



SikaBiresin® B285 (formerly TCC-90) Part A

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SECTION 1. IDENTIFICATION

Product name : SikaBiresin® B285 (formerly TCC-90) Part A

Company name : Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
USA
www.sikausa.com

Telephone : (201) 933-8800

Telefax : (201) 804-1076

E-mail address : ehs@sika-corp.com

Emergency telephone : CHEMTREC: 800-424-9300
INTERNATIONAL: +1-703-527-3887

Recommended use of the chemical and restrictions on use : For further information, refer to product data sheet.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Respiratory sensitization : Category 1

Skin sensitization : Category 1

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

Specific target organ toxicity - repeated exposure (Inhalation) : Category 2



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Other hazards

GHS label elements

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.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 Wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.



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P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labeling

There are no ingredients with unknown acute toxicity used in a mixture at a concentration $\geq 1\%$.
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

Components

| Chemical name | CAS No./Unique ID | Classification | Concentration (% w/w) |
|--|-------------------|---|-----------------------|
| Diphenylmethanediisocyanate, isomers and homologues | 9016-87-9 | Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2B; H320 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 STOT RE 2; H373 | $\geq 30 - < 50$ |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2B; H320 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 STOT RE 2; H373 | $\geq 20 - < 30$ |
| tris(methylphenyl) phosphate | 1330-78-5 | Repr. 2; H361 | $\geq 10 - < 20$ |
| methylenediphenyl diisocyanate | 26447-40-5 | Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2B; H320 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 STOT RE 2; H373 | $\geq 1 - < 5$ |
| Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxy-1,2-ethanediyl) | 57636-09-6 | Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 | $\geq 1 - < 5$ |



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| | | | |
|--|------------|---|------------|
| | | STOT SE 3; H335 STOT RE 2; H373 | |
| 2,4-dioxo-1,3-diazetidone-1,3-diylbis[p-phenylenemethylene-p-phenylene] diisocyanate | 17589-24-1 | Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 STOT RE 2; H373 | >= 1 - < 5 |

Actual concentration is withheld as a trade secret
 Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this material 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 : Clean mouth with water and drink afterwards plenty of water.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.
- Most important symptoms and effects, both acute and delayed : irritant effects
sensitizing effects
Asthmatic appearance
Cough
Respiratory disorder
Allergic reactions
Excessive lachrymation
Erythema
Headache
Dermatitis
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.



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Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure if inhaled.

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Deny access to unprotected persons.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and 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.

SECTION 7. HANDLING AND STORAGE

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



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For personal protection see section 8.
Persons with a history of skin sensitization 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.

Conditions for safe storage : Store in original container.
Keep in a well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|--|------------|----------------------------------|--|----------|
| Diphenylmethanediisocyanate, isomeres and homologues | 9016-87-9 | C | 0.02 ppm 0.2 mg/m ³ | OSHA Z-1 |
| | | C | 0.02 ppm 0.2 mg/m ³ | OSHA P0 |
| | | TWA | 0.005 ppm | ACGIH |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | C | 0.02 ppm 0.2 mg/m ³ | OSHA Z-1 |
| | | C | 0.02 ppm 0.2 mg/m ³ | OSHA P0 |
| | | TWA | 0.005 ppm | ACGIH |
| methylenediphenyl diisocyanate | 26447-40-5 | C | 0.02 ppm 0.2 mg/m ³ | OSHA Z-1 |
| | | C | 0.02 ppm 0.2 mg/m ³ | OSHA P0 |
| | | TWA | 0.005 ppm | ACGIH |
| Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) | 57636-09-6 | TWA | 0.005 ppm | ACGIH |
| | | C | 0.02 ppm 0.2 mg/m ³ | OSHA Z-1 |
| | | C | 0.02 ppm 0.2 mg/m ³ | OSHA P0 |



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| 2,4-dioxo-1,3-diazetidone-1,3-diylbis[p-phenylenemethylene-p-phenylene] diisocyanate | 17589-24-1 | TWA | 0.005 ppm | ACGIH |
| | | C | 0.02 ppm 0.2 mg/m3 | OSHA Z-1 |
| | | C | 0.02 ppm 0.2 mg/m3 | OSHA P0 |

The above constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : 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.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
 Wash hands before breaks and immediately after handling the product.
 Remove contaminated clothing and protective equipment before entering eating areas.
 Wash thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES



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| | | |
|--|---|---|
| Appearance | : | viscous liquid |
| Color | : | light brown |
| Odor | : | odorless |
| Odor Threshold | : | No data available |
| pH | : | Not applicable |
| Melting point/ range / Freezing point | : | No data available |
| Boiling point/boiling range | : | 374 °F / 190 °C |
| Flash point | : | > 428 °F / > 220 °C (Method: closed cup) |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | 0.01 hpa |
| Relative vapor density | : | No data available |
| Density | : | 1.21 g/cm ³ (68 °F / 20 °C) |
| Solubility(ies) | | |
| Water solubility | : | soluble |
| Solubility in other solvents | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Autoignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity | | |
| Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | > 20.5 mm ² /s (104 °F / 40 °C) |
| Explosive properties | : | No data available |



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Oxidizing properties : No data available
Volatile organic compounds (VOC) content : 1 g/l
A+B Combined

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : The product is chemically stable.
Possibility of hazardous reactions : Stable under recommended storage conditions.
Conditions to avoid : No data available
Incompatible materials : No data available
Hazardous decomposition products : No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

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 judgment
Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity : LD50 Dermal (Rabbit): > 9,400 mg/kg

4,4'-methylenediphenyl diisocyanate:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Acute inhalation toxicity : LC50: 1.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgment



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tris(methylphenyl) phosphate:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): 3,700 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

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

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC Not applicable

OSHA Not applicable

NTP Not applicable

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

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

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity

Not classified based on available information.



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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

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

tris(methylphenyl) phosphate:

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
May be harmful to the environment if released in large quantities.
Water polluting material.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.



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SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(tris(methylphenyl) phosphate)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(tris(methylphenyl) phosphate)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Domestic regulation

49 CFR Road

Not regulated as a dangerous good

DOT: As per 49 CFR 171.4, Non-bulk materials (<119 Gal) are exempt from being classified as a Marine Pollutant.

IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

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.

SECTION 15. REGULATORY INFORMATION

TSCA list : All chemical substances in this product are either listed as active on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

No substances are subject to a Significant New Use Rule.



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No substances are subject to TSCA 12(b) export notification requirements.

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) |
|-------------------------------------|----------|--------------------|
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | 5000 |

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

| | | |
|---|-----------|----------------|
| Diphenylmethanediisocyanate, isomers and homologues | 9016-87-9 | >= 30 - < 50 % |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | >= 20 - < 30 % |

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

| | | |
|-------------------------------------|----------|----------------|
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | >= 20 - < 30 % |
|-------------------------------------|----------|----------------|

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

| | | |
|----------|---|--|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| OSHA P0 | : | USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values) |
| OSHA Z-1 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim- |



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| | its for Air Contaminants |
| ACGIH / TWA | : 8-hour, time-weighted average |
| OSHA P0 / C | : Ceiling limit |
| OSHA Z-1 / C | : Ceiling |

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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