



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

1.1 Product identifier

Trade name : Biresin® G53 Part B

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

Product use : Tooling system

1.3 Details of the supplier of the safety data sheet

Company name of supplier : Sika Deutschland GmbH
Kornwestheimer Str. 103-107
D-70439 Stuttgart
Telephone : +49 711 8009 0
E-mail address of person : EHS@de.sika.com
responsible for the SDS

1.4 Emergency telephone number

Emergency CONTACT (24-Hour-Number):
GBK GmbH Global Regulatory Compliance +49(0)6132-84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Type of product : Mixture

Classification (REGULATION (EC) No 1272/2008)

| | |
|--|---|
| Acute toxicity, Category 4 | H332: Harmful if inhaled. |
| Skin irritation, Category 2 | H315: Causes skin irritation. |
| Eye irritation, Category 2 | H319: Causes serious eye irritation. |
| Respiratory sensitisation, Category 1 | H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin sensitisation, Category 1 | H317: May cause an allergic skin reaction. |
| Carcinogenicity, Category 2 | H351: Suspected of causing cancer. |
| Specific target organ toxicity - single exposure, Category 3, Respiratory system | H335: May cause respiratory irritation. |
| Specific target organ toxicity - repeated exposure, Category 2 | H373: May cause damage to organs through prolonged or repeated exposure if inhaled. |

2.2 Label elements

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006
Biresin® G53 Part B



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Labelling (REGULATION (EC) No 1272/2008)

| | | | |
|--------------------------|---|---|--|
| Hazard pictograms | : | | |
| Signal word | : | Danger | |
| Hazard statements | : | H315 H317 H319 H332 H334 H335 H351 H373 | Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure if inhaled. |
| Precautionary statements | : | Prevention: P201 P260 P280 P284 Response: P304 + P340 + P312 P308 + P313 | Obtain special instructions before use. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection. In case of inadequate ventilation wear respiratory protection. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. IF exposed or concerned: Get medical advice/ attention. |

Hazardous components which must be listed on the label:

- 9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues
- 500-415-1 4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with butane-1,3-diol, 2,4'-diisocyanatodiphenylmethane, 2,2'-oxydiethanol and propane-1,2-diol

Additional Labelling:

EUH204 Contains isocyanates. May produce an allergic reaction.

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures



Hazardous components

| Chemical name CAS-No. EC-No. Registration number | Classification (REGULATION (EC) No 1272/2008) | Concentration [%] |
|---|---|----------------------|
| Diphenylmethanediisocyanate, isomeres and homologues 9016-87-9 | Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373 | >= 40 - < 60 |
| 4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with butane-1,3-diol, 2,4'-diisocyanatodiphenylmethane, 2,2'-oxydiethanol and propane-1,2-diol 158885-29-1 500-415-1 01-2119480402-45-XXXX | Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373 | >= 40 - < 60 |

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Move out of dangerous area.
 Consult a physician.
 Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.
 Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
 Wash off with soap and plenty of water.
 If symptoms persist, call a physician.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
 Remove contact lenses.
 Keep eye wide open while rinsing.
 If eye irritation persists, consult a specialist.
- If swallowed : Do not induce vomiting without medical advice.
 Rinse mouth with water.
 Do not give milk or alcoholic beverages.
 Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Asthmatic appearance



- Cough
Respiratory disorder
Allergic reactions
Excessive lachrymation
Erythema
Headache
Dermatitis
See Section 11 for more detailed information on health effects and symptoms.
- Risks : irritant effects
sensitising effects
- Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure if inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

- Hazardous combustion products : No hazardous combustion products are known

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Standard procedure for chemical fires.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment.
Deny access to unprotected persons.



6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Follow standard hygiene measures when handling chemical products

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with local regulations.

Storage class (TRGS 510) : 10, Combustible liquids

Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)



Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

| Components | CAS-No. | Value | Control parameters * | Basis * |
|--|-----------|-------|----------------------|-------------|
| Diphenylmethanediisocyanate, isomeres and homologues | 9016-87-9 | AGW | 0,05 mg/m3 | DE TRGS 900 |

8.2 Exposure controls

Personal protective equipment

- Eye protection : Safety glasses with side-shields conforming to EN166
 Eye wash bottle with pure water

- Hand protection : Chemical-resistant, impervious gloves complying with an approved standard must be worn at all times when handling chemical products. Reference number EN 374. Follow manufacturer specifications.

 Suitable for short time use or protection against splashes:
 Butyl rubber/nitrile rubber gloves (0,4 mm),
 Contaminated gloves should be removed.
 Suitable for permanent exposure:
 Viton gloves (0.4 mm),
 breakthrough time >30 min.

- Skin and body protection : Protective clothing (e.g. Safety shoes acc. to EN ISO 20345, long-sleeved working clothing, long trousers). Rubber aprons and protective boots are additionally recommended for mixing and stirring work.

- Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
 Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
 organic vapor filter (Type A)
 A1: < 1000 ppm; A2: < 5000 ppm; A3: < 10000 ppm
 Ensure adequate ventilation. This can be achieved by local exhaust extraction or by general ventilation. (EN 689 - Methods for determining inhalation exposure). This applies in par-



particular to the mixing / stirring area. In case this is not sufficient to keep the concentrations under the occupational exposure limits then respiration protection measures must be used.

Ensure adequate ventilation, especially in confined areas.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--------------------------------------|--|
| Appearance | : liquid |
| Colour | : red brown |
| Odour | : characteristic |
| Odour Threshold | : No data available |
| Flash point | : > 101 °C |
| Autoignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Lower explosion limit (Vol-%) | : No data available |
| Upper explosion limit (Vol-%) | : No data available |
| Flammability | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| pH | : Not applicable |
| Melting point/range / Freezing point | : No data available |
| Boiling point/boiling range | : v z □a available |
| Vapour pressure | : 0,01 hPa |
| Density | : ca. 1,23 g/cm ³ at 20 °C |
| Water solubility | : insoluble |

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| | | |
|--|---|---------------------------------------|
| Partition coefficient: n-octanol/water | : | No data available |
| Viscosity, dynamic | : | ca. 175 mPa.s at 25 °C |
| Viscosity, kinematic | : | > 20,5 mm ² /s at 40 °C |
| Relative vapour density | : | No data available |
| Evaporation rate | : | No data available |

9.2 Other information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid : Avoid moisture.

10.5 Incompatible materials

Materials to avoid : No data available

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if inhaled.

Components:

Diphenylmethanediisocyanate, isomeres and homologues:

| | | |
|---------------------------|---|---|
| Acute oral toxicity | : | LD50 Oral (Rat): > 10.000 mg/kg |
| Acute inhalation toxicity | : | Acute toxicity estimate: 1,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist |



Method: **Expert judgement**
Acute dermal toxicity : **LD50 Dermal (Rabbit): > 9.400 mg/kg**

4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with butane-1,3-diol, 2,4'-diisocyanatodiphenylmethane, 2,2'-oxydi:

Acute oral toxicity : **LD50 Oral (Rat): > 5.000 mg/kg**
Acute dermal toxicity : **LD50 Dermal (Rabbit): > 9.400 mg/kg**

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Skin sensitisation: May cause an allergic skin reaction.

Respiratory sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

May cause respiratory irritation.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure if inhaled.

Aspiration toxicity

Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

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 Other adverse effects

Product:

Additional ecological information : There is no data available for this product.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : In accordance with the EWC Waste Regulation the classification of waste is to be assigned to the jurisdiction of the origin of waste. Therefore, it is not possible to assign a particular waste identification number.
Completely emptied packagings may be given for recycling. Empty packaging may still contain hazardous residues. Empty packaging should be removed by a licensed waste contractor. Sika has agreed disposal contracts for all packaging which is brought into circulation in Germany.
For further details see www.sika.de

SECTION 14: Transport information

ADR

Not dangerous goods

IATA

Not dangerous goods

IMDG

Not dangerous goods

14.6 Special precautions for user

No data 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

Prohibition/Restriction

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Banned and/or restricted (Diphenylmethanediisocyanate, isomeres and homologues) (4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with butane-1,3-diol, 2,4'-diisocyanatodiphenylmethane, 2,2'-oxydi)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : None of the components are listed (=> 0.1 %).

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

REACH Information: All substances contained in our Products are
- preregistered or registered by our upstream suppliers, and/or
- preregistered or registered by us, and/or
- excluded from the regulation, and/or
- exempted from the registration.

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 contaminating class : WGK 1 slightly water endangering (Germany)

VOC-CH (VOCV) : no VOC duties

VOC-EU (solvent) : Not applicable

15.2 Chemical safety assessment

This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Full text of H-Statements

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.

SAFETY DATA SHEET

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H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Full text of other abbreviations

| | |
|-------------|--|
| Acute Tox. | Acute toxicity |
| Carc. | Carcinogenicity |
| Eye Irrit. | Eye irritation |
| Resp. Sens. | Respiratory sensitisation |
| Skin Irrit. | Skin irritation |
| Skin Sens. | Skin sensitisation |
| STOT RE | Specific target organ toxicity - repeated exposure |
| STOT SE | Specific target organ toxicity - single exposure |
| ADR | Accord européen relatif au transport international des marchandises Dangereuses par Route |
| CAS | Chemical Abstracts Service |
| DNEL | Derived no-effect level |
| EC50 | Half maximal effective concentration |
| GHS | Globally Harmonized System |
| IATA | International Air Transport Association |
| IMDG | International Maritime Code for Dangerous Goods |
| LD50 | Median lethal dose (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals) |
| LC50 | Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period) |
| MARPOL | International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 |
| OEL | Occupational Exposure Limit |
| PBT | Persistent, bioaccumulative and toxic |
| PNEC | Predicted no effect concentration |
| REACH | Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency |
| SVHC | Substances of Very High Concern |
| vPvB | Very persistent and very bioaccumulative |

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

|| Changes as compared to previous version !