

**Safety data sheet pursuant to ordinance
(EC) No. 453/2010
(EC) No. 1907/2006 (REACH)**

Print date: 02/03/2016

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Revised:30.07.2015

Cimco-Werkzeugfabrik
Carl Jul. Müller GmbH & Co. KG

1. DESIGNATION OF THE MATERIAL OR MIXTURE AND COMPANY NAME

1.1 Product identifier

Product name 1 KV Casting resin sleeve set **Hardener** Art. No. **18 4660, 18 4662, 184664, 184666, 184668**

Trade name 1 KV Casting resin sleeve set **Hardener** Art. No. **18 4660, 18 4662, 184664, 184666, 184668**

CAS No.

EC No.

1.2 Relevant identified use of material or mixture and uses that are not advisable

Recommended
limitations of the
application

Use of the
material/mixture Di/polyisocyanate component for manufacturing polyurethanes.

1.3 Details on the supplier who is making the safety data sheet available

Company Cimco Werkzeugfabrik Carl Jul. Müller GmbH & Co. KG
Hohenhagener Straße 1 - 5
D-42855 Remscheid, Germany
+49 (0) 21913718-01 Fax: +49 (0) 21913718-86

1.4 Emergency number **Emergency CONTACT (24-Hour-Number)**
GBK GmbH +49 (0)6132-84463

2. POSSIBLE HAZARDS

2.1 Classification of the material

· Classification in accordance with the directive (EC) No. 1272/2008 [CLP/GHS]	
Acute toxicity, inhalative, 4	H332
Skin irritation, 2	H315
Eye irritation, 2	H319
Sensitisation of airways, 1	H334
Sensitisation of skin, 1	H317
Carcinogenicity, 2	H351
Specific target organ toxicity (single exposure), 3	H335
Specific target organ toxicity (repeated exposure), 2	H373

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2.2 Label elements

- Labelling according to directive (EC) No. 1272/2008 [CLP/GHS]



GHS07



GHS08

Signal word:

Hazard

Hazard warnings:

H315	Causes skin irritation.
H317	Can cause allergic skin reactions.
H319	Causes serious eye irritation.
H332	Hazardous to health if inhaled.
H334	If inhaled, can cause allergies, asthma-type symptoms or respiratory difficulties.
H335	May cause respiratory irritation.
H351	Probably carcinogenic.
H373	Can damage organs (respiratory organs) in the event of lengthy or repeated exposure due to inhalation.

Safety information:

P260	Do not inhale dust/smoke/gas/mist/vapour/spray.
P280	Wear protective gloves/eye protection/face protection.
P302 + P352	IN THE EVENT OF SKIN CONTACT: Wash with plenty of water and soap.
P304 + P340	IF INHALED: Move to fresh air and put person into a position which eases breathing.
P305 + P351 + P338	IN THE EVENT OF CONTACT WITH THE EYES: Rinse carefully with water for several minutes. Remove any contact lenses being worn if possible. Continue rinsing.
P308 + P313	In the event of exposure or if affected: Seek medical advice / consult doctor.

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2.3 Other dangers

Persons with over-sensitive airways (e.g. sufferers from asthma, chronic bronchitis) must not handle the product. Symptoms to the airways can also occur several hours after exposure. Dust, vapours and aerosols represent the main danger for the airways.

3. COMPOSITION / INFORMATION ON COMPONENTS

Constituents	EC No.	CAS No.	Concentrate [% by weight]
Diphenylmethanediisocyanate, isomers and homologues		9016-87-9	<= 100 Acute tox. 4 if inhaled H332 Skin irrit. 2 H315 Eye irrit. 2 H319 Sens. airways 1 H334 Sens. skin 1 H317 Carc. 2 H351 STOT once 3 H335 STOT rep. 2 inhalation H373

4. FIRST AID MEASURES

4.1 Description of first aid measures

General information

Remove dirty, saturated clothing and shoes immediately, decontaminate and dispose of them.

After inhaling

Move the affected person into the fresh air and place in a resting position.
In the event of complaints, seek medical assistance.

After skin contact

In the event of skin contact, preferably wash with polyethylene glycol-based cleaner or with lots of warm water and soap.
In the event of skin irritation, consult doctor.

After swallowing

Do not induce vomiting.
Seek medical assistance.

After eye contact

In the event of contact with the eyes, rinse for at least 10 minutes with lukewarm water if possible and consult a doctor.

4.2 Important symptoms and effects which are acute or occur with a delay

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The product irritates the airways and can cause skin and airway sensitisation. Acute or bronchial constriction should initially be treated symptomatically. Depending on the extent of exposure and the symptoms, longer medical treatment may be necessary.

4.3 Indication of any immediate medical attention and special treatment needed

No information is available.

5. FIREFIGHTING MEASURES

5.1 Extinguishing agents

Suitable extinguishing agents Foam, extinguishing powder, carbon dioxide, in the event of large fires also a jet of water

Unsuitable extinguishing agents Direct water jet

5.2 Particular risks associated with the material or mixture

In the event of a fire, carbon dioxide, carbon monoxide, nitrous oxides, isocyanate vapours, and traces of hydrogen cyanide (prussic acid) are formed. Do not inhale gases from explosions and fire. In the event of fire in the vicinity, pressure buildup, danger of bursting. If containers are threatened by fire, cool with water and if possible remove from the danger zone.

5.3 Information on fire fighting

Special protective equipment for firefighting:

In the presence of combustion or carbonization gases, any firefighting, rescue and clearing up activities should be undertaken only with heavy-duty respiratory protection and tight-sealing chemical protective overalls.

Further information:

Contaminated quenching water must not penetrate the ground, get into ground water or surface water.

6. MEASURES IN THE EVENT OF ACCIDENTAL RELEASE

6.1 Person-related safety precautions, protective equipment and procedures to be followed in emergencies

Ensure there is sufficient ventilation.
Use personal protective clothing.
Keep anyone who is not involved away.

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6.2 Environmental protection measures

Do not allow to enter surface water or the sewage system.

6.3 Methods and material for containment and cleaning

Remove mechanically. Cover residues with moist, liquid-absorbing material (e.g. sawdust, calcium-hydrate-based chemical binders, sand). After approx. 1 hour, put in waste containers, do not close (CO₂ development!). Keep moist and allow to stand for several days in a secured place in the open air.

6.4 References to other sections

Safe handling: see section 7

Disposal: see section 13

Personal protective equipment: see section 8

7. HANDLING AND STORAGE

7.1 Safety measures for safe handling

Information on safe handling

Ensure adequate ventilation and/or extraction in the work rooms. At workplaces or in parts of the plant where isocyanate aerosols and/or vapour could be formed in high concentrations (e.g. pressure relief, mould ventilation, blowing through mixing bodies with compressed air), exceeding the work-hygienic limit values must be prevented with air extraction. The air needs to be moved away from people. The efficacy of systems needs to be checked at regular intervals.

General protection measures

Avoid contact with skin and eyes as well as inhalation of vapours at all costs.
Keep soiled work clothing separately. Remove dirty, saturated clothing immediately. Decontaminate, destroy and dispose of soiled work clothing.

Hygiene measures

Do not smoke, eat, drink or sniff while working.
Wash hands before breaks and after finishing work.

7.2 Conditions for safe storage taking incompatibilities into consideration

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Storage requirements Keep container dry and tightly sealed.

Information on storage with other products

Further information on storage conditions The storage temperature must not exceed 50 °C.

Storage class 10

7.3 Specific end use

See section 1.2

8. LIMITATION AND MONITORING OF EXPOSURE / PERSONAL PROTECTIVE EQUIPMENT

8.1 Limit values

Occupational exposure limit values

CAS No.	Designation	Type	[mg/m ³]	[ppm]	Peak limit	Note
9019-87-9	Diphenylmethanediisocyanate isomers and homologues		0.05		2	
9019-87-9	Diphenylmethanediisocyanate isomers and homologues	Short-time factor			1	Substance with peak-limit and short-time factor Category I
9019-87-9	Diphenylmethanediisocyanate isomers and homologues	Exposure peak				
101-68-8	Diphenylmethane-4.4-diisocyanate		0.05		2	Y
101-68-8	Diphenylmethane-4.4-diisocyanate	Short-time factor			1	Substance with peak-limit and short-time factor Category I
101-68-8	Diphenylmethane-4.4-diisocyanate	Exposure peak				
103-71-9	Phenylisocyanate		0.05	0.01		

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103-71-9 Phenylisocyanate Exposure peak Category I

8.2 Limiting and monitoring exposure

Personal protective equipment

General protective and hygiene measures

The usual regulations for handling chemicals needs to be adhered to.
Do not breathe in dust/smoke/mist. Keep away from food, drink and animal feed. Do not smoke, eat or drink while working. Avoid contact with the eyes and skin. Wash hands before a break and after finishing work.

Respiratory protection

Wear respiratory protection in inadequately ventilated workplaces and when spraying the product. Recommended precautions are fresh-air mask, or for short-time work combination filter A2-P2.

Hand protection

In the event of prolonged contact, wear protective gloves. Disposing of the contaminated gloves is recommended. If only in contact with the material for a short time, wear single use gloves made of PE or latex. Dispose of these after use.

Eye protection

Wear protective glasses / face protection.

Personal protection

Protective workwear.

Limiting and monitoring environmental exposure

Ensure good room ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on the basic physical and chemical properties

Form	liquid
Colour	brown
Odour	earthy, musty
Steam pressure	at 20°C: > 0.0009 Pa at 50°C 0.00016 hPa
Relative density	1.23 g/cm ³ 20°C
Boiling point	- na -

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Melting point / Freezing point	- na -
Explosive properties	- na -
Self-ignition temperature	- na -
Ignition point	> 200 °C
Flammability	- na -
Oxidizing properties	- na -
Solubility in / miscibility with	- na -
Ignition temperature	> 400°C
Solvent content	- na -
Solids content	- na -

9.2 Other information

No information is available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

No information is available.

10.2 Chemical stability

From approx. 20°C polymerisation, CO₂ separation

10.3 Possible hazardous reactions

Exothermal reaction with amines and alcohols. With water, CO₂ development, in closed containers
Pressure buildup; danger of bursting.

10.4 Conditions to be avoided

No information is available.

10.5 Incompatible materials

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No information is available.

10.6 Dangerous decomposition processes

No decomposition when stored and handled correctly.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Diphenylmethanediisocyanate, isomers and homologues

	Value/Evaluation	Species	Method	Note
LD50 acute oral	> 2000 mg/kg	Rat		Toxicological tests on a comparable product.
LC50 acute for inhalation	as aerosol 450 mg/m ³ (4 h)	Rat		Toxicological tests on a comparable product.
Skin irritation	irritant	Rabbit	OECD test guideline 404	Toxicological tests on a comparable product.
Irritation of mucous membranes	not irritating	Rabbit	OECD test guideline 405	Toxicological tests on a comparable product.
Sensitisation	sensitising			Sensitisation may be caused by inhalation and skin contact.

General comments

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Special characteristics/effects:

In the event of over-exposure, there is a danger of irritation of eyes, nose, throat and airways, depending on the concentration. Delayed occurrence of symptoms and development of over-sensitivity (respiratory problems, coughing, asthma) are possible. Over-sensitive persons may react to very small concentrations of isocyanate, also below the MAC value. In the event of prolonged contact with the skin, tanning effects or irritation are possible.

12. ENVIRONMENTAL INFORMATION

12.1 Toxicity

	Value/Evaluation	Species	Method	Note
Fish	LC50 > 1000 mg/l (96 h)	Danio rerio	OECD test guideline 203	Diphenylmethanediisocyanate isomers and homologues
Water fleas (daphnia)	EC50 > 1000 mg/l (24 h)	Daphnia magna	OECD test guideline 202	Diphenylmethanediisocyanate isomers and homologues
Bacteria	EC50 > 100 mg/l (3 h)	Pseudokirchneriella subcapitata	OECD test guideline 117	Diphenylmethanediisocyanate isomers and homologues

12.2 Persistence and degradability

Not biologically degradable

12.3 Bio accumulation potential

No information is available.

12.4 Mobility in the soil

No information is available.

Other ecological information:

General information

With water, the product transforms on the surface into a solid, high-melting-point and insoluble reaction product (polyurea) while releasing carbon dioxide. This reaction is strongly promoted by surfactants (e.g. liquid soap) or water-soluble solvents. According to current experience, polyurea is inert and not degradable.

12.5 Results of PBT and vPvB assessment

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PBT Not applicable

vPvB Not applicable

12.6. Other harmful effects

Do not allow it to get into ground water or surface water, or the ground.

13. INFORMATION ON DISPOSAL

Recommendation Dispose of taking all applicable international, national, and local law, regulations, and provisions into consideration.

Product If disposed of within the EU, apply the respective applicable waste key according to the European Waste Code EWC. To assign the industry and product-specific AVV key code, we recommend clarifying the details with the responsible waste disposal agent.

Waste code
07 02 08 other reactions and distillation residue
08 05 01 isocyanate residues
07 02 13 plastic waste
20 01 39 plastics
15 01 10 packaging which contains residues of hazardous substances or is contaminated by hazardous substances
15 01 02 packaging made of plastic
15 01 04 packaging made of metal

Waste marked with an asterisk (*) are classed as hazardous waste according to Directive 2008/98/EC on hazardous waste.

Unclean packaging Packaging must be completely emptied after final product removal (drip-free, trickle-free, spatula-clean). After rendering the product residue on the walls harmless (e.g. through a reaction with an equivalent quantity of PU resin), delete the product and hazardous goods labelling. These packaging containers can be deposited for recycling at the collection points of the existing returns systems of the chemical industry. Recycling must be carried out in accordance with national laws and environmental regulations. No disposal via the sewage system.

14. INFORMATION ON TRANSPORT

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	ADR/RID	IMDG	IATA-DGR
14.1 UN number	-	-	-
14.2 Proper UN shipping name	-	-	-
14.3 Transport hazard class	-	-	-
14.4 Packaging group	-	-	-
14.5 Environmental hazards	-	-	-

14.6 Special preventive measures for the user

Not hazardous goods to transport.
Irritates the eyes and skin.
Frost protection from 0°C. Heat-sensitive from +50 °C. Keep dry.
Store separately from foodstuffs, drinks and tobacco, acids and bases.

14.7 Bulk transport according to Appendix II of the MARPOL agreement 73/78 and according to the IBC code

Not applicable

15. STATUTORY REGULATIONS

15.1 Regulations on safety, health and environmental protection / specific legal regulations for the material or the mixture

Water hazard class	1	VwVwS Appendix 4 slightly water hazardous
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Technical instructions (TA) air

Type: organic substances
Proportion Class I: 100%

Additional information

Attention is drawn to possible employment restrictions (e.g. Youth Protection Law – Working with Hazardous Substances).

15.2 Chemical safety assessment

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A chemical safety assessment for materials in this mixture have not been carried out.

16. OTHER INFORMATION

Further information

The information given is based on our current level of knowledge and serves to describe the product in terms of the safety precautions to be taken. It does not represent an assurance of properties of the product described.

H315	Causes skin irritation.
H317	Can cause allergic reactions.
H319	Causes serious eye irritation.
H332	Hazardous to health if inhaled.
H334	If inhaled, can cause allergy, asthma-type symptoms or difficulty breathing.
H335	May cause respiratory irritation.
H351	Probably carcinogenic.
H373	Can damage organs (respiratory organs) in the event of lengthy or repeated exposure by inhalation.