

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

Printing date 15.10.2020

Version number 7

Revision: 15.10.2020

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

- **1.1 Product identifier**
- **Trade name:** WAKOL PU 280 Polyurethane Primer
- **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** Primer/ Subcoating
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
WAKOL GmbH  
Bottenbacher Str. 30  
D-66954 Pirmasens  
info@wakol.com  
+49 6331 8001 0
- **Informing department:**  
Product safety department.  
msds@wakol.de
- **1.4 Emergency telephone number:**  
Emergency CONTACT (24-Hour-Number):  
GBK GmbH +49 (0)6132-84463

**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.

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.

- **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

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**Trade name: WAKOL PU 280 Polyurethane Primer**

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

methylenediphenyl diisocyanate  
diphenylmethanediisocyanate, isomeres and homologues

· **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.  
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.  
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.

· **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:** Adhesive

· **Dangerous components:**

CAS: 26447-40-5	methylenediphenyl diisocyanate	>50–≤100%
EINECS: 247-714-0	 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	
CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues	>25–≤50%
EC number: 618-498-9	 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	

· **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.

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- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Clean with water and soap. If possible, also wash with polyethylene glycol 400.
- **After eye contact**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** Do not induce vomiting; call for medical help 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.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, 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**  
Carbon monoxide (CO)  
Hydrogen cyanide (HCN)  
In case of fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)  
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
Wear self-contained respiratory protective device.
- **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**  
Ensure adequate ventilation  
Use respiratory protective device against the effects of fumes/dust/aerosol.
- **6.2 Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Do not allow product to reach sewage system or any water course.
- **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.  
Ensure adequate ventilation.
- **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**  
Prevent formation of aerosols.  
Use only in well ventilated areas.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

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

#### · 8.1 Control parameters

- **Components with critical values that require monitoring at the workplace:**

#### **9016-87-9 diphenylmethanediisocyanate, isomeres and homologues**

WEL Short-term value: 0.07 mg/m<sup>3</sup>

Long-term value: 0.02 mg/m<sup>3</sup>

Sen; as -NCO

#### · **DNELs**

#### **26447-40-5 methylenediphenyl diisocyanate**

Oral DNEL 20 mg/kg/day (general population (short-term))

Dermal DNEL 25 mg/kg/day (general population (short-term))

50 mg/kg/day (workers (short-term))

Inhalative DNEL 0.05 mg/m<sup>3</sup> (general population (short-term))

0.025 mg/m<sup>3</sup> (general population (long-term))

0.1 mg/m<sup>3</sup> (workers (short-term))

0.05 mg/m<sup>3</sup> (workwv (long-term))

#### **9016-87-9 diphenylmethanediisocyanate, isomeres and homologues**

Dermal DNEL 27.8 mg/kg/day (workers (short-term))

DNEL 17.2 mg/cm<sup>2</sup> (general population (short-term))

Inhalative DNEL 0.05 mg/m<sup>3</sup> (general population (short-term))

0.025 mg/m<sup>3</sup> (general population (long-term))

0.1 mg/m<sup>3</sup> (workers (short-term))

0.05 mg/m<sup>3</sup> (workwv (long-term))

#### · **PNECs**

#### **26447-40-5 methylenediphenyl diisocyanate**

PNEC 1 mg/l (freshwater)

0.1 mg/l (sea water)

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**9016-87-9 diphenylmethanediisocyanate, isomeres and homologues**

PNEC 1 mg/l (freshwater)

0.1 mg/l (sea water)

10 mg/l (water - partially release)

1 mg/l (purification plant)

PNEC 1 mg/kg (soil)

· **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.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.· **Recommended filter device for short term use:** Combination filter A-P2· **Protection of hands:**

Protective gloves

Preventive skin protection by use of skin-protecting agents is recommended.

· **Material of gloves**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.35$  mm

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:**

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:** Blue

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- **Smell:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
  - Melting point/freezing point:** 10 °C
  - Initial boiling point and boiling range:** 351 °C
- **Flash point:** 210 °C
- **Inflammability (solid, gaseous)** Not applicable.
- **Ignition temperature:** 520 °C
- **Decomposition temperature:** Not determined.
- **Self-inflammability:** Product is not selfigniting.
- **Explosive properties:** Product does not present an explosion hazard.
- **Critical values for explosion:**
  - Lower:** Not determined.
  - Upper:** Not determined.
- **Steam pressure:** Not determined.
- **Density at 20 °C** 1.23 g/cm<sup>3</sup> (EN ISO 2811-1)
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with**
  - Water:** Hydrolised.
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
  - dynamic at 20 °C:** 300 mPas (ISO 2555)
  - kinematic:** Not determined.
  - Organic solvents:** 0.0 %
- **9.2 Other information** No further relevant information available.

### 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** Reacts with alcohols, amines, aqueous acids and alkalis.
- **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 known.

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### SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

· **Acute toxicity**

Harmful if inhaled.

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

**26447-40-5 methylenediphenyl diisocyanate**

Oral LD50 >2,000 mg/kg (rat)

Dermal LD50 >2,000 mg/kg (rabbit)

Inhalative LC50/4h 11 mg/l (rat)

**9016-87-9 diphenylmethanediisocyanate, isomeres and homologues**

Oral LD50 >10,000 mg/kg (rat) (OECD RL 401)

Dermal LD50 >9,400 mg/kg (rabbit) (OECD RL 402)

· **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.

· **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.

· **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.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

**9016-87-9 diphenylmethanediisocyanate, isomeres and homologues**

LC50/96h >1,000 mg/l (Danio rerio)

LC0/96h >1,000 mg/l (Brachydanio rerio)

EC50/24h >100 mg/l (bacteriums)

EC50/48h >1,000 mg/l (Daphnia magna)

EC50/3h >100 mg/l (sludge) (OECD 209)

· **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.

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· **Additional ecological information:**

· **General notes:**

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

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.

Must be specially treated adhering to official regulations.

· **European waste catalogue**

08 00 00 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS

08 05 00 wastes not otherwise specified in 08

08 05 01\* waste isocyanates

· **Uncleaned packagings:**

· **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:**

· **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

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### 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.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 56
- **National regulations**
- **Other regulations, limitations and prohibitive regulations**
- **GEV-Guideline/EMICODE: EC 1** plus R, "very low emission"
- **VOC:**
- **VOC (EU)** 0.2 g/l
- **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.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.
- **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)
- MAL-Code: Måleteknisk Arbejdshygienisk Lufibehov (Regulation for the labeling concerning inhalation hazards, Denmark)
- 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 - inhalation – 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.**