



SikaBiresin® G440 (formerly EC-440) Part B

Revision Date 03/24/2025

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SECTION 1. IDENTIFICATION

Product name : SikaBiresin® G440 (formerly EC-440) Part B

Company name : Sika Corporation
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USA
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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 (Oral) : Category 4

Skin corrosion : Sub-category 1B

Serious eye damage : Category 1

Skin sensitization : Category 1

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

Other hazards

GHS label elements

Hazard pictograms :



Signal Word : Danger



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- Hazard Statements : H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
- Supplemental Hazard Statements : Corrosive to the respiratory tract.
- Precautionary Statements : **Prevention:**
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
- Response:**
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P314 Get medical advice/ attention if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
- 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)
4,4'-methylenebis(cyclohexylamine)	1761-71-3	Acute Tox. 4; H302 Skin Corr. 1B; H314	$\geq 15 - \leq 40$



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		Eye Dam. 1; H318 Skin Sens. 1B; H317 STOT RE 2; H373	
Isophoronediamine	2855-13-2	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317	>= 10 - <= 30
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	68953-36-6	Skin Corr. 1C; H314 Skin Sens. 1A; H317	>= 10 - <= 30
m-phenylenebis(methylamine)	1477-55-0	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Skin Sens. 1B; H317	>= 3 - <= 7
2-ethyl-4-methylimidazole	931-36-2	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 3 - <= 7
3,6,9-triazaundecamethylenediamine	112-57-2	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 3 - <= 7
4-Methylimidazole	822-36-6	Acute Tox. 4; H302 Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335	>= 0.1 - <= 1

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.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.



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	Remove contact lenses. Keep eye wide open while rinsing.
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. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	: Health injuries may be delayed. corrosive effects sensitizing effects Gastrointestinal discomfort Allergic reactions Dermatitis Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure if swallowed. Causes severe burns. Corrosive to the respiratory tract.
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.



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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 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 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.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : 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.

Materials to avoid : Explosives
Oxidizing agents
Poisonous gases
Dangerous when wet
Flammable solids
Organic peroxides
Poisonous liquids
Spontaneously Combustible Substances

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
m-phenylenebis(methylamine)	1477-55-0	C	0.018 ppm	ACGIH
		C	0.1 mg/m3	OSHA P0

The above constituents are the only constituents of the product which have a PEL, TLV or other rec-



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ommended 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

Appearance : liquid

Color : amber

Odor : amine-like

Odor Threshold : No data available

pH : Not applicable



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Melting point/ range / Freezing point	: No data available
Boiling point/boiling range	: 399 °F / 204 °C
Flash point	: 214 °F / 101 °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	: 0.02 hpa
Relative vapor density	: No data available
Density	: 0.94 g/cm ³ (68 °F / 20 °C)
Solubility(ies)	
Water solubility	: insoluble
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
Oxidizing properties	: No data available
Volatile organic compounds (VOC) content	: Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
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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 swallowed.

Components:

4,4'-methylenebis(cyclohexylamine):

Acute oral toxicity	: LD50 Oral (Rat): 380 mg/kg
Acute dermal toxicity	: LD50 Dermal (Rabbit): 2,110 mg/kg

Isophoronediamine:

Acute oral toxicity	: LD50 Oral (Rat): 1,030 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 - 5,000 mg/kg

m-phenylenebis(methylamine):

Acute oral toxicity	: LD50 Oral (Rat): 930 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 1.34 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: Corrosive to the respiratory tract.
Acute dermal toxicity	: LD50 Dermal (Rat): > 3,100 mg/kg

3,6,9-triazaundecamethylenediamine:

Acute oral toxicity	: LD50 Oral (Rat): 1,716.2 mg/kg
Acute dermal toxicity	: LD50 Dermal (Rat): 1,260 mg/kg



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4-Methylimidazole:

Acute oral toxicity : LD50 Oral (Rat): 751 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): 440 mg/kg

Skin corrosion/irritation

Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Components:

4,4'-methylenebis(cyclohexylamine):

Test Type : Buehler Test

Assessment : The product is a skin sensitizer, sub-category 1B.

Result : The product is a skin sensitizer, sub-category 1B.

Germ cell mutagenicity

Not classified due to lack of data.

Carcinogenicity

Not classified due to lack of data.

IARC Group 2B: Possibly carcinogenic to humans
4-methylimidazole

822-36-6

OSHA Not applicable

NTP Not applicable

Reproductive toxicity

Not classified due to lack of data.

STOT-single exposure

Corrosive to the respiratory tract.

STOT-repeated exposure

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

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



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Aspiration toxicity

Not classified due to lack of data.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

4,4'-methylenebis(cyclohexylamine):

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): 6.84 mg/l
Exposure time: 48 h

Isophoronediamine:

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 10 - 100 mg/l

NOEC (Desmodesmus subspicatus (green algae)): 1.5 mg/l

Fatty acids, tall-oil, reaction products with tetraethylenepentamine:

m-phenylenebis(methylamine):

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 10 - 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l
Exposure time: 48 h

4-Methylimidazole:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 34 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 2 mg/l

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.



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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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

- UN/ID No. : UN 2735
Proper shipping name : Amines, liquid, corrosive, n.o.s.
(4,4'-methylenebis(cyclohexylamine))
Class : 8
Packing group : II
Labels : Corrosive
Packing instruction (cargo aircraft) : 855
Packing instruction (passenger aircraft) : 851
Environmentally hazardous : yes

IMDG-Code

- UN number : UN 2735
Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S.
(4,4'-methylenebis(cyclohexylamine), Fatty acids, tall-oil, reaction products with tetraethylenepentamine)
Class : 8
Packing group : II
Labels : 8
EmS Code : F-A, S-B
Marine pollutant : yes

Domestic regulation



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49 CFR Road

UN/ID/NA number : UN 2735
Proper shipping name : Amines, liquid, corrosive, n.o.s.
(4,4'-methylenebis(cyclohexylamine))
Class : 8
Packing group : II
Labels : CORROSIVE
ERG Code : 153
Marine pollutant : yes

DOT: For Limited Quantity exceptions reference 49 CFR 173.154 (b)

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.

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

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
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation



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SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

⚠ WARNING: This product can expose you to chemicals including 4-Methylimidazole, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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)
ACGIH / C	: Ceiling limit
OSHA P0 / C	: Ceiling limit

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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