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- *** Data compared to the previous version altered.**

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