

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**primopoly Hardener**

Revision date: 30.03.2017

Product code: 7070110

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

primopoly Hardener

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

dental use

**1.3. Details of the supplier of the safety data sheet**

Company name:	primotec - Joachim Mosch e.K	
Street:	Tannenwaldallee 4	
Place:	D-61348 Bad Homburg	
Telephone:	+49 (0)6172-997700-0	Telefax: +49 (0)6172-997700-99
e-mail:	primotec@primogroup.de	
Internet:	www.primogroup.de	
Responsible Department:	F&E	
	Telefax +49 (0)6172-997700-99	

**1.4. Emergency telephone number:**Gifftinformationszentrum Universitätsklinikum Mainz  
Telefon +49 (0)6131-19240**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Resp. Sens. 1

Respiratory or skin sensitisation: Skin Sens. 1

Carcinogenicity: Carc. 2

Specific target organ toxicity - single exposure: STOT SE 3

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazard Statements:

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

diphenylmethanediisocyanate, isomeres and homolgues

4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate

o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate

**Signal word:** Danger

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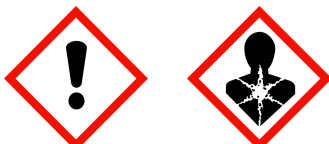
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#### Pictograms:



#### 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 by inhalation.
H335	May cause respiratory irritation.
H373	May cause damage to organs (...) through prolonged or repeated exposure if inhaled.

#### 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.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulation.

#### Special labelling of certain mixtures

EUH204	Contains isocyanates. May produce an allergic reaction.
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#### 2.3. Other hazards

Sensitisation to the respiratory tract

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Chemical characterization

Polyisocyanate on the basis of Diphenylmethane diisocyanate.

#### Hazardous components

CAS No	Chemical name	Quantity		
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
9016-87-9	diphenylmethanediisocyanate, isomeres and homolgues			50 - 100 %
	Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373			
101-68-8	4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate			10 < 25 %
	202-966-0	615-005-00-9		
	Carc. 2, Acute Tox. 4, STOT RE 2, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2, Resp. Sens. 1, Skin Sens. 1; H351 H332 H373 ** H319 H335 H315 H334 H317			
5873-54-1	o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate			2,5 < 10 %
	227-534-9	615-005-00-9		
	Carc. 2, Acute Tox. 4, STOT RE 2, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2, Resp. Sens. 1, Skin Sens. 1; H351 H332 H373 ** H319 H335 H315 H334 H317			

Full text of H and EUH statements: see section 16.

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

Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours. Take off immediately all contaminated clothing and wash it before reuse.

**After inhalation**

Provide fresh air. Medical treatment necessary.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.

**After contact with eyes**

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

**After ingestion**

Do NOT induce vomiting. Medical treatment necessary.

**4.2. Most important symptoms and effects, both acute and delayed**

May cause respiratory irritation. Respiratory or skin sensitisation

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

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Extinguishing powder, Carbon dioxide, Water spray jet

**Unsuitable extinguishing media**

No information available.

**5.2. Special hazards arising from the substance or mixture**

In case of fire may be liberated: Carbon monoxide Carbon dioxide, Isocyanates  
Possible in traces: Hydrogen cyanide (hydrocyanic acid)

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.  
Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

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Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Provide good room ventilation. If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe vapour. Avoid contact with eyes and skin.

#### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Protect from the action of light. Keep only in the original container at a temperature between 4 -25 °C. Keep container tightly closed and dry.

#### Advice on storage compatibility

No special measures are necessary.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
-	Isocyanates, all (as -NCO) Except methyl isocyanate	-	0.02		TWA (8 h)	WEL
		-	0.07		STEL (15 min)	WEL

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
101-68-8	4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate			
Consumer DNEL, acute		oral	systemic	20 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	25 mg/kg bw/day
Consumer DNEL, acute		dermal	local	17,2 mg/cm <sup>2</sup>
Consumer DNEL, acute		inhalation	systemic	0,05 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	0,05 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	0,025 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	0,025 mg/m <sup>3</sup>

#### PNEC values

CAS No	Substance	Value
9016-87-9	diphenylmethanediisocyanate, isomeres and homolgues	
Soil		1001 mg/kg
101-68-8	4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	
Freshwater		1 mg/l
Marine water		0,1 mg/l
Soil		1 mg/kg

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#### 8.2. Exposure controls

##### Protective and hygiene measures

Do not breathe gas/fumes/vapour/spray.

Keep away from food, drink and animal feedingstuffs.

Avoid contact with skin, eyes and clothes. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

##### Eye/face protection

tightly fitting goggles

##### Hand protection

Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has to be selected.

Suitable gloves type: nitrile rubber gloves (&gt; 0,4 mm), Break through time ca. 480 min (EN 374).

##### Skin protection

Wear suitable protective clothing.

##### Respiratory protection

Breathing apparatus in case of high concentrations, short term: filter appliance, filter A

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	brown
Odour:	earthy

	Test method
pH-Value (at 20 °C):	< 7 ISO 8975

##### Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	> 350 °C DIN 53171
Flash point:	229 °C DIN EN 22719

##### Flammability

Solid:	not applicable
Gas:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	> 500 °C DIN 51794

##### Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined

Vapour pressure: (at 25 °C)	0,0002 hPa
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Density (at 20 °C):	1,22 g/cm <sup>3</sup> DIN 51757
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Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water
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##### Solubility in other solvents

The substance is not soluble in water.

Partition coefficient:	not determined
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Viscosity / dynamic:  
(at 20 °C) 145 mPa·s DIN 53019

Vapour density: not determined

Evaporation rate: not determined

**9.2. Other information**

Solid content: not determined

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No information available.

**10.2. Chemical stability**Polymerisation > 200°C,  
Release of: Carbon dioxide (CO<sub>2</sub>).**10.3. Possibility of hazardous reactions**Exothermic reaction with: Amines, Alcohols  
After contact with water: Release of: Carbon dioxide (CO<sub>2</sub>). Caution! Container under pressure.**10.4. Conditions to avoid**

Keep away from heat.

**10.5. Incompatible materials**Exothermic reaction with: Amines Alcohols  
After contact with water: Release of: Carbon dioxide (CO<sub>2</sub>). Caution! Container under pressure.**10.6. Hazardous decomposition products**Carbon monoxide Nitrogen oxides (NO<sub>x</sub>)  
Possible in traces: Hydrogen cyanide (hydrocyanic acid)**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity**

Harmful if inhaled.

**ATEmix calculated**

ATE (inhalative vapour) 17,60 mg/l; ATE (inhalative aerosol) 0,573 mg/l

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
9016-87-9	diphenylmethanediisocyanate, isomeres and homolgues				
	oral	LD50 > 10000 mg/kg	Rat	OECD 401	
	dermal	LD50 >9400 mg/kg	Rabbit	OECD 402	
	inhalative vapour	ATE 11 mg/l			
	inhalative (4 h) aerosol	LC50 0,31 mg/l	Rat	OECD 403	
101-68-8	4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate				
	oral	LD50 2200 mg/kg	Rat		
	dermal	LD50 > 9400 mg/kg	Rabbit		
	inhalative vapour	ATE 11 mg/l			
	inhalative aerosol	ATE 1,5 mg/l			
5873-54-1	o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate				
	oral	LD50 > 2001 mg/kg	Rat		
	dermal	LD50 > 9400 mg/kg	Rabbit		
	inhalative vapour	ATE 11 mg/l			
	inhalative (4 h) aerosol	LC50 0,387 mg/l	Rat		

#### Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

#### Sensitising effects

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

May cause an allergic skin reaction.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer by inhalation.

Germ cell mutagenicity: 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

May cause respiratory irritation. ( (diphenylmethanediisocyanate, isomeres and homolgues); (4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate))

#### STOT-repeated exposure

May cause damage to organs (...) through prolonged or repeated exposure if inhaled. ( (diphenylmethanediisocyanate, isomeres and homolgues); (4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate))

#### Aspiration hazard

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

#### Further information

Product has not been tested. The statement is derived from the properties of the components.

Possible sensitization in case of persons suffering from hypersensitivity.

## SECTION 12: Ecological information

### 12.1. Toxicity

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
9016-87-9	diphenylmethanediisocyanate, isomeres and homolgues					
	Acute fish toxicity	LC50 >1001 mg/l	96 h	Brachydanio rerio (zebra-fish)	OECD 203	
	Acute algae toxicity	ErC50 >1640 mg/l	72 h	Scenedesmus subspicatus		
	Crustacea toxicity	NOEC 10 mg/l	21 d	Daphnia magna (Big water flea)	OECD 202	
5873-54-1	o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate					
	Acute fish toxicity	LC50 > 1000 mg/l	96 h		OECD 203	
	Acute algae toxicity	ErC50 > 1640 mg/l	72 h	Scenedesmus subspicatus	OECD 201	
	Crustacea toxicity	NOEC > 10 mg/l	21 d	Daphnia magna (Big water flea)	OECD 202	

#### **12.2. Persistence and degradability**

The product has not been tested.

#### **12.3. Bioaccumulative potential**

The product has not been tested.

#### **12.4. Mobility in soil**

The product has not been tested.

#### **12.5. Results of PBT and vPvB assessment**

The product has not been tested.

#### **12.6. Other adverse effects**

No information available.

#### **Further information**

Do not allow uncontrolled discharge of product into the environment. Do not allow to enter into surface water or drains.

### SECTION 13: Disposal considerations

#### **13.1. Waste treatment methods**

##### **Advice on disposal**

Send to a hazardous waste incinerator facility under observation of official regulations . Do not allow to enter into surface water or drains.

##### **Contaminated packaging**

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

The Waste-Key-Numbers have to be given from the waste-producer depending on the respective trade.

Therefore no information can be stated from the manufacturer.

European waste catalogue:

HP 4: Irritant - skin irritation and eye damage

HP 5: Specific Target Organ Toxicity (STOT)/ Aspiration Toxicity

HP 7: Carcinogenic

HP 13: Sensitising

### SECTION 14: Transport information

#### **Land transport (ADR/RID)**



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**Other applicable information (land transport)**

No dangerous good in sense of these transport regulations.

**Inland waterways transport (ADN)****Other applicable information (inland waterways transport)**

No dangerous good in sense of these transport regulations.

**Marine transport (IMDG)****Other applicable information (marine transport)**

No dangerous good in sense of these transport regulations.

**Air transport (ICAO-TI/IATA-DGR)****Other applicable information (air transport)**

No dangerous good in sense of these transport regulations.

**14.6. Special precautions for user**

No information available.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 56: 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate; o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate

2010/75/EU (VOC): 0,00 %

**National regulatory information**

Water contaminating class (D): 1 - slightly water contaminating

**Additional information**

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

**15.2. Chemical safety assessment**

For this mixture a chemical safety assessment has been carried out.

**SECTION 16: Other information****Changes**

Indication of changes:

SECTION 2: Hazards identification; Additional information Exposure route H351; H373

SECTION 3: Composition / information on ingredients

**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 Harmonized 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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

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#### Relevant H and EUH statements (number and full text)

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 by inhalation.
H351	Suspected of causing cancer.
H373	May cause damage to organs (...) through prolonged or repeated exposure if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
EUH204	Contains isocyanates. May produce an allergic reaction.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

#### Identified uses

No	Short title	SU main	SU	PC	PROC	ERC	AC	Specification
1		22	-	-	4, 8a, 8b, 10, 13	8c, 8f	-	

SU main: Main user groups

SU: Sectors of use

PC: Product categories

PROC: Process categories

ERC: Environmental release categories

AC: Article categories

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*