

Safety Data Sheet

according to HPR, Schedule 1

Date of issue 10/05/2026

Version number 3

Revision: 10/05/2026

1 Identification

- **Product identifier**
- **Trade name:** Okapol SH Komp. B
- **Other means of identification**
- **Application of the substance / the mixture** **Hardening agent/ Curing agent**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** **Kiesel Bauchemie GmbH & Co. KG**
Wolf-Hirth-Str. 2
D-73730 Esslingen
Germany
E-Mail:
info.canada@cemex.com
info.usa@cemex.com
- **Information department:** **Laboratory, departments of enviromental protection and labor protection**
- **Emergency telephone number:** **ChemTel Expert Assiatance Hotline 800-255-2824**

2 Hazard identification

- **Classification of the substance or mixture**


GHS08 Health hazard
Sensitization - respiratory – Category 1
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carcinogenicity – Category 2
H351 Suspected of causing cancer.
Specific target organ toxicity (repeated exposure) – Category 2
H373 May cause damage to organs through prolonged or repeated exposure.

GHS07
Skin Irritation - Category 2
H315 Causes skin irritation.
Eye damage/irritation – Category 2A
H319 Causes serious eye irritation.
Sensitization - skin – Category 1
H317 May cause an allergic skin reaction.
Specific target organ toxicity (single exposure) – Category 3
H335 May cause respiratory irritation.

- **Additional information:** **The full text of the classification and labeling elements mentioned is given in Section 16.**

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**


GHS07 GHS08

- **Signal word**

Danger

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- **Hazard-determining components of labeling:** *4,4'-Diphenylmethandiisocyanat, Isomere, Homologe und Mischungen
Reaktionsmasse aus 4,4'-Diphenylmethandiisocyanat und o-(p-Isocyanatobenzyl)phenylisocyanat*
- **Hazard statements** *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.*
- **Precautionary statements** *Keep out of reach of children.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
[In case of inadequate ventilation] wear respiratory protection.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor if you feel unwell.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Additional information:** *Restricted to professional users*
- **Information pertaining to particular dangers for man and environment:**
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 1
Reactivity = 0

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· HMIS-ratings (scale 0 - 4)



Health = *2

Fire = 1

Reactivity = 0

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3 Composition/Information on ingredients

· Composition/Information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 9016-87-9	4,4'-Diphenylmethandiisocyanat, Isomere, Homologe und Mischungen	≥45-≤100% w/w *
	⚠ Sensitization - respiratory – Category 1, H334; Carcinogenicity – Category 2, H351; Specific target organ toxicity (repeated exposure) – Category 2, H373 ⚠ Acute Toxicity (Inhalation) - Category 4, H332; Skin Irritation - Category 2, H315; Eye damage/irritation – Category 2A, H319; Sensitization - skin – Category 1, H317; Specific target organ toxicity (single exposure) – Category 3, H335	
	Reaktionsmasse aus 4,4'-Diphenylmethandiisocyanat und o-(p-Isocyanatobenzyl)phenylisocyanat	10-25% w/w *
	⚠ Sensitization - respiratory – Category 1, H334; Carcinogenicity – Category 2, H351; Specific target organ toxicity (repeated exposure) – Category 2, H373 ⚠ Acute Toxicity (Inhalation) - Category 4, H332; Eye damage/irritation – Category 2A, H319; Sensitization - skin – Category 1, H317; Specific target organ toxicity (single exposure) – Category 3, H335	

· Additional information:

* Actual concentration ranges are withheld as a trade secret. See also information on "8 Exposure controls and personal protective equipment". For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

· 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.

Immediately remove any clothing soiled by the product.

If you feel unwell, seek medical advice.

· After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

Seek medical treatment in case of complaints.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

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- | | |
|--|---|
| <ul style="list-style-type: none"> · After eye contact: · After swallowing: · Most important symptoms and effects, both acute and delayed · Indication of any immediate medical attention and special treatment needed | <p><i>Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.</i></p> <p><i>rinse out mouth</i></p> <p><i>Inform doctor. Do not give milk or fatty oils.</i></p> <p><i>No further relevant information available.</i></p> <p><i>No further relevant information available.</i></p> |
|--|---|

5 Fire-fighting measures

- | | |
|---|---|
| <ul style="list-style-type: none"> · Extinguishing media · Suitable extinguishing agents: · For safety reasons unsuitable extinguishing agents: · Special hazards arising from the substance or mixture · Advice for firefighters · Protective equipment: | <p><i>CO2, extinguishing powder or water spray. Fight larger fire with alcohol resistant foam.</i></p> <p><i>Use fire fighting measures that suit the environment.</i></p> <p><i>Water with full jet</i></p> <p><i>During heating or in case of fire poisonous gases are produced.</i></p> <p><i>No further relevant information available.</i></p> <p><i>Wear non-circulation breathing equipment and chemical-protective clothing. Do not inhale explosion gases or fire fumes.</i></p> |
|---|---|

6 Accidental release measures

- | | |
|---|--|
| <ul style="list-style-type: none"> · Personal precautions, protective equipment and emergency procedures · Environmental precautions: · Methods and material for containment and cleaning up: · Reference to other sections | <p><i>Ensure adequate ventilation</i></p> <p><i>Mount respiratory protective device.</i></p> <p><i>No special measures required.</i></p> <p><i>Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).</i></p> <p><i>Dispose contaminated material as waste according to section 13.</i></p> <p><i>See Section 7 for information on safe handling.</i></p> <p><i>See Section 8 for information on personal protection equipment.</i></p> <p><i>See Section 13 for disposal information.</i></p> |
|---|--|

7 Handling and storage

- | | |
|---|--|
| <ul style="list-style-type: none"> · Precautions for safe handling | <p><i>Keep receptacles tightly sealed.</i></p> <p><i>Ensure good ventilation/exhaustion at the workplace.</i></p> <p><i>Open and handle receptacle with care.</i></p> <p><i>Prevent formation of aerosols.</i></p> |
|---|--|

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- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

· Control parameters

· Components with limit values that require monitoring at the workplace:

CAS: 9016-87-9 4,4'-Diphenylmethandiisocyanat, Isomere, Homologe und Mischungen

EL (Canada)	TWA: 0.005 ppm Ceiling: 0.01 ppm
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- **Additional information:** The lists that were valid during the creation were used as basis.

· Exposure controls

· Appropriate engineering controls

No further data; see section 7.

· Personal protective equipment:

· General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Store protective clothing separately.
 Avoid contact with the eyes and skin.

· Breathing equipment:

Breathing equipment required in the event of inhalable dust, insufficient ventilation and elevated temperatures.
 Suitable respiratory protection for low concentrations or short-term exposure: particle filter EN 143 type P2 (medium retention capacity (solid and liquid pollutant particles))
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:

Rubber or plastic gloves, impermeable gloves made of synthetic rubber, polybutadiene.
 Not to be used: gloves made of PVC, polyethylene.
 Protective gloves

· Material of gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
 Butyl rubber, BR
 Chloroprene rubber, CR

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· Penetration time of glove material

The exact break trough 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:

Safety shoes, sealed working clothing.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Physical state

Liquid

· Color:

Brown

· Odor:

· Odor threshold:

Not determined

· Melting point/Melting range:

-30 °C

· Boiling point/Boiling range:

190 °C

· Flammability:

Not applicable

· Explosion limits:

· Lower:

Not determined

· Upper:

Not determined

· Flash point:

102 °C

· Auto igniting:

400 °C

· Decomposition temperature:

Not determined

· pH-value:

n.a.

· Viscosity:

· Kinematic:

Not determined

· Dynamic at 20 °C:

220 mPas

· Solubility in / Miscibility with

· Water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water):

Not determined

· Vapor pressure at 25 °C:

0.0002 hPa

· Vapor pressure at 50 °C:

3 hPa

· Density at 20 °C:

 1.24 g/cm³

· Relative density

Not determined

· Vapor density

Not determined

· Particle characteristics

Not applicable

· Other information

· Appearance:

· Form:

Fluid

· AUTO IGNITION:

Not self igniting

· Danger of explosion:

Product does not present an explosion hazard.

· Solvent content:

· VOC-Content

0.00 %

0.0 g/l / 0.00 lb/gal

· Solids content:

0.0 %

· Volatile Organic Compounds

0.0 g/l

0.00 %

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- Change in condition
- Evaporation rate

Not determined

10 Stability and reactivity

- Reactivity No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: To avoid thermal decomposition do not overheat.
- Possibility of hazardous reactions No dangerous reactions known.
- Conditions to avoid No further relevant information available.
- Incompatible materials: acids, water
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

- LD/LC50 values that are relevant for classification:

CAS: 9016-87-9 4,4'-Diphenylmethandiisocyanat, Isomere, Homologe und Mischungen

Oral	LD50	>10,000 mg/kg (Rat)
Dermal	LD50	>10,000 mg/kg (Rabbit)
Inhalative	LC50/4 h	0.493 mg/l (Rat)

- Primary irritant effect:
 - on the skin: Irritant to skin and mucous membranes.
 - on the eye: Irritating effect.
- Sensitization: Sensitization possible through inhalation.
Sensitization possible through skin contact.
- Subacute to chronic toxicity: Subacute-chronical toxicity
Length of trials: 2 years
Application: inhalative (rat): > 0.2 < 1 mg/m³ aerosol (PMDI).
Findings: when inhaled, the substance caused clear local irritation in the rats with epithelium damage.
Application: inhalative (rat): 6 mg/m³ aerosol (PMDI).
Findings: when inhaled, the substance caused clear local irritation in the rats with epithelium damage. Some of the animals also suffered local tumour growth after this.
- Additional toxicological information: The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

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· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

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· NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 9016-87-9 4,4'-Diphenylmethandiisocyanat, Isomere, Homologe und Mischungen	
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EC50(3h)	≥1,000 mg/l (Belebtschlamm Bakterien)
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LC 50 (96h)	>1,000 mg/l (Danio rerio (Zebrafisch))
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	>1,000 mg/l (Acute fish toxicity (zebrafish))
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· Persistence and degradability No further relevant information available.

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Results of PBT and vPvB assessment

· PBT: Not applicable

· vPvB: Not applicable

· Other adverse effects

· Additional ecological information:

· General notes: Water hazard class 1 (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.

13 Disposal considerations

· Waste treatment methods

· Recommendation: Disposal in accordance with official regulations

· Uncleaned packagings:

· Recommendation: Disposal must be made according to official regulations.

14 Transport information

· UN-Number

DOT/TDG, ADR, IMDG, IATA	Void
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· UN proper shipping name

DOT/TDG, ADR, IMDG, IATA	Void
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· Transport hazard class(es)

DOT/TDG, ADR, ADN, IMDG, IATA	
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Class	Void
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· Packing group	
· DOT/TDG, ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable
· Transport/Additional information:	Not dangerous according to the above specifications.
· Special precautions for user	Not applicable
· UN "Model Regulation":	Void

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

- Section 355 (extremely hazardous substances):

None of the ingredient is listed.

- Section 313 (Specific toxic chemical listings):

CAS: 9016-87-9 4,4'-Diphenylmethandiisocyanat, Isomere, Homologe und Mischungen

- TSCA (Toxic Substances Control Act):

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- MAK (German Maximum Workplace Concentration)

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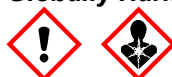
- Per- and polyfluoroalkyl substances (PFAS)

None of the ingredients is listed.

- GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms



GHS07 GHS08

- Signal word

Danger

- Hazard-determining components of labeling:

4,4'-Diphenylmethandiisocyanat, Isomere, Homologe und Mischungen
 Reaktionsmasse aus 4,4'-Diphenylmethandiisocyanat und o-(p-Isocyanatobenzyl)phenylisocyanat
 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.

- Hazard statements

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· Precautionary statements

May cause respiratory irritation.
 May cause damage to organs through prolonged or repeated exposure.
 Keep out of reach of children.
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 [In case of inadequate ventilation] wear respiratory protection.
 IF ON SKIN: Wash with plenty of water.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell.
 Specific treatment (see on this label).
 Get medical advice/attention if you feel unwell.
 Take off contaminated clothing and wash it before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
 Store in a well-ventilated place. Keep container tightly closed. Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· National regulations:

· Information about limitation of use:

Employment restrictions concerning young persons must be observed.
 Employment restrictions concerning pregnant and lactating women must be observed.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Chapters which have been revised from the previous issue are marked ***.

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

To the best of our knowledge, the information contained in this MSDS is accurate. It is intended to assist the user in his evaluation of the product's hazards, and safety precautions to be taken in its use. The data on this MSDS relate only to the specific material designated herein. We do not assume any liability for the use, or reliance in this information, nor do we guarantee its accuracy or completeness.

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· **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.

· **Date of previous version**

10/05/2026

· **Version number of previous version:**

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· **Date of preparation**

10/05/2026

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 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)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative

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

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