

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



## Biresin® G46 (B)

Date of last issue: 04.10.2022  
Revision Date: 23.02.2023

Version 5.0

Print Date 23.02.2023

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

#### 1.1 Product identifier

Trade name : Biresin® G46 (B)  
Substance name : Diphenylmethanediisocyanate, isomeres and homologues  
CAS-No. : 9016-87-9

#### 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 Limited  
Watchmead Welwyn Garden City  
Hertfordshire. AL7 1BQ  
Telephone : +44 (0)1707 394444  
Telefax : +44 (0)1707 329129  
E-mail address of person responsible for the SDS : EHS@uk.sika.com

#### 1.4 Emergency telephone number

National Chemical Emergency Centre (NCEC)  
24 Hour Emergency Telephone Number +44 870 190 6777

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or 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

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

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Hazard pictograms	:		
Signal word	:	Danger	
Hazard 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.
		H351	Suspected of causing cancer.
		H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
Precautionary statements	:	<b>Prevention:</b>	
		P201	Obtain special instructions before use.
		P260	Do not breathe mist or vapours.
		P264	Wash skin thoroughly after handling.
		P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
		<b>Response:</b>	
		P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
		P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

### 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.

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### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

CAS-No. : 9016-87-9

#### Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
Diphenylmethanediisocyanate, isomeres and homologues	9016-87-9 Not Assigned	100	specific concentration limit Eye Irrit. 2; H319 >= 5 % Resp. Sens. 1; H334 >= 0,1 % Skin Irrit. 2; H315 >= 5 % STOT SE 3; H335 >= 5 %

### 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.

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### 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.
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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : In case of fire, use water/water spray/water jet/carbon dioxide/sand/foam/alcohol resistant foam/chemical powder for extinction.

### 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.
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### 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 material 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.

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### 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 : Keep container tightly closed in a dry and well-ventilated

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areas and containers place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with local regulations.

Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : Cleaning with aprotic polar solvents must be avoided. Consult most current local Product Data Sheet prior to any use.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters *	Basis *
Diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	TWA	0,02 mg/m <sup>3</sup> (NCO)	GB EH40
Further information: Capable of causing occupational asthma.				
		STEL	0,07 mg/m <sup>3</sup> (NCO)	GB EH40

\*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

#### Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	isocyanate-derived diamine (Isocyanates): 1 µmol/mol creatinine (Urine)	At the end of the period of exposure	GB EH40 BAT

### 8.2 Exposure controls

#### Engineering measures

Maintain air concentrations below occupational exposure standards.  
Ensure adequate ventilation, especially in confined areas.

#### Personal protective equipment

Eye/face 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:

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- Butyl rubber/nitrile rubber gloves (> 0,1 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 : In case of inadequate ventilation wear 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 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.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state : liquid  
Colour : brown  
Odour : characteristic
- Melting point/range / Freezing point : No data available
- Boiling point/boiling range : No data available
- Flammability (solid, gas) : No data available

### Upper/lower flammability or explosive limits

- Upper explosion limit / Up- : No data available

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per flammability limit	
Lower explosion limit / Lower flammability limit	: No data available
Flash point	: > 101 °C Method: closed cup
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
pH	: Not applicable substance/mixture is non-soluble (in water)

### Viscosity

Viscosity, dynamic	: ca. 200 mPa.s (20 °C)
Viscosity, kinematic	: > 20,5 mm <sup>2</sup> /s (40 °C)

### Solubility(ies)

Water solubility	: insoluble
Partition coefficient: n-octanol/water	: No data available
Vapour pressure	: 0,01 hPa
Density	: ca. 1,23 g/cm <sup>3</sup> (20 °C)
Relative vapour density	: No data available
Particle characteristics	: No data available

### 9.2 Other information

No data available

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## 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 : No hazards to be specially mentioned.



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### 10.4 Conditions to avoid

Conditions to avoid : No data available

### 10.5 Incompatible materials

Materials to avoid : No data available

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

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## SECTION 11: Toxicological information

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

#### Acute toxicity

Harmful if inhaled.

#### Components:

#### Diphenylmethanediisocyanate, isomeres and homologues:

Acute oral toxicity : LD50 Oral (Rat): > 10.000 mg/kg

Acute inhalation toxicity : LC50: 1,5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Expert judgement  
Assessment: The component/mixture is moderately toxic after short term inhalation.

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.

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### 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.

## 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:

#### Diphenylmethanediisocyanate, isomeres and homologues:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 1.000 mg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 1.640 mg/l  
Exposure time: 72 h

### 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

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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

**Product:**

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

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : The generation of waste should be avoided or minimized wherever possible.  
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way.  
Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.  
Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.  
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA : Not regulated as a dangerous good

### 14.2 UN proper shipping name

ADR : Not regulated as a dangerous good

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**IMDG** : Not regulated as a dangerous good

**IATA** : Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

**ADR** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA** : Not regulated as a dangerous good

### 14.4 Packing group

**ADR** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA (Cargo)** : Not regulated as a dangerous good

**IATA (Passenger)** : Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17) : Conditions of restriction for the following entries should be considered: Diphenylmethanediisocyanate, isomers and homologues (Number on list 56)

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation : Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain) : Not applicable

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Not applicable

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

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

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation : Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) : Not applicable

Volatile organic compounds : Law on the incentive tax for volatile organic compounds (VOCV)  
no VOC duties

Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Not applicable

If other regulatory information applies that is not already provided elsewhere in the Safety Data Sheet, then it is described in this subsection.

Health, safety and environmental regulation/legislation specific for the substance or mixture: : Environmental Protection Act 1990 & Subsidiary Regulations  
Health and Safety at Work Act 1974 & Subsidiary Regulations  
Control of Substances Hazardous to Health Regulations (COSHH)  
May be subject to the Control of Major Accident Hazards Regulations (COMAH), and amendments.

### 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance by the supplier.

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## SECTION 16: Other information

### Full text of other abbreviations

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits  
GB EH40 BAT : UK. Biological monitoring guidance values  
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)  
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)  
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road  
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)

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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

### Further information

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 !

GB / EN