

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878



## WINDSCREEN ADHESIVE EXPERT - 310 ML

Version	Revision Date:	SDS Number:	Date of last issue: 26.07.2023
7.2	10.11.2023	10613115-00021	Date of first issue: 09.11.2015

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

#### 1.1 Product identifier

Trade name : WINDSCREEN ADHESIVE EXPERT - 310 ML

Product code : 0890023702

Unique Formula Identifier (UFI) : 1YR0-D0AU-P002-DR18

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-stance/Mixture : Adhesives  
Professional use product

Recommended restrictions on use : May only be used by trained personnel.

#### 1.3 Details of the supplier of the safety data sheet

Company : Adolf Wuerth GmbH & Co. KG  
Reinhold-Würth-Str. 12-17  
74653 Künzelsau

Telephone : +49 794015 0

Telefax : +49 794015 10 00

E-mail address of person responsible for the SDS : isi@wuerth.com

#### 1.4 Emergency telephone number

+49 (0)6132 – 84463

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Respiratory sensitisation, Category 1 H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

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- Hazard pictograms : 
- Signal word : Danger
- Hazard statements : H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Precautionary statements : **Prevention:**  
P261 Avoid breathing vapours.  
P284 Wear respiratory protection.  
**Response:**  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Hazardous components which must be listed on the label:

4,4'-Diphenylmethane diisocyanate

### Additional Labelling

"As from 24 August 2023 adequate training is required before industrial or professional use."

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

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### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

##### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
4,4'-Diphenylmethane diisocyanate	101-68-8 202-966-0 615-005-00-9 01-2119457014-47	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE 2; H373 (Respiratory Tract)  specific concentration limit Eye Irrit. 2; H319 >= 5 % STOT SE 3; H335 >= 5 % Skin Irrit. 2; H315 >= 5 % Resp. Sens. 1; H334 >= 0,1 %	>= 0,1 - < 1
Dibutyl hydrogen phosphate	107-66-4 203-509-8	Skin Corr. 1; H314 Eye Dam. 1; H318 Carc. 2; H351 EUH071	>= 0,1 - < 1

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- If inhaled : If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.

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- If breathing is difficult, give oxygen.  
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.

### 4.2 Most important symptoms and effects, both acute and delayed

- Risks : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Respiratory symptoms, including pulmonary edema, may be delayed.  
Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically and supportively.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Water spray in large fire situations

- Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.  
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
- Hazardous combustion products : Carbon oxides  
Metal oxides

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### 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

### 6.2 Environmental precautions

- Environmental precautions : Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up with inert absorbent material. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. After approximately one hour, transfer to waste container and do not seal, due to evolution of carbon dioxide. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not get on skin or clothing.  
Avoid breathing vapours.  
Do not swallow.  
Avoid contact with eyes.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep container tightly closed.  
Keep away from water.  
Protect from moisture.  
Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.  
Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace.  
Wash contaminated clothing before re-use.

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

- Requirements for storage areas and containers : Keep in properly labelled containers. Protect from moisture.  
Store in accordance with the particular national regulations.
- Advice on common storage : Do not store with the following product types:  
Strong oxidizing agents  
Gases
- Storage class (TRGS 510) : 10
- Recommended storage temperature : 0 - 35 °C

#### 7.3 Specific end use(s)

- Specific use(s) : No data available

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
4,4'-Diphenylmethane diisocyanate	101-68-8	AGW (Vapour and aerosols)	0,05 mg/m <sup>3</sup>	TRGS 430
	Peak-limit: excursion factor (category): 1;=2=(I)			
	Further information: In well-founded cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., airway sensitizing substance			
		AGW (Vapour and aerosols, inhalable fraction)	0,05 mg/m <sup>3</sup>	DE TRGS 900
	Peak-limit: excursion factor (category): 1;=2=(I)			
	Further information: In well-found cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child, Substance sensitizing through the skin and respiratory system			

##### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Di-isononyl phthalate	Workers	Inhalation	Long-term systemic effects	51,72 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	366 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	15,3 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	220 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	4,4 mg/kg bw/day
	Carbon black	Workers	Inhalation	Long-term local effects
4,4'-Diphenylmethane diisocyanate	Workers	Inhalation	Long-term local effects	0,05 mg/m <sup>3</sup>
	Workers	Inhalation	Acute local effects	0,1 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	0,025 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute local effects	0,05 mg/m <sup>3</sup>
Dibutyl hydrogen phosphate	Workers	Inhalation	Long-term systemic effects	1,25 mg/m <sup>3</sup>
	Workers	Inhalation	Acute systemic ef-	5 mg/m <sup>3</sup>

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			fects	
	Workers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>
	Workers	Inhalation	Acute local effects	1 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	0,44 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	1,78 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,31 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute systemic effects	1,24 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	0,22 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	0,88 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,22 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	0,88 mg/kg bw/day

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Di-isononyl phthalate	Soil	30 mg/kg
Carbon black	Fresh water	1 mg/l
	Freshwater - intermittent	10 mg/l
	Marine water	0,1 mg/l
4,4'-Diphenylmethane diisocyanate	Marine water - intermittent	1 mg/l
	Fresh water	1 mg/l
	Marine water	0,1 mg/l
	Intermittent use/release	10 mg/l
	Sewage treatment plant	1 mg/l
	Soil	1 mg/kg

## 8.2 Exposure controls

### Engineering measures

Processing may form hazardous compounds (see section 10).  
Ensure adequate ventilation, especially in confined areas.  
Minimize workplace exposure concentrations.

### Personal protective equipment

Eye/face protection : Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.

Wear the following personal protective equipment:

Safety glasses

Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Equipment should conform to DIN EN 166

Hand protection



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Material : Nitrile rubber  
Break through time : > 480 min  
Glove thickness : 0,12 mm  
Directive : Equipment should conform to DIN EN 374

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.  
Equipment should conform to DIN EN 14387

Filter type : Combined particulates and organic vapour type (A-P)

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### SECTION 9: Physical and chemical properties

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

Physical state : paste

Colour : black

Odour : characteristic

Odour Threshold : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling range : 270 °C

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Ignitable (see flash point)

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Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : 164 °C

Auto-ignition temperature : > 300 °C

Decomposition temperature : No data available

pH : substance/mixture is non-soluble (in water)

Viscosity  
Viscosity, kinematic : No data available

Solubility(ies)  
Water solubility : insoluble

Partition coefficient: n-octanol/water : Not applicable

Vapour pressure : No data available

Density : 1,19 g/cm<sup>3</sup> (20 °C)

Relative vapour density : No data available

Particle characteristics  
Particle size : Not applicable

### 9.2 Other information

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

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Evaporation rate : No data available

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Not classified as a reactivity hazard.

#### 10.2 Chemical stability

Stable if used as directed. Follow precautionary advice and avoid incompatible materials and conditions.

Polymerises at high temperatures with evolution of carbon dioxide.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : Isocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the isocyanate. Exothermic reaction with acids, amines and alcohols  
Reacts with water to form carbon dioxide and heat  
Isocyanates are not soluble in water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea.  
Hazardous decomposition products will be formed upon contact with water or humid air.

#### 10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture

#### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents  
Acids  
Bases  
Water  
Alcohols  
Amines  
Ammonia  
Aluminium  
Zinc  
Brass  
Tin  
Copper  
Galvanised metals  
Humid air

#### 10.6 Hazardous decomposition products

No hazardous decomposition products are known.

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### SECTION 11: Toxicological information

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

##### Acute toxicity

Not classified based on available information.

##### Components:

###### **4,4'-Diphenylmethane diisocyanate:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 2,24 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg  
Remarks: Based on data from similar materials

###### **Dibutyl hydrogen phosphate:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

##### **Skin corrosion/irritation**

Not classified based on available information.

##### Components:

###### **4,4'-Diphenylmethane diisocyanate:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation  
Remarks : Based on data from similar materials

###### **Dibutyl hydrogen phosphate:**

Species : reconstructed human epidermis (RhE)  
Method : OECD Test Guideline 431  
Result : Corrosive after 4 hours or less of exposure

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### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

##### 4,4'-Diphenylmethane diisocyanate:

Result	:	Irritation to eyes, reversing within 7 days
Remarks	:	Based on national or regional regulation.

##### Dibutyl hydrogen phosphate:

Species	:	Rabbit
Result	:	Irreversible effects on the eye

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

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

#### Components:

##### 4,4'-Diphenylmethane diisocyanate:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	positive

Assessment	:	Probability or evidence of skin sensitisation in humans
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Exposure routes	:	Inhalation
Species	:	Rat
Result	:	positive
Remarks	:	Based on data from similar materials

Assessment	:	Probability of respiratory sensitisation in humans based on animal testing
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##### Dibutyl hydrogen phosphate:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### 4,4'-Diphenylmethane diisocyanate:

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Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo  
cytogenetic assay)  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Method: OECD Test Guideline 474  
Result: negative

### Dibutyl hydrogen phosphate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: Chromosome aberration test in vitro  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo  
cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative

### Carcinogenicity

Not classified based on available information.

### Components:

#### 4,4'-Diphenylmethane diisocyanate:

Species : Rat  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 2 Years  
Result : positive  
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

### Dibutyl hydrogen phosphate:

Species : Rat  
Application Route : Ingestion  
Exposure time : 24 month(s)  
Result : positive  
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

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### Reproductive toxicity

Not classified based on available information.

#### Components:

##### **4,4'-Diphenylmethane diisocyanate:**

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Result: negative  
Remarks: Based on data from similar materials

##### **Dibutyl hydrogen phosphate:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 422  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

### STOT - single exposure

Not classified based on available information.

#### Components:

##### **4,4'-Diphenylmethane diisocyanate:**

Assessment : May cause respiratory irritation.

### STOT - repeated exposure

Not classified based on available information.

#### Components:

##### **4,4'-Diphenylmethane diisocyanate:**

Exposure routes : inhalation (dust/mist/fume)  
Target Organs : Respiratory Tract  
Assessment : Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.

##### **Dibutyl hydrogen phosphate:**

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

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### Repeated dose toxicity

#### Components:

##### **4,4'-Diphenylmethane diisocyanate:**

Species : Rat  
NOAEL : 0,2 mg/m<sup>3</sup>  
LOAEL : 1 mg/m<sup>3</sup>  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 2 yr  
Remarks : Based on data from similar materials

##### **Dibutyl hydrogen phosphate:**

Species : Rat  
NOAEL : 30 mg/kg  
LOAEL : 100 mg/kg  
Application Route : Ingestion  
Exposure time : 40 - 50 Days  
Method : OECD Test Guideline 422

### Aspiration toxicity

Not classified based on available information.

## 11.2 Information on other hazards

### Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

##### **4,4'-Diphenylmethane diisocyanate:**

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 3.000 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 129,7 mg/l  
Exposure time: 24 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 1.640 mg/l



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Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): 1.640 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 : > 100 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 10 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

### Dibutyl hydrogen phosphate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l  
Exposure time: 96 h  
Method: Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: Directive 67/548/EEC, Annex V, C.3.

EC10 (Desmodesmus subspicatus (green algae)): 76 mg/l  
Exposure time: 72 h  
Method: Directive 67/548/EEC, Annex V, C.3.

Toxicity to microorganisms : EC50 : > 10.000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 66 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

## 12.2 Persistence and degradability

### Components:

#### 4,4'-Diphenylmethane diisocyanate:

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 0 %

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Exposure time: 28 d  
Method: OECD Test Guideline 302  
Remarks: Based on data from similar materials

### Dibutyl hydrogen phosphate:

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 12 %  
Exposure time: 28 d  
Method: Directive 67/548/EEC Annex V, C.4.E.

### 12.3 Bioaccumulative potential

#### Components:

#### 4,4'-Diphenylmethane diisocyanate:

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 200

Partition coefficient: n-  
octanol/water : log Pow: 4,51

#### Dibutyl hydrogen phosphate:

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): < 7

Partition coefficient: n-  
octanol/water : log Pow: < 4

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

No data available

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

- Product : Dispose of in accordance with local regulations.  
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.  
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.  
Do not dispose of waste into sewer.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.
- Waste Code : The following Waste Codes are only suggestions:
- used product  
08 04 09, waste adhesives and sealants containing organic solvents or other hazardous substances  
08 05 01, waste isocyanates
- unused product  
08 04 09, waste adhesives and sealants containing organic solvents or other hazardous substances  
08 05 01, waste isocyanates
- uncleaned packagings  
15 01 10, packaging containing residues of or contaminated by hazardous substances
- Acc. Packaging Act properly emptied packaging:  
Properly emptied, non-contaminated packaging of non-hazardous products can be supplied to a system for the collection of sales packaging.

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### SECTION 14: Transport information

#### 14.1 UN number or ID number

- ADN : Not regulated as a dangerous good
- ADR : Not regulated as a dangerous good
- RID : Not regulated as a dangerous good
- IMDG : Not regulated as a dangerous good
- IATA : UN 3334

#### 14.2 UN proper shipping name

- ADN : Not regulated as a dangerous good
- ADR : Not regulated as a dangerous good

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**RID** : Not regulated as a dangerous good  
**IMDG** : Not regulated as a dangerous good  
**IATA** : Aviation regulated liquid, n.o.s.  
(4,4'-Diphenylmethane diisocyanate)

### 14.3 Transport hazard class(es)

**ADN** : Not regulated as a dangerous good  
**ADR** : Not regulated as a dangerous good  
**RID** : Not regulated as a dangerous good  
**IMDG** : Not regulated as a dangerous good  
Class                      Subsidiary risks  
**IATA** : 9

### 14.4 Packing group

**ADN** : Not regulated as a dangerous good  
**ADR** : Not regulated as a dangerous good  
**RID** : Not regulated as a dangerous good  
**IMDG** : Not regulated as a dangerous good

#### **IATA (Cargo)**

Packing instruction (cargo aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

#### **IATA (Passenger)**

Packing instruction (passenger aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

### 14.5 Environmental hazards

**ADN** : Not regulated as a dangerous good  
**ADR** : Not regulated as a dangerous good  
**RID** : Not regulated as a dangerous good  
**IMDG** : Not regulated as a dangerous good

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Maritime transport in bulk according to IMO instruments

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Remarks : Not applicable for product as supplied.

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

Di-isononyl phthalate (Number on list 52)

4,4'-Diphenylmethane diisocyanate (Number on list 74, 56)

Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

Water hazard class (Germany) : WGK 1 slightly hazardous to water  
Classification according to AwSV, Annex 1 (5.2)

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TA Luft List (Germany) : 5.2.1: Total dust:  
Not applicable  
5.2.2: Inorganic substances in powdered form:  
Not applicable  
5.2.4: Inorganic substances in gaseous form:  
Not applicable  
5.2.5: Organic Substances:  
Class 1: 1 % 4,4'-Diphenylmethane diisocyanate  
5.2.7.1.1: Carcinogenic substance:  
Not applicable  
5.2.7.1.1: Quartz fine dust PM4:  
Not applicable  
5.2.7.1.1: Formaldehyde:  
Not applicable  
5.2.7.1.1: fibres:  
Not applicable  
5.2.7.1.2: Germ cell mutagens:  
Not applicable  
5.2.7.1.3: Substances toxic to reproduction:  
Not applicable  
5.2.7.2: Poorly degradable, easily enrichable and highly toxic  
organic substances:  
Not applicable

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial  
emissions (integrated pollution prevention and control)  
Volatile organic compounds (VOC) content: 0 %, 0 g/l  
Remarks: VOC content excluding water

### Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national  
regulations, where applicable.

TRGS 430 (German regulatory requirements)

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

Other information : Items where changes have been made to the previous version  
are highlighted in the body of this document by two vertical  
lines.

### Full text of H-Statements

H314 : Causes severe skin burns and eye damage.  
H315 : Causes skin irritation.  
H317 : May cause an allergic skin reaction.  
H318 : Causes serious eye damage.

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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 if inhaled.  
EUH071 : Corrosive to the respiratory tract.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Carc. : Carcinogenicity  
Eye Dam. : Serious eye damage  
Eye Irrit. : Eye irritation  
Resp. Sens. : Respiratory sensitisation  
Skin Corr. : Skin corrosion  
Skin Irrit. : Skin irritation  
Skin Sens. : Skin sensitisation  
STOT RE : Specific target organ toxicity - repeated exposure  
STOT SE : Specific target organ toxicity - single exposure  
DE TRGS 900 : Germany. TRGS 900 - Occupational exposure limit values.  
TRGS 430 : Germany. TRGS 430 - Isocyanates  
DE TRGS 900 / AGW : Time Weighted Average  
TRGS 430 / AGW : Occupational Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous

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Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Training advice : Observe requirements and guidance related to training before using this product at work.

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

### Classification of the mixture:

Resp. Sens. 1 H334

### Classification procedure:

Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

DE / EN